Appendix A



# **Global Campus**

Environmental Resiliency Professional Master's

Benchmark Report

## Contents

| Research Parameters:   | ļ |
|--|---|
| Report Summary:  | ł |
| Completions by Institution:  | 5 |
| Top 20 non-distance Environmental Resiliency Master's degrees Nationwide:  | 5 |
| Top distance offered Environmental Resiliency Master's degrees Nationwide: | 5 |
| Top 20 non-distance Environmental Resiliency Master's degrees Local Area:  | 7 |
| Top distance offered Environmental Resiliency Master's degrees Local Area: | 3 |
| Top non-distance Environmental Resiliency Master's degrees Arkansas:       | 3 |
| Top distance offered Environmental Resiliency Master's degrees Arkansas:   | 3 |
| Target Occupations:  | ) |
| Nationwide:  | ) |
| Local Area:  | ) |
| Arkansas:  | L |
| Top Companies Posting:   | 2 |
| Nationwide:  | 2 |
| Local Region:  | 3 |
| Arkansas:  | 3 |
| Top Posted Job Titles:   | ł |
| Nationwide:  | ļ |
| Local Region:  | 5 |
| Arkansas:  | 5 |
| Top Hard Skills:   | 7 |
| Nationwide:  | 7 |
| Local Region:  | 3 |
| Arkansas:  | ) |
| Top Common Skills:   | ) |
| Nationwide:  | ) |
| Local Region:  | L |
| Arkansas:  | 2 |
| Top Software Skills:   | 3 |
| Nationwide:  | 3 |
| Local Region:  | ł |

## **Research Parameters:**

Lightcast (formerly EMSI) Job Postings Analytics report, Occupations reports, and Programs reports were utilized create the following report.

Local region: Arkansas, Kansas, Louisiana, Mississippi, Missouri, Oklahoma, Tennessee, Texas.

CIP-Code: 03.0104

## Report Summary:

- At the master's level the University of Arkansas has the opportunity to be one of the few programs offered in the local area. Our program would be cheaper than some of the largest programs.
- There is a dearth of this program in southern states and at other SEC schools.
- Previous completions from the University are not included as they were completed under the previous CIP-code 40.0699.

Completions by Award Level Nationwide:

| Award Level  | Completions<br>(2020) | Percent |            |
|--|-----------------------|---------|------------|
| Award of less than 1 academic year                   | 121                   | 1.3%    | 1          |
| • Award of at least 1 but less than 2 academic years | 75                    | 0.8%    | 1          |
| Associate's Degree                                   | 352                   | 3.8%    |            |
| Bachelor's Degree                                    | 7,649                 | 82.4%   |            |
| Postbaccalaureate certificate                        | 18                    | 0.2%    | 1          |
| Master's Degree                                      | 912                   | 9.8%    | -          |
| Doctor's Degree                                      | 154                   | 1.7%    | 1. Sec. 1. |
| Award of at least 2 but less than 4 academic years   | 0                     | 0.0%    |            |
| Post-masters certificate                             | 0                     | 0.0%    |            |

Regional Completions by Award Level

# Completions by Institution:

## Top 20 non-distance Environmental Resiliency Master's degrees Nationwide:

| Institution   | Master's<br>Degree ><br>Non-Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|---|--|------------------------|------------------------|--------------------------------|----------------------------------|
| University of California-Santa Barbara                | 74   | -2.6%                  | 9.2%                   | \$14,406                       |                                  |
| Indiana University-Bloomington                        | 62   | 12.7%                  | 7.7%                   | \$11,221                       |                                  |
| University of North Carolina at Chapel Hill           | 34   | 17.2%                  | 4.2%                   | \$8,980                        | ~                                |
| University of Idaho                                   | 27   | 12.5%                  | 3.4%                   | \$8,304                        | <u> </u>                         |
| University of Hawaii at Hilo                          | 26   | 73.3%                  | 3.2%                   | \$7,838                        |                                  |
| Columbia University in the City of New York           | 24   | -29.4%                 | 3.0%                   | \$60,532                       | $\frown$                         |
| George Mason University                               | 22   | 57.1%                  | 2.7%                   | \$13,014                       |                                  |
| University of Colorado Denver/Anschutz Medical Campus | 20   | 66.7%                  | 2.5%                   | \$9,401                        |                                  |
| California State University-Fullerton                 | 19   | -5.0%                  | 2.4%                   | \$6,954                        |                                  |
| Yale University                                       | 18   | -40.0%                 | 2.2%                   | \$57,700                       | $\sim$                           |
| University of Wisconsin-Green Bay                     | 18   | -5.3%                  | 2.2%                   | \$7,873                        | $\sim$                           |
| The University of Tennessee-Chattanooga               | 17   | 88.9%                  | 2.1%                   | \$9,656                        | $\sim$                           |
| University of South Florida                           | 16   | 128.6%                 | 2.0%                   | \$6,410                        | $\frown$                         |
| University of Massachusetts-Boston                    | 15   | 114.3%                 | 1.9%                   | \$14,677                       |                                  |
| University of New Haven                               | 14   | -17.6%                 | 1.7%                   | \$41,654                       |                                  |
| Clark University                                      | 13   | 0.0%                   | 1.6%                   | \$48,602                       |                                  |
| Florida Gulf Coast University                         | 13   | -35.0%                 | 1.6%                   | \$6,118                        |                                  |
| The University of Texas at Arlington                  | 13   | -31.6%                 | 1.6%                   | \$11,378                       |                                  |
| Oklahoma State University-Main Campus                 | 12   | 50.0%                  | 1.5%                   | \$9,019                        | $\frown$                         |
| Villanova University                                  | 12   | 71.4%                  | 1.5%                   | \$57,460                       |                                  |
|   |  |                        |                        |                                |                                  |

## Top distance offered Environmental Resiliency Master's degrees Nationwide:

| Institution  | Master's<br>Degree ><br>Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|--|--|------------------------|------------------------|--------------------------------|----------------------------------|
| University of Illinois Urbana-Champaign                          | 26   | 23.8%                  | 23.6%                  | \$17,213                       | $\frown$                         |
| University of Illinois Springfield                               | 20   | Insf. Data             | 18.2%                  | \$12,000                       |                                  |
| Oregon State University  | 17   | 30.8%                  | 15.5%                  | \$11,858                       |                                  |
| North Carolina State University at Raleigh                       | 16   | 14.3%                  | 14.5%                  | \$9,101                        | $\checkmark$                     |
| The University of West Florida                                   | 15   | Insf. Data             | 13.6%                  | \$5,776                        | /                                |
| University of Oklahoma-Norman Campus                             | 12   | 1,100.0%               | 10.9%                  | \$9,063                        |                                  |
| Louisiana State University and Agricultural & Mechanical College | 4  | -50.0%                 | 3.6%                   | \$11,962                       |                                  |
|  |  |                        |                        |                                |                                  |

## Top 20 non-distance Environmental Resiliency Master's degrees Local Area:

| Institution                             | Master's<br>Degree ><br>Non-Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|---|--|------------------------|------------------------|--------------------------------|----------------------------------|
| The University of Tennessee-Chattanooga | 17   | 88.9%                  | 15.0%                  | \$9,656                        | $\sim$                           |
| The University of Texas at Arlington    | 13   | -31.6%                 | 11.5%                  | \$11,378                       |                                  |
| Oklahoma State University-Main Campus   | 12   | 50.0%                  | 10.6%                  | \$9,019                        | $\frown$                         |
| University of Houston-Clear Lake        | 9  | Insf. Data             | 8.0%                   | \$7,504                        | /                                |
| Texas State University                  | 8  | 100.0%                 | 7.1%                   | \$10,855                       | $\checkmark$                     |
| Texas A & M University-Corpus Christi   | 7  | -53.3%                 | 6.2%                   | \$9,553                        |                                  |
| West Texas A & M University             | 7  | 75.0%                  | 6.2%                   | \$8,456                        | $\frown$                         |
| The University of Texas at San Antonio  | 6  | -40.0%                 | 5.3%                   | \$8,566                        |                                  |
| Southeast Missouri State University     | 5  | 66.7%                  | 4.4%                   | \$8,033                        |                                  |
| Arkansas State University               | 4  | 300.0%                 | 3.5%                   | \$7,315                        |                                  |
| Stephen F Austin State University       | 4  | Insf. Data             | 3.5%                   | \$10,600                       | $\frown$                         |
| Wichita State University                | 4  | -50.0%                 | 3.5%                   | \$8,433                        |                                  |
| Tarleton State University               | 3  | -57.1%                 | 2.7%                   | \$8,276                        |                                  |
| University of North Texas               | 3  | -25.0%                 | 2.7%                   | \$11,090                       |                                  |
| Texas Christian University              | 3  | 0.0%                   | 2.7%                   | \$51,660                       | $\searrow$                       |
| Lincoln University                      | 2  | 100.0%                 | 1.8%                   | \$8,370                        |                                  |
| University of Louisiana at Lafayette    | 2  | -71.4%                 | 1.8%                   | \$10,358                       |                                  |
| The University of Texas at El Paso      | 2  | -50.0%                 | 1.8%                   | \$9,250                        | $\frown$                         |
| Baylor University                       | 1  | -50.0%                 | 0.9%                   | \$49,246                       | $\frown$                         |
| Jackson State University                | 1  | 0.0%                   | 0.9%                   | \$8,445                        |                                  |
|   |  |                        |                        |                                |                                  |

### Top distance offered Environmental Resiliency Master's degrees Local Area:

Completions by Institution

| Institution  | Master's<br>Degree ><br>Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|--|--|------------------------|------------------------|--------------------------------|----------------------------------|
| University of Oklahoma-Norman Campus                             | 12   | 1,100.0%               | 75.0%                  | \$9,063                        |                                  |
| Louisiana State University and Agricultural & Mechanical College | 4  | -50.0%                 | 25.0%                  | \$11,962                       |                                  |

### Top non-distance Environmental Resiliency Master's degrees Arkansas:

| Master's<br>Degree ><br>Non-Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020)                                       | Market Share<br>(2020)   | IPEDS Tuition<br>& Fees (2020)   | Completions Trend<br>(2016-2020)   |
|--|--|--|--|--|
| 4  | 300.0%   | 100.0%   | \$7,315  | $\searrow$   |
|  | Degree ><br>Non-Distance<br>Offered<br>Completions<br>(2020) | Degree ><br>Non-Distance Growth %<br>Offered YOY (2020)<br>Completions<br>(2020) | Degree ><br>Non-Distance Growth % Market Share<br>Offered YOY (2020) (2020)<br>Completions<br>(2020) | Degree ><br>Non-Distance Growth % Market Share IPEDS Tuition<br>Offered YOY (2020) (2020) & Fees (2020)<br>Completions<br>(2020) |

Top distance offered Environmental Resiliency Master's degrees Arkansas: None currently offered.

# Target Occupations:

## Nationwide:

Target Occupations

| 1.60M<br>Jobs (2016)*  | +15.3%<br>% Change (2016-2020)*               | \$35.77/hr<br>\$74.4K/yr<br>Median Earnings |                     | 237,731<br>Annual Openings* |                          |
|--|---|---|---------------------|-----------------------------|--------------------------|
| Occupation   |   | 2016<br>Jobs*                               | Annual<br>Openings* | Median<br>Earnings          | Growth (2016 -<br>2020)* |
| General and Operations Managers  |   | 256,082                                     | 29,855              | \$49.60/hr                  | +6.04%                   |
| Management Analysts  |   | 242,680                                     | 34,782              | \$42.32/hr                  | +14.00%                  |
| Project Management Specialists and Business Operations Specialists, All Other  |   | 236,114                                     | 49,807              | \$37.15/hr                  | +49.02%                  |
| Personal Service Managers, All Other; Entertainment and Recreation Managers,<br>Except Gambling; and Managers, All Other |   | 158,036                                     | 21,636              | \$39.91/hr                  | +13.29%                  |
| Market Research Analysts and Ma  | rketing Specialists                           | 135,325                                     | 23,562              | \$31.46/hr                  | +22.74%                  |
| Secretaries and Administrative As  | istants, Except Legal, Medical, and Executive | 101,908                                     | 11,113              | \$18.64/hr                  | -18.39%                  |
| Computer Occupations, All Other  |   | 73,827                                      | 11,648              | \$44.16/hr                  | +9.84%                   |
| Chief Executives   |   | 68,046                                      | 7,785               | \$79.18/hr                  | -0.37%                   |
| Social and Human Service Assistants  |   | 55,832                                      | 9,287               | \$17.30/hr                  | +5.71%                   |
| Marketing Managers   |   | 53,129                                      | 9.614               | \$66.19/hr                  | +30.06%                  |

\*Filtered by the proportion of the national workforce in these occupations with a Master's degree

## Local Area:

#### Target Occupations

Filtered by the proportion of the national workforce in these occupations with a Master's degree

| 230,602<br>Jobs (2016)*<br>12% <mark>below</mark> National average*       | Jobs (2016)* % Change (2016-2020)* |               | Jobs (2016)* % Change (2016-2020)* Median Earnings |                    |                          |                                 | 38,738<br>Annual Openings* |  |
|---|------------------------------------|---------------|--|--------------------|--------------------------|---------------------------------|----------------------------|--|
| Occupation  |                                    | 2016<br>Jobs* | Annual<br>Openings*                                | Median<br>Earnings | Growth (2016 -<br>2020)* | Location<br>Quotient<br>(2016)* |                            |  |
| General and Operations Managers   |                                    | 44,115        | 6,135  | \$43.82/hr         | +15.94%                  | 1.05                            |                            |  |
| Project Management Specialists ar<br>Specialists, All Other               | nd Business Operations             | 35,608        | 8,749  | \$35.08/hr         | +60.80%                  | 0.92                            |                            |  |
| Management Analysts   |                                    | 27,733        | 4,891  | \$40.28/hr         | +25.80%                  | 0.70                            |                            |  |
| Personal Service Managers, All Oth<br>Recreation Managers, Except Gamblin |                                    | 24,696        | 4,262  | \$33.43/hr         | +28.74%                  | 0.95                            |                            |  |
| Secretaries and Administrative Ass<br>and Executive                       | istants, Except Legal, Medical,    | 19,337        | 2,077  | \$16.87/hr         | -21.95%                  | 1.10                            |                            |  |
| Market Research Analysts and Market Research Analysts                     | keting Specialists                 | 15,671        | 2,884  | \$29.60/hr         | +26.28%                  | 0.71                            |                            |  |
| Computer Occupations, All Other   |                                    | 10,118        | 1,535  | \$39.07/hr         | +12.89%                  | 0.84                            |                            |  |
| Chief Executives  |                                    | 9,999         | 1,271  | \$69.27/hr         | +7.28%                   | 0.90                            |                            |  |
| Compliance Officers   |                                    | 9,007         | 1,210  | \$31.65/hr         | +16.35%                  | 1.0                             |                            |  |
| Sales Managers  |                                    | 6,011         | 940  | \$59.55/hr         | +18.93%                  | 0.8:                            |                            |  |

### Arkansas:

#### Target Occupations

\*Filtered by the proportion of the national workforce in these occupations with a Master's degree

| 11,427<br>Jobs (2016)*<br>6% <mark>below</mark> National average*         | +6.3%<br>% Change (2016-2020)*<br>Nation: +15.3%* | Na            | \$JJ./K/YI          |                    | Denings*                 |                              |
|---|---|---------------|---------------------|--------------------|--------------------------|------------------------------|
| Occupation  |   | 2016<br>Jobs* | Annual<br>Openings* | Median<br>Earnings | Growth (2016 -<br>2020)* | Location<br>Quotient (2016)* |
| General and Operations Managers   |   | 2,377         | 232                 | \$34.11/hr         | -0.13%                   | 1.23                         |
| Management Analysts   |   | 1,597         | 260                 | \$28.65/hr         | +17.60%                  | 0.87                         |
| Project Management Specialists an Specialists, All Other                  | d Business Operations                             | 1,544         | 307                 | \$28.49/hr         | +40.03%                  | 0.86                         |
| Personal Service Managers, All Oth<br>Recreation Managers, Except Gamblin |   | 1,254         | 181                 | \$28.99/hr         | +15.87%                  | 1.05                         |
| Market Research Analysts and Mar  | keting Specialists                                | 952           | 133                 | \$29.55/hr         | +3.36%                   | 0.93                         |
| Secretaries and Administrative Ass<br>and Executive                       | istants, Except Legal, Medical,                   | 755           | 73                  | \$14.42/hr         | -32.85%                  | 0.98                         |
| Chief Executives  |   | 667           | 64                  | \$49.97/hr         | -14.99%                  | 1.30                         |
| Social and Human Service Assistant  | ts  | 501           | 78                  | \$14.33/hr         | -2.20%                   | 1.18                         |
| Compliance Officers   |   | 437           | 68                  | \$28.48/hr         | +24.03%                  | 1.11                         |
| Marketing Managers  |   | 299           | 37                  | \$57.96/hr         | -14.38%                  | 0.74                         |

# Top Companies Posting:

## Nationwide:

Top Companies Posting

| Company            | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|--------------------|------------------------------------|-------------------|--|
| Anthem Blue Cross  | 35,029 / 18,073                    | 2:1               | ~~   |
| Deloitte           | 28,519 / 15,044                    | 2:1               | ~~~  |
| Boeing             | 44,106 / 14,150                    | 3:1               |  |
| Humana             | 26,848 / 12,681                    | 2:1               | $\sim \sim \sim$                               |
| Amazon             | 30,102 / 12,554                    | 2:1               | ~  |
| Citigroup          | 16,970 / 7,074                     | 2:1               |  |
| UnitedHealth Group | 14,306 / 6,752                     | 2:1               | /  |
| Dell Technologies  | 8,861 / 6,158                      | 1:1               | ^  |
| Guidehouse         | 8,186 / 5,789                      | 1:1               | ~~~/   |
| Northrop Grumman   | 19,750 / 5,675                     | 3:1               |  |

## Local Region:

Top Companies Posting

| Company                | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|------------------------|------------------------------------|-------------------|--|
| Anthem Blue Cross      | 4,612 / 2,390                      | 2:1               |  |
| Deloitte               | 3,433 / 2,358                      | 1:1               | ~  |
| Humana                 | 4,626 / 2,140                      | 2:1               | $\sim \sim \sim$                               |
| Boeing                 | 5,705 / 2,071                      | 3:1               |  |
| Dell Technologies      | 3,424 / 2,003                      | 2:1               |  |
| USAA                   | 3,867 / 1,922                      | 2:1               |  |
| Amazon                 | 4,114 / 1,754                      | 2:1               | ~~~~   |
| Citigroup              | 3,237 / 1,169                      | 3:1               | $\sim \sim$                                    |
| UnitedHealth Group     | 2,382 / 1,167                      | 2:1               | /  |
| PricewaterhouseCoopers | 1,883 / 1,017                      | 2:1               |  |

### Arkansas:

#### Top Companies Posting

| Company                | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|------------------------|------------------------------------|-------------------|--|
| Walmart                | 1,109 / 365                        | 3:1               |  |
| Humana                 | 462 / 253                          | 2:1               | ~~~~   |
| University of Arkansas | 513 / 220                          | 2:1               | $\sim\sim\sim\sim$                             |
| Facebook               | 222 / 197                          | 1:1               |  |
| PricewaterhouseCoopers | 246 / 177                          | 1:1               |  |
| Anthem Blue Cross      | 154 / 116                          | 1:1               | ~~~~   |
| Guidehouse             | 117 / 107                          | 1:1               | $\sim$   |
| Lumen                  | 109 / 88                           | 1:1               |  |
| Deloitte               | 134 / 77                           | 2:1               | ~  |
| General Motors         | 108 / 77                           | 1:1               |  |

# Top Posted Job Titles:

## Nationwide:

Top Posted Job Titles

| Job Title                       | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|---------------------------------|------------------------------------|-------------------|--|
| Program Managers                | 35,415 / 12,916                    | 3:1               |  |
| Project Managers                | 29,292 / 12,244                    | 2:1               | ~~~  |
| Product Managers                | 27,241 / 11,537                    | 2:1               |  |
| Systems Engineers               | 24,637 / 9,150                     | 3:1               | ~~~  |
| Business Analysts               | 15,786 / 6,424                     | 2:1               | ~~~~   |
| Solutions Architects            | 9,172 / 4,960                      | 2:1               |  |
| Marketing Product Managers      | 9,212 / 3,962                      | 2:1               | /  |
| Directors of Product Management | 8,055 / 3,707                      | 2:1               |  |
| Principal Systems Engineers     | 9,256 / 3,665                      | 3:1               | ~~/  |
| Machine Learning Engineers      | 8,021 / 3,284                      | 2:1               |  |

## Local Region:

Top Posted Job Titles

| Job Title                       | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|---------------------------------|------------------------------------|-------------------|--|
| Project Managers                | 3,535 / 1,636                      | 2:1               | $\sim$   |
| Program Managers                | 3,990 / 1,595                      | 3:1               |  |
| Product Managers                | 3,295 / 1,508                      | 2:1               | ~~~~   |
| Systems Engineers               | 2,970 / 1,075                      | 3:1               | ~~~~   |
| Solutions Architects            | 1,653 / 920                        | 2:1               |  |
| Business Analysts               | 2,187 / 918                        | 2:1               | $\sim$   |
| Risk and Controls Managers      | 1,181 / 614                        | 2:1               |  |
| Operations Managers             | 1,483 / 496                        | 3:1               | $\sim\sim\sim$                                 |
| Directors of Product Management | 910 / 482                          | 2:1               | /  |
| Marketing Product Managers      | 988 / 479                          | 2:1               | /  |

## Arkansas:

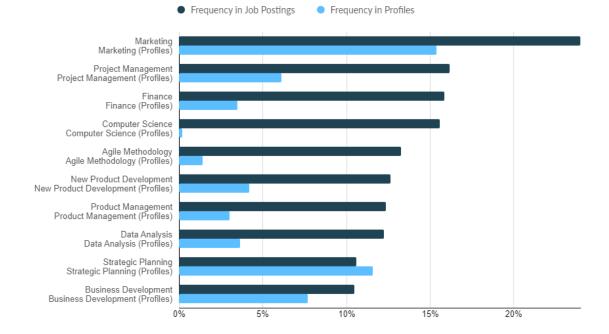
Top Posted Job Titles

| Job Title                  | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|----------------------------|------------------------------------|-------------------|--|
| Product Managers           | 175 / 84                           | 2:1               |  |
| Solutions Architects       | 102 / 68                           | 2:1               |  |
| Program Managers           | 74 / 53                            | 1:1               | ~~~~   |
| Administrative Specialists | 118 / 45                           | 3:1               | $\sim\sim\sim$                                 |
| Project Managers           | 65 / 39                            | 2:1               | $\sim$   |
| Operations Managers        | 86 / 28                            | 3:1               | ~~~~   |
| Marketing Product Managers | 33 / 27                            | 1:1               |  |
| Digital Product Managers   | 67 / 26                            | 3:1               |  |
| Business Analysts          | 39 / 25                            | 2:1               | $\sim\sim\sim$                                 |
| Product Owners             | 46 / 24                            | 2:1               | ~~~~~  |

# Top Hard Skills:

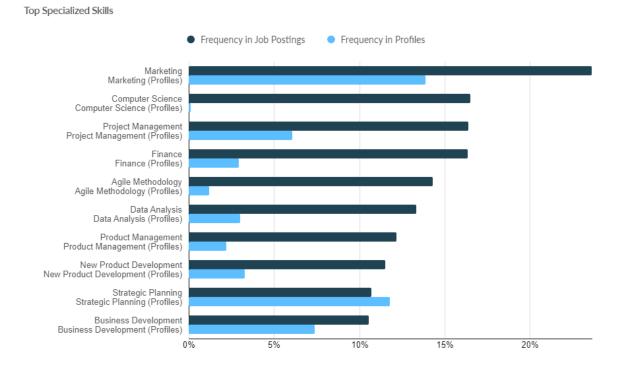
#### Nationwide:

Top Specialized Skills



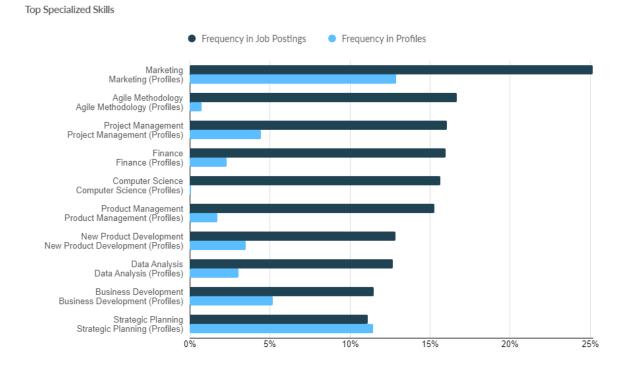
| Skills                  | Postings | % of Total Postings | Profiles  | % of Total Profiles |
|-------------------------|----------|---------------------|-----------|---------------------|
| Marketing               | 182,578  | 24%                 | 4,614,985 | 15%                 |
| Project Management      | 123,248  | 16%                 | 1,839,567 | 6%                  |
| Finance                 | 120,808  | 16%                 | 1,049,115 | 4%                  |
| Computer Science        | 118,565  | 16%                 | 57,087    | 0%                  |
| Agile Methodology       | 101,078  | 13%                 | 422,476   | 1%                  |
| New Product Development | 96,085   | 13%                 | 1,255,092 | 4%                  |
| Product Management      | 94,156   | 12%                 | 903,870   | 3%                  |
| Data Analysis           | 93,332   | 12%                 | 1,100,722 | 4%                  |
| Strategic Planning      | 80,735   | 11%                 | 3,477,593 | 12%                 |
| Business Development    | 79,703   | 10%                 | 2,308,707 | 8%                  |

### Local Region:



| Skills                  | Postings | % of Total Postings | Profiles | % of Total Profiles |
|-------------------------|----------|---------------------|----------|---------------------|
| Marketing               | 25,854   | 24%                 | 665,952  | 14%                 |
| Computer Science        | 18,069   | 17%                 | 5,930    | 0%                  |
| Project Management      | 17,951   | 16%                 | 291,587  | 6%                  |
| Finance                 | 17,901   | 16%                 | 140,346  | 3%                  |
| Agile Methodology       | 15,653   | 14%                 | 57,912   | 1%                  |
| Data Analysis           | 14,600   | 13%                 | 143,913  | 3%                  |
| Product Management      | 13,328   | 12%                 | 105,224  | 2%                  |
| New Product Development | 12,600   | 12%                 | 156,801  | 3%                  |
| Strategic Planning      | 11,721   | 11%                 | 565,997  | 12%                 |
| Business Development    | 11,552   | 11%                 | 353,916  | 7%                  |

#### Arkansas:

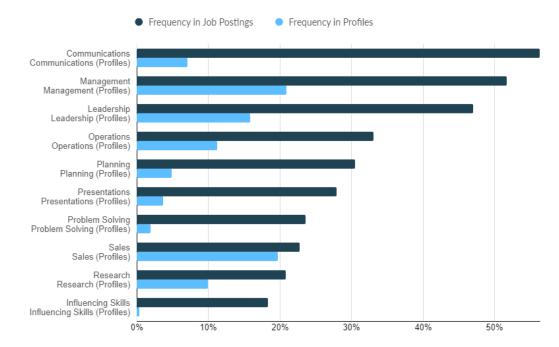


| Skills                  | Postings | % of Total Postings | Profiles | % of Total Profiles |
|-------------------------|----------|---------------------|----------|---------------------|
| Marketing               | 1,173    | 25%                 | 23,173   | 13%                 |
| Agile Methodology       | 778      | 17%                 | 1,370    | 1%                  |
| Project Management      | 749      | 16%                 | 8,028    | 4%                  |
| Finance                 | 745      | 16%                 | 4,171    | 2%                  |
| Computer Science        | 730      | 16%                 | 145      | 0%                  |
| Product Management      | 713      | 15%                 | 3,090    | 2%                  |
| New Product Development | 599      | 13%                 | 6,266    | 3%                  |
| Data Analysis           | 591      | 13%                 | 5,504    | 3%                  |
| Business Development    | 535      | 11%                 | 9,326    | 5%                  |
| Strategic Planning      | 519      | 11%                 | 20,592   | 11%                 |

# Top Common Skills:

### Nationwide:

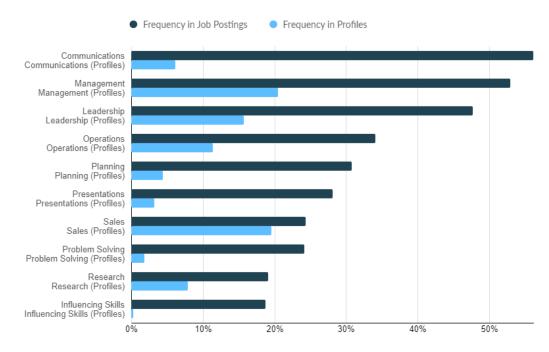
Top Common Skills



| Skills             | Postings | % of Total Postings | Profiles  | % of Total Profiles |
|--------------------|----------|---------------------|-----------|---------------------|
| Communications     | 428,499  | 56%                 | 2,140,952 | 7%                  |
| Management         | 393,475  | 52%                 | 6,283,905 | 21%                 |
| Leadership         | 357,763  | 47%                 | 4,765,912 | 16%                 |
| Operations         | 251,624  | 33%                 | 3,368,786 | 11%                 |
| Planning           | 232,465  | 31%                 | 1,454,562 | 5%                  |
| Presentations      | 212,440  | 28%                 | 1,093,269 | 4%                  |
| Problem Solving    | 179,711  | 24%                 | 591,026   | 2%                  |
| Sales              | 173,165  | 23%                 | 5,914,022 | 20%                 |
| Research           | 158,743  | 21%                 | 2,971,367 | 10%                 |
| Influencing Skills | 139,497  | 18%                 | 100,907   | 0%                  |

### Local Region:

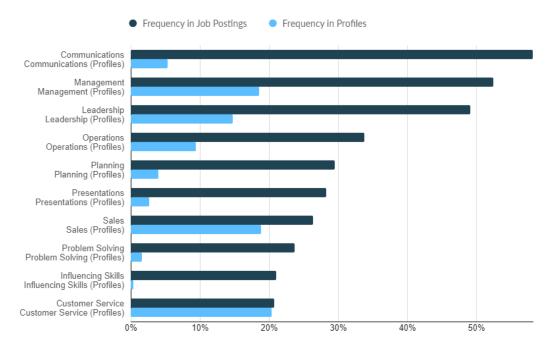
Top Common Skills



| Skills             | Postings | % of Total Postings | Profiles | % of Total Profiles |
|--------------------|----------|---------------------|----------|---------------------|
| Communications     | 61,449   | 56%                 | 296,009  | 6%                  |
| Management         | 57,927   | 53%                 | 984,422  | 21%                 |
| Leadership         | 52,212   | 48%                 | 751,607  | 16%                 |
| Operations         | 37,348   | 34%                 | 546,697  | 11%                 |
| Planning           | 33,649   | 31%                 | 209,682  | 4%                  |
| Presentations      | 30,808   | 28%                 | 156,243  | 3%                  |
| Sales              | 26,636   | 24%                 | 938,006  | 20%                 |
| Problem Solving    | 26,470   | 24%                 | 89,535   | 2%                  |
| Research           | 20,902   | 19%                 | 379,141  | 8%                  |
| Influencing Skills | 20,479   | 19%                 | 13,526   | 0%                  |

#### Arkansas:

Top Common Skills

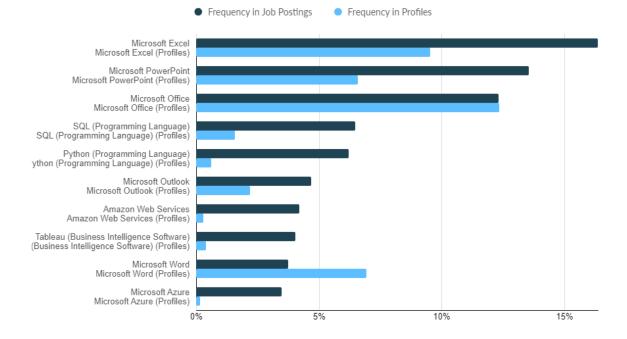


| Skills             | Postings | % of Total Postings | Profiles | % of Total Profiles |
|--------------------|----------|---------------------|----------|---------------------|
| Communications     | 2,710    | 58%                 | 9,621    | 5%                  |
| Management         | 2,446    | 53%                 | 33,326   | 19%                 |
| Leadership         | 2,290    | 49%                 | 26,572   | 15%                 |
| Operations         | 1,574    | 34%                 | 16,965   | 9%                  |
| Planning           | 1,376    | 30%                 | 7,239    | 4%                  |
| Presentations      | 1,317    | 28%                 | 4,839    | 3%                  |
| Sales              | 1,230    | 26%                 | 33,923   | 19%                 |
| Problem Solving    | 1,103    | 24%                 | 2,955    | 2%                  |
| Influencing Skills | 981      | 21%                 | 606      | 0%                  |
| Customer Service   | 965      | 21%                 | 36,594   | 20%                 |

# Top Software Skills:

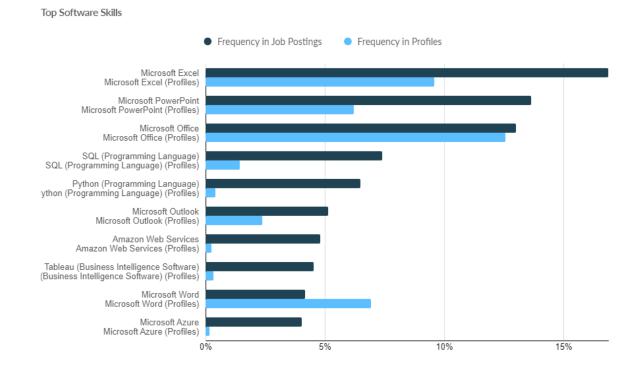
#### Nationwide:

Top Software Skills



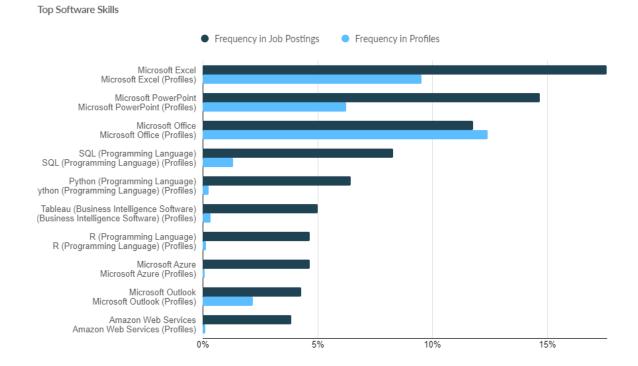
| Microsoft Excel         124,461         16%         2,858,943         10%           Microsoft PowerPoint         103,144         14%         1,973,924         7%           Microsoft Office         93,601         12%         3,697,693         12%           SQL (Programming Language)         49,250         6%         476,961         2%           Python (Programming<br>Language)         47,288         6%         185,242         1%           Microsoft Outlook         35,738         5%         656,157         2%           Amazon Web Services         32,079         4%         90,310         0%           Software)         30,685         4%         117,405         0%           Microsoft Word         28,577         4%         2,076,424         7%           Microsoft Azure         26,392         3%         48,288         0% | Skills                     | Postings | % of Total Postings | Profiles  | % of Total Profiles |
|---|----------------------------|----------|---------------------|-----------|---------------------|
| Microsoft Office         93,601         12%         3,697,693         12%           SQL (Programming Language)         49,250         6%         476,961         2%           Python (Programming<br>Language)         47,288         6%         185,242         1%           Microsoft Outlook         35,738         5%         656,157         2%           Amazon Web Services         32,079         4%         90,310         0%           Tableau (Business Intelligence<br>Software)         30,685         4%         117,405         0%           Microsoft Word         28,577         4%         2,076,424         7%   | Microsoft Excel            | 124,461  | 16%                 | 2,858,943 | 10%                 |
| SQL (Programming Language)         49,250         6%         476,961         2%           Python (Programming Language)         47,288         6%         185,242         1%           Microsoft Outlook         35,738         5%         656,157         2%           Amazon Web Services         32,079         4%         90,310         0%           Tableau (Business Intelligence Software)         30,685         4%         117,405         0%           Microsoft Word         28,577         4%         2,076,424         7%   | Microsoft PowerPoint       | 103,144  | 14%                 | 1,973,924 | 7%                  |
| Python (Programming Language)       47,288       6%       185,242       1%         Microsoft Outlook       35,738       5%       656,157       2%         Amazon Web Services       32,079       4%       90,310       0%         Tableau (Business Intelligence Software)       30,685       4%       117,405       0%         Microsoft Word       28,577       4%       2,076,424       7%   | Microsoft Office           | 93,601   | 12%                 | 3,697,693 | 12%                 |
| Language         47,288         6%         185,242         1%           Microsoft Outlook         35,738         5%         656,157         2%           Amazon Web Services         32,079         4%         90,310         0%           Tableau (Business Intelligence<br>Software)         30,685         4%         117,405         0%           Microsoft Word         28,577         4%         2,076,424         7%   | SQL (Programming Language) | 49,250   | 6%                  | 476,961   | 2%                  |
| Amazon Web Services         32,079         4%         90,310         0%           Tableau (Business Intelligence Software)         30,685         4%         117,405         0%           Microsoft Word         28,577         4%         2,076,424         7%   |                            | 47,288   | 6%                  | 185,242   | 1%                  |
| Tableau (Business Intelligence Software)         30,685         4%         117,405         0%           Microsoft Word         28,577         4%         2,076,424         7%   | Microsoft Outlook          | 35,738   | 5%                  | 656,157   | 2%                  |
| Software)         30,685         4%         117,405         0%           Microsoft Word         28,577         4%         2,076,424         7%  | Amazon Web Services        | 32,079   | 4%                  | 90,310    | 0%                  |
|   |                            | 30,685   | 4%                  | 117,405   | 0%                  |
| Microsoft Azure 26,392 3% 48,288 0%   | Microsoft Word             | 28,577   | 4%                  | 2,076,424 | 7%                  |
|   | Microsoft Azure            | 26,392   | 3%                  | 48,288    | 0%                  |

### Local Region:



| Skills                                      | Postings | % of Total Postings | Profiles | % of Total Profiles |
|---|----------|---------------------|----------|---------------------|
| Microsoft Excel                             | 18,454   | 17%                 | 458,690  | 10%                 |
| Microsoft PowerPoint                        | 14,909   | 14%                 | 297,956  | 6%                  |
| Microsoft Office                            | 14,237   | 13%                 | 601,898  | 13%                 |
| SQL (Programming Language)                  | 8,091    | 7%                  | 68,682   | 1%                  |
| Python (Programming<br>Language)            | 7,108    | 6%                  | 20,019   | 0%                  |
| Microsoft Outlook                           | 5,619    | 5%                  | 113,202  | 2%                  |
| Amazon Web Services                         | 5,270    | 5%                  | 12,420   | 0%                  |
| Tableau (Business Intelligence<br>Software) | 4,951    | 5%                  | 15,491   | 0%                  |
| Microsoft Word                              | 4,575    | 4%                  | 332,720  | 7%                  |
| Microsoft Azure                             | 4,409    | 4%                  | 7,539    | 0%                  |

#### Arkansas:



| Skills                                      | Postings | % of Total Postings | Profiles | % of Total Profiles |
|---|----------|---------------------|----------|---------------------|
| Microsoft Excel                             | 820      | 18%                 | 17,172   | 10%                 |
| Microsoft PowerPoint                        | 685      | 15%                 | 11,264   | 6%                  |
| Microsoft Office                            | 549      | 12%                 | 22,324   | 12%                 |
| SQL (Programming Language)                  | 386      | 8%                  | 2,398    | 1%                  |
| Python (Programming<br>Language)            | 301      | 6%                  | 483      | 0%                  |
| Tableau (Business Intelligence<br>Software) | 233      | 5%                  | 632      | 0%                  |
| R (Programming Language)                    | 218      | 5%                  | 245      | 0%                  |
| Microsoft Azure                             | 217      | 5%                  | 163      | 0%                  |
| Microsoft Outlook                           | 200      | 4%                  | 3,956    | 2%                  |
| Amazon Web Services                         | 180      | 4%                  | 182      | 0%                  |



# **Global Campus**

Sustainability

Benchmark Report

Multiple levels:

Including Bachelor's, Master's, Certificates, and minor

## Contents

| Research Parameters:  | 30 |
|---|----|
| Report Summary:   | 30 |
| Completions by Award level:   |    |
| All modalities:   |    |
| Non-distance offered:   |    |
| Distance offered:   | 32 |
| Bachelor's:   | 33 |
| Top 20 non-distance Sustainability Bachelor's degrees Nationwide:     |    |
| All 13 distance offered Sustainability Bachelor's degrees Nationwide: | 34 |
| All 5 non-distance Sustainability Bachelor's degrees Local Area:      | 35 |
| Only distance offered Sustainability Bachelor's degrees Local Area:   | 35 |
| Sustainability Bachelor's degrees Arkansas:                           | 35 |
| Target Occupations:   |    |
| Nationwide:   |    |
| Local Area:   | 37 |
| Arkansas:   | 38 |
| Top Companies Posting:  | 39 |
| Nationwide:   | 39 |
| Local Region:   | 40 |
| Arkansas:   | 40 |
| Top Posted Job Titles:  | 41 |
| Nationwide:   | 41 |
| Local Region:   | 42 |
| Arkansas:   | 43 |
| Top Hard Skills:  | 44 |
| Nationwide:   | 44 |
| Local Region:   | 45 |
| Arkansas:   | 46 |
| Top Common Skills:  | 47 |
| Nationwide:   |    |
| Local Region:   |    |
| Arkansas:   | 49 |

| Top Software Skills:  | 50 |
|---|----|
| Nationwide:   | 50 |
| Local Region:   | 51 |
| Arkansas:   |    |
| Master's:   | 53 |
| Completions by Institution:   | 53 |
| Top 20 non-distance Sustainability Master's degrees Nationwide:     | 53 |
| All 13 distance offered Sustainability Master's degrees Nationwide: |    |
| All 5 non-distance Sustainability Master's degrees Local Area:      | 55 |
| All distance offered Sustainability Master's degrees Local Area:    | 55 |
| Sustainability Master's degrees Arkansas:                           | 55 |
| Target Occupations:   | 56 |
| Nationwide:   |    |
| Local Area:   | 57 |
| Arkansas:   |    |
| Top Companies Posting:  |    |
| Nationwide:   | 59 |
| Local Region:   | 60 |
| Arkansas:   | 60 |
| Top Posted Job Titles:  | 61 |
| Nationwide:   | 61 |
| Local Region:   |    |
| Arkansas:   |    |
| Top Hard Skills:  |    |
| Nationwide:   |    |
| Local Region:   | 65 |
| Arkansas:   |    |
| Top Common Skills:  |    |
| Nationwide:   |    |
| Local Region:   |    |
|   |    |
| Top Software Skills:  |    |
| Nationwide:   |    |
|   |    |

| Local Region:   | '1 |
|---|----|
| Arkansas:   | 2  |
| Graduate Certificate:                                       | 3  |
| Completions by Institution:                                 | 3  |
| Top non-distance [DEGREE PROGRAM] degrees Nationwide:       | 3  |
| Top distance offered [DEGREE PROGRAM] degrees Nationwide:   | 3  |
| Top non-distance [DEGREE PROGRAM] degrees Local Area:       | 3  |
| Postbaccalaureate Certificate:                              | 4  |
| Completions by Institution:                                 | 4  |
| Top 10 non-distance [DEGREE PROGRAM] degrees Nationwide:    | 4  |
| Top 5 distance offered [DEGREE PROGRAM] degrees Nationwide: | 4  |
| Top non-distance [DEGREE PROGRAM] degrees Local Area:       | 5  |
| Top distance offered [DEGREE PROGRAM] degrees Local Area:   | 5  |
| <u>Minor:</u>   | 6  |
| Top Qualifications:   | 6  |

# **Research Parameters:**

Using Lightcast Job Postings Analytics report, Lightcast Occupations reports, and Lightcast Programs reports to create the following report.

Local region: Arkansas, Kansas, Louisiana, Mississippi, Missouri, Oklahoma, Tennessee, Texas.

CIP-Code: Sustainability Studies (30.33)

## Report Summary:

- The majority of completions under this CIP-code are at the bachelor's, master's, and postbaccalaureate level.
- At the bachelor's level the University of Arkansas has a lower cost than many of the largest programs in the country.
- There are currently no Sustainability bachelor's programs in Arkansas and few in the local region, online or in person.
- There are currently no Sustainability master's programs in Arkansas and few in the local region, online or in person.

# Completions by Award level:

### All modalities:

Regional Completions by Award Level

|   | Award Level  | Completions<br>(2020) | Percent |    |
|---|--|-----------------------|---------|----|
| ٠ | Award of less than 1 academic year                 | 186                   | 7.0%    | •  |
| • | Award of at least 1 but less than 2 academic years | 1                     | 0.0%    | I  |
| • | Associate's Degree                                 | 3                     | 0.1%    | 1  |
| • | Award of at least 2 but less than 4 academic years | 10                    | 0.4%    | Ī  |
| • | Bachelor's Degree                                  | 1,099                 | 41.6%   |    |
| • | Postbaccalaureate certificate                      | 223                   | 8.4%    | •  |
| • | Master's Degree                                    | 1,087                 | 41.1%   |    |
| • | Post-masters certificate                           | 10                    | 0.4%    | 1  |
| • | Doctor's Degree                                    | 26                    | 1.0%    | T. |

### Non-distance offered:

#### Regional Completions by Award Level



| Award Level  | Non-Distance<br>Offered<br>Completions<br>(2020) | Percent |    |
|--|--|---------|----|
| Award of less than 1 academic year                 | 173  | 7.7%    | •  |
| Award of at least 1 but less than 2 academic years | 1  | 0.0%    | I  |
| Associate's Degree                                 | 3  | 0.1%    | 1  |
| Award of at least 2 but less than 4 academic years | 10   | 0.4%    | I  |
| Bachelor's Degree                                  | 958  | 42.9%   |    |
| Postbaccalaureate certificate                      | 137  | 6.1%    | •  |
| Master's Degree                                    | 917  | 41.0%   |    |
| Post-masters certificate                           | 10   | 0.4%    | I  |
| Doctor's Degree                                    | 26   | 1.2%    | T. |

## Distance offered:

Regional Completions by Award Level

| Award Level  | Distance<br>Offered<br>Completions<br>(2020) | Percent |   |
|--|--|---------|---|
| Award of less than 1 academic year                 | 13   | 3.2%    | r |
| Bachelor's Degree                                  | 141  | 34.4%   |   |
| Postbaccalaureate certificate                      | 86   | 21.0%   | - |
| Master's Degree                                    | 170  | 41.5%   |   |
| Award of at least 1 but less than 2 academic years | 0  | 0.0%    |   |
| Associate's Degree                                 | 0  | 0.0%    |   |
| Award of at least 2 but less than 4 academic years | 0  | 0.0%    |   |
| Post-masters certificate                           | 0  | 0.0%    |   |
| Doctor's Degree                                    | 0  | 0.0%    |   |

# Bachelor's:

## Top 20 non-distance Sustainability Bachelor's degrees Nationwide:

| Institution                                 | Bachelor's<br>Degree ><br>Non-Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|---|--|------------------------|------------------------|--------------------------------|----------------------------------|
| University of Florida                       | 74   | 4.2%                   | 7.7%                   | \$6,381                        |                                  |
| The University of Texas at Austin           | 61   | 125.9%                 | 6.4%                   | \$11,448                       |                                  |
| University of California-Riverside          | 51   | 45.7%                  | 5.3%                   | \$13,859                       |                                  |
| Columbia University in the City of New York | 45   | -15.1%                 | 4.7%                   | \$60,532                       |                                  |
| University of Illinois Urbana-Champaign     | 41   | -12.8%                 | 4.3%                   | \$17,213                       |                                  |
| Colorado Mountain College                   | 40   | 2.6%                   | 4.2%                   | \$4,740                        | $\frown$                         |
| George Mason University                     | 35   | 20.7%                  | 3.7%                   | \$13,014                       |                                  |
| Ohio State University-Main Campus           | 32   | Insf. Data             | 3.3%                   | \$11,518                       | /                                |
| Miami University-Oxford                     | 31   | -13.9%                 | 3.2%                   | \$15,621                       |                                  |
| University of Massachusetts-Amherst         | 31   | Insf. Data             | 3.2%                   | \$16,439                       | /                                |
| Michigan State University                   | 27   | Insf. Data             | 2.8%                   | \$15,555                       | /                                |
| Utah State University                       | 23   | Insf. Data             | 2.4%                   | \$7,860                        | /                                |
| The Pennsylvania State University           | 23   | Insf. Data             | 2.4%                   | \$15,513                       | /                                |
| University of New Hampshire-Main Campus     | 22   | 83.3%                  | 2.3%                   | \$18,938                       |                                  |
| West Virginia University                    | 22   | Insf. Data             | 2.3%                   | \$8,976                        | /                                |
| Western Washington University               | 21   | -38.2%                 | 2.2%                   | \$8,508                        |                                  |
| Montclair State University                  | 20   | 81.8%                  | 2.1%                   | \$13,073                       | $\sim$                           |
| University of Louisville                    | 19   | 533.3%                 | 2.0%                   | \$12,162                       |                                  |
| Furman University                           | 18   | 50.0%                  | 1.9%                   | \$52,092                       | $\sim$                           |
| University of Oklahoma-Norman Campus        | 17   | 142.9%                 | 1.8%                   | \$9,063                        |                                  |
|   |  |                        |                        |                                |                                  |

## All 13 distance offered Sustainability Bachelor's degrees Nationwide:

| Institution                         | Bachelor's<br>Degree ><br>Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|-------------------------------------|--|------------------------|------------------------|--------------------------------|----------------------------------|
| Florida International University    | 45   | 45.2%                  | 31.9%                  | \$6,565                        |                                  |
| Oregon State University             | 35   | 29.6%                  | 24.8%                  | \$11,858                       |                                  |
| Montana State University            | 15   | Insf. Data             | 10.6%                  | \$7,371                        | /                                |
| Roosevelt University                | 12   | -14.3%                 | 8.5%                   | \$31,493                       |                                  |
| University of Wisconsin-Stout       | 10   | 400.0%                 | 7.1%                   | \$9,488                        | /                                |
| Bellevue University                 | 7  | -30.0%                 | 5.0%                   | \$7,851                        | $\searrow$                       |
| University of Wisconsin-River Falls | 5  | 25.0%                  | 3.5%                   | \$8,063                        |                                  |
| University of Wisconsin-Superior    | 4  | -33.3%                 | 2.8%                   | \$8,140                        | $\searrow$                       |
| University of Wisconsin-Parkside    | 3  | -25.0%                 | 2.1%                   | \$7,444                        | ~~~~                             |
| Unity College                       | 2  | Insf. Data             | 1.4%                   | \$12,715                       | /                                |
| Virginia Wesleyan University        | 1  | Insf. Data             | 0.7%                   | \$36,910                       | /                                |
| Ashford University                  | 1  | Insf. Data             | 0.7%                   | \$14,278                       |                                  |
| Maryville University of Saint Louis | 1  | Insf. Data             | 0.7%                   | \$27,166                       | /                                |
|                                     |  |                        |                        |                                |                                  |

### All 5 non-distance Sustainability Bachelor's degrees Local Area:

Completions by Institution

| Institution                           | Bachelor's<br>Degree ><br>Non-Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|---------------------------------------|--|------------------------|------------------------|--------------------------------|----------------------------------|
| The University of Texas at Austin     | 61   | 125.9%                 | 59.8%                  | \$11,448                       |                                  |
| University of Oklahoma-Norman Campus  | 17   | 142.9%                 | 16.7%                  | \$9,063                        |                                  |
| The University of the South           | 13   | -18.8%                 | 12.7%                  | \$47,232                       | $\checkmark$                     |
| Oral Roberts University               | 6  | 200.0%                 | 5.9%                   | \$30,930                       | ~                                |
| The University of Tennessee-Knoxville | 5  | 0.0%                   | 4.9%                   | \$13,264                       |                                  |

### Only distance offered Sustainability Bachelor's degrees Local Area:

Completions by Institution

| Institution                         | Bachelor's<br>Degree ><br>Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|-------------------------------------|--|------------------------|------------------------|--------------------------------|----------------------------------|
| Maryville University of Saint Louis | 1  | Insf. Data             | 100.0%                 | \$27,166                       | /                                |

Sustainability Bachelor's degrees Arkansas:

None currently available.

# Target Occupations:

## Nationwide:

Target Occupations

| *Filtered by the proportion of the national workforce in these occupations with a Bachelor's degree                      |   |               |   |                    |                             |  |
|--|---|---------------|---|--------------------|-----------------------------|--|
| 1.75M<br>Jobs (2016)*  | +16.6%<br>% Change (2016-2020)*         | \$71.5        | \$34.35/hr<br>\$71.5K/yr<br>Median Earnings |                    | 280,573<br>Annual Openings* |  |
| Occupation   |   | 2016<br>Jobs* | Annual<br>Openings*                         | Median<br>Earnings | Growth (2016 -<br>2020)*    |  |
| Project Management Specialists and Business Operations Specialists, All Other  |   | ther 463,794  | 97,835                                      | \$37.15/hr         | +49.02%                     |  |
| Sales Representatives of Services, Except Advertising, Insurance, Financial<br>Services, and Travel                      |   | 448,973       | 67,970                                      | \$28.15/hr         | +0.59%                      |  |
| Personal Service Managers, All Other; Entertainment and Recreation Managers,<br>Except Gambling; and Managers, All Other |   | gers, 313,466 | 42,914                                      | \$39.91/hr         | +13.29%                     |  |
| Sales Representatives, Wholesale<br>Products   | and Manufacturing, Technical and Scient | ific 139,192  | 17,456                                      | \$41.43/hr         | -11.99%                     |  |
| Chief Executives   |   | 116,282       | 13,304                                      | \$79.18/hr         | -0.38%                      |  |
| Compliance Officers  |   | 116,249       | 16,186                                      | \$34.17/hr         | +19.15%                     |  |
| Environmental Scientists and Specialists, Including Health   |   | 54,635        | 7,481                                       | \$35.24/hr         | -1.57%                      |  |
| First-Line Supervisors of Transportation and Material Moving Workers, Except<br>Aircraft Cargo Handling Supervisors      |   | ept 53,995    | 9,741                                       | \$26.35/hr         | +22.55%                     |  |
| Conservation Scientists  |   | 17,592        | 3,422                                       | \$30.07/hr         | +10.61%                     |  |
| Environmental Science and Protection Technicians, Including Health   |   | 12,032        | 2,260                                       | \$22.53/hr         | -3.48%                      |  |

## Local Area:

| *Filtered by  | the proportion of the national w                   | orkforce in t   | hese occupations    | with a Bachel      | or's degree   |                                 |                    |  |
|---|--|---|---------------------|--------------------|---|---------------------------------|--------------------|--|
| 285,052<br>Jobs (2016)*<br>3% below National average*                       | +20.1%<br>% Change (2016-2020)*<br>Nation: +16.6%* | \$31.47/hr<br>\$65.5K/yr<br>Median Earnings<br>Nation: \$34.35/hr; \$71.5K/yr |                     |                    | - % \$65.5K/yr 49,7<br>-2020)* Median Earnings Annual O |                                 | 49,7<br>Annual Ope |  |
| Occupation  |  | 2016<br>Jobs*   | Annual<br>Openings* | Median<br>Earnings | Growth (2016 -<br>2020)*                                | Location<br>Quotient<br>(2016)* |                    |  |
| Sales Representatives of Services,<br>Financial Services, and Travel        | Except Advertising, Insurance,                     | 78,765  | 11,193              | \$25.03/hr         | -6.74%  | 1.05                            |                    |  |
| Project Management Specialists ar<br>Specialists, All Other                 | nd Business Operations                             | 69,944  | 17,184              | \$35.08/hr         | +60.80%   | 0.90                            |                    |  |
| Personal Service Managers, All Otl<br>Recreation Managers, Except Gamblir   |  | 48,985  | 8,454               | \$33.43/hr         | +28.74%   | 0.93                            |                    |  |
| Sales Representatives, Wholesale and Scientific Products                    | and Manufacturing, Technical                       | 26,254  | 3,622               | \$37.50/hr         | -6.08%  | 1.13                            |                    |  |
| Compliance Officers   |  | 20,153  | 2,707               | \$31.65/hr         | +16.36%   | 1.03                            |                    |  |
| Chief Executives  |  | 17,088  | 2,172               | \$69.27/hr         | +7.27%  | 0.88                            |                    |  |
| First-Line Supervisors of Transport<br>Workers, Except Aircraft Cargo Handl |  | 10,641  | 1,950               | \$25.20/hr         | +23.66%   | 1.18                            |                    |  |
| Environmental Scientists and Spec   | ialists, Including Health                          | 6,635   | 1,118               | \$32.11/hr         | +3.04%  | 0.72                            |                    |  |
| Conservation Scientists   |  | 3,524   | 650                 | \$27.97/hr         | +11.58%   | 1.20                            |                    |  |
| Environmental Science and Protec<br>Health                                  | tion Technicians, Including                        | 2,010   | 383                 | \$22.27/hr         | -4.38%  | 1.00                            |                    |  |

| *Filtered by   | the proportion of the national w                   | orkforce in t | hese occupation     | s with a Bachel    | or's degree               |                                 |
|--|--|---------------|---------------------|--------------------|---------------------------|---------------------------------|
| 11,686<br>Jobs (2016)*<br>12% <mark>below</mark> National average*   | +16.8%<br>% Change (2016-2020)*<br>Nation: +16.6%* | \$00.0K       |                     | /yr<br>ings        | 1,975<br>Annual Openings* |                                 |
| Occupation   |  | 2016<br>Jobs* | Annual<br>Openings* | Median<br>Earnings | Growth (2016 -<br>2020)*  | Location<br>Quotient<br>(2016)* |
| Project Management Specialists ar<br>Specialists, All Other  | nd Business Operations                             | 3,032         | 603                 | \$28.49/hr         | +40.07%                   | 0.86                            |
| Personal Service Managers, All Other; Entertainment and<br>Recreation Managers, Except Gambling; and Managers, All Other |  | 2,487         | 359                 | \$28.99/hr         | +15.92%                   | 1.04                            |
| Sales Representatives of Services,<br>Financial Services, and Travel   | Except Advertising, Insurance,                     | 1,916         | 408                 | \$22.51/hr         | +24.16%                   | 0.56                            |
| Chief Executives   |  | 1,140         | 110                 | \$49.97/hr         | -15.00%                   | 1.28                            |
| Sales Representatives, Wholesale a<br>and Scientific Products  | and Manufacturing, Technical                       | 1,053         | 128                 | \$34.64/hr         | -21.18%                   | 0.99                            |
| Compliance Officers  |  | 979           | 152                 | \$28.48/hr         | +23.80%                   | 1.10                            |
| First-Line Supervisors of Transport<br>Workers, Except Aircraft Cargo Handli   |  | 542           | 95                  | \$22.25/hr         | +18.45%                   | 1.31                            |
| Environmental Scientists and Spec  | ialists, Including Health                          | 215           | 32                  | \$33.06/hr         | -28.37%                   | 0.52                            |
| Conservation Scientists  |  | 163           | 44                  | \$29.58/hr         | +14.72%                   | 1.21                            |
| Environmental Science and Protect<br>Health  | tion Technicians, Including                        | 72            | 14                  | \$19.18/hr         | -31.94%                   | 0.78                            |

## Top Companies Posting:

## Nationwide:

Top Companies Posting

| Company                | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|------------------------|------------------------------------|-------------------|--|
| Anthem Blue Cross      | 38,030 / 18,480                    | 2:1               | $\checkmark$                                   |
| Deloitte               | 21,269 / 11,840                    | 2:1               | ~~~  |
| Randstad               | 17,657 / 8,318                     | 2:1               | ~~~  |
| PricewaterhouseCoopers | 14,397 / 7,366                     | 2:1               | _~   |
| KPMG                   | 17,161 / 7,108                     | 2:1               |  |
| Amazon                 | 14,336 / 5,779                     | 2:1               | $\sim$   |
| UnitedHealth Group     | 11,614 / 5,025                     | 2:1               | /  |
| Citigroup              | 11,072 / 4,607                     | 2:1               |  |
| GPAC                   | 8,726 / 4,052                      | 2:1               | ~~/  |
| Humana                 | 8,629 / 3,862                      | 2:1               | ~~~~   |

Top Companies Posting

| Company                | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|------------------------|------------------------------------|-------------------|--|
| Anthem Blue Cross      | 4,938 / 2,483                      | 2:1               | $\sim$   |
| Deloitte               | 2,939 / 2,071                      | 1:1               | ~~~  |
| PricewaterhouseCoopers | 2,570 / 1,519                      | 2:1               |  |
| KPMG                   | 3,324 / 1,419                      | 2:1               |  |
| USAA                   | 2,691 / 1,261                      | 2:1               | $\checkmark$                                   |
| Randstad               | 2,234 / 1,029                      | 2:1               | ~~~~   |
| Dell Technologies      | 1,929 / 950                        | 2:1               |  |
| UnitedHealth Group     | 2,416 / 903                        | 3:1               | /  |
| Amazon                 | 2,126 / 867                        | 2:1               | $\sim$   |
| GPAC                   | 1,604 / 738                        | 2:1               | ~~~~   |

### Arkansas:

#### Top Companies Posting

| Company                | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|------------------------|------------------------------------|-------------------|--|
| Walmart                | 1,080 / 375                        | 3:1               |  |
| PricewaterhouseCoopers | 410 / 318                          | 1:1               |  |
| University of Arkansas | 566 / 209                          | 3:1               | ~~~~   |
| Facebook               | 223 / 190                          | 1:1               |  |
| State of Arkansas      | 356 / 171                          | 2:1               | $\sim \sim \sim$                               |
| Tyson Foods            | 380 / 140                          | 3:1               | $\sim$   |
| Anthem Blue Cross      | 192 / 138                          | 1:1               | ~~~  |
| Black & Veatch         | 133 / 106                          | 1:1               |  |
| Deloitte               | 141 / 96                           | 1:1               |  |
| Applied Materials      | 98 / 86                            | 1:1               | $\sim$   |

## Top Posted Job Titles:

## Nationwide:

| Job Title                      | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|--------------------------------|------------------------------------|-------------------|--|
| Project Managers               | 142,759 / 57,035                   | 3:1               | ~~~~   |
| Program Managers               | 83,590 / 31,887                    | 3:1               | ~~~  |
| Project Coordinators           | 40,816 / 14,109                    | 3:1               |  |
| Technical Program Managers     | 14,450 / 5,867                     | 2:1               | ~~~~   |
| Program Coordinators           | 15,504 / 4,688                     | 3:1               | ~~~/   |
| Compliance Analysts            | 11,609 / 4,661                     | 2:1               | ~~~  |
| Compliance Managers            | 10,030 / 3,935                     | 3:1               | $\checkmark \checkmark \checkmark$             |
| Compliance Specialists         | 9,620 / 3,865                      | 2:1               | ~~~  |
| Regulatory Affairs Specialists | 10,335 / 3,831                     | 3:1               | $\sim$   |
| Sales Account Executives       | 11,563 / 3,651                     | 3:1               | ~~~  |

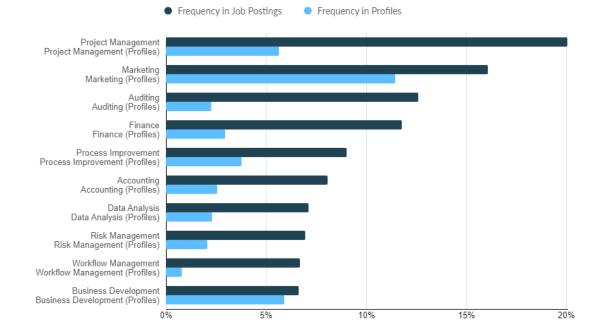
| Job Title                  | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|----------------------------|------------------------------------|-------------------|--|
| Project Managers           | 23,174 / 9,194                     | 3:1               | ~~~  |
| Program Managers           | 10,042 / 4,015                     | 3:1               |  |
| Project Coordinators       | 6,366 / 2,176                      | 3:1               |  |
| Compliance Analysts        | 2,496 / 884                        | 3:1               | $\sim\sim\sim$                                 |
| Technical Program Managers | 1,706 / 760                        | 2:1               |  |
| Program Coordinators       | 2,053 / 658                        | 3:1               | $\sim$   |
| Compliance Specialists     | 1,766 / 647                        | 3:1               |  |
| Sales Account Executives   | 1,885 / 609                        | 3:1               | ~~~~   |
| Compliance Managers        | 1,408 / 592                        | 2:1               | $\sim$   |
| Sales Executives           | 1,494 / 577                        | 3:1               | ~~~  |

| Job Title                         | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|-----------------------------------|------------------------------------|-------------------|--|
| Project Managers                  | 694 / 306                          | 2:1               | ~~~~   |
| Program Managers                  | 322 / 161                          | 2:1               |  |
| Compliance and Ethics Specialists | 318 / 110                          | 3:1               |  |
| Technical Program Managers        | 172 / 55                           | 3:1               |  |
| Project Coordinators              | 75 / 42                            | 2:1               | $\sim$   |
| Continuous Improvement Managers   | 63 / 39                            | 2:1               |  |
| Compliance Specialists            | 73 / 36                            | 2:1               | ~~~  |
| Dhs Program Assistants            | 94 / 33                            | 3:1               | $\sim\sim$                                     |
| Program Coordinators              | 90 / 33                            | 3:1               | $\nearrow \sim \checkmark$                     |
| Project Management Managers       | 46 / 33                            | 1:1               |  |

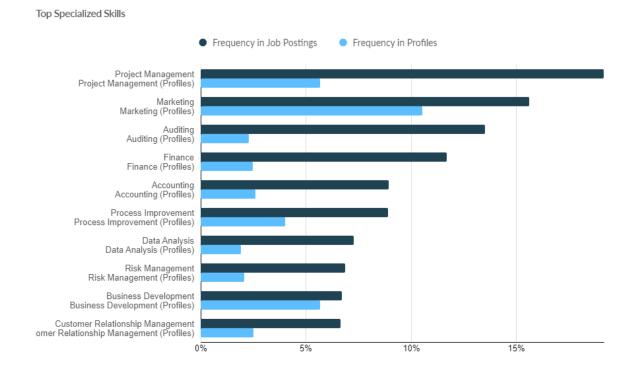
# Top Hard Skills:

## Nationwide:

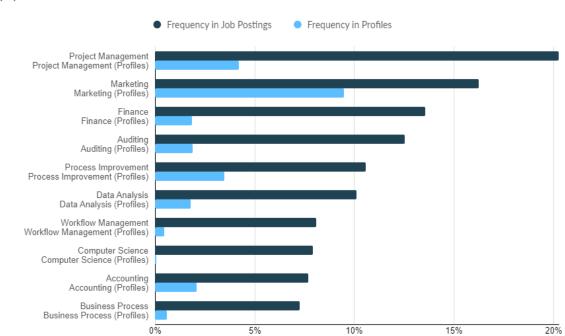
Top Specialized Skills



| Skills               | Postings | % of Total Postings | Profiles  | % of Total Profiles |
|----------------------|----------|---------------------|-----------|---------------------|
| Project Management   | 174,789  | 20%                 | 934,275   | 6%                  |
| Marketing            | 140,067  | 16%                 | 1,896,276 | 11%                 |
| Auditing             | 109,723  | 13%                 | 373,506   | 2%                  |
| Finance              | 102,739  | 12%                 | 488,460   | 3%                  |
| Process Improvement  | 78,694   | 9%                  | 627,556   | 4%                  |
| Accounting           | 70,241   | 8%                  | 423,437   | 3%                  |
| Data Analysis        | 62,133   | 7%                  | 381,916   | 2%                  |
| Risk Management      | 60,528   | 7%                  | 343,220   | 2%                  |
| Workflow Management  | 58,414   | 7%                  | 128,856   | 1%                  |
| Business Development | 57,769   | 7%                  | 980,880   | 6%                  |



| Skills                              | Postings | % of Total Postings | Profiles | % of Total Profiles |
|-------------------------------------|----------|---------------------|----------|---------------------|
| Project Management                  | 26,694   | 19%                 | 149,818  | 6%                  |
| Marketing                           | 21,760   | 16%                 | 278,911  | 11%                 |
| Auditing                            | 18,844   | 14%                 | 60,646   | 2%                  |
| Finance                             | 16,308   | 12%                 | 65,715   | 2%                  |
| Accounting                          | 12,463   | 9%                  | 68,731   | 3%                  |
| Process Improvement                 | 12,404   | 9%                  | 106,007  | 4%                  |
| Data Analysis                       | 10,131   | 7%                  | 50,259   | 2%                  |
| Risk Management                     | 9,559    | 7%                  | 54,357   | 2%                  |
| Business Development                | 9,369    | 7%                  | 150,495  | 6%                  |
| Customer Relationship<br>Management | 9,277    | 7%                  | 66,329   | 3%                  |

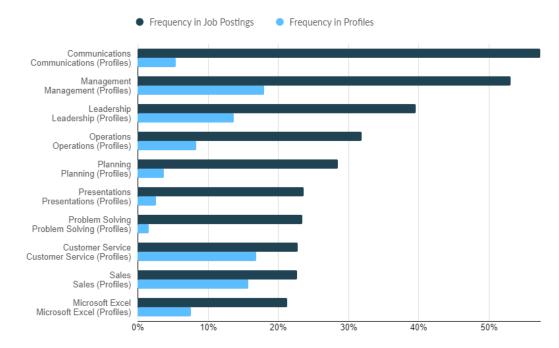


| Skills              | Postings | % of Total Postings | Profiles | % of Total Profiles |
|---------------------|----------|---------------------|----------|---------------------|
| Project Management  | 1,251    | 20%                 | 4,144    | 4%                  |
| Marketing           | 1,004    | 16%                 | 9,332    | 9%                  |
| Finance             | 837      | 14%                 | 1,823    | 2%                  |
| Auditing            | 774      | 13%                 | 1,861    | 2%                  |
| Process Improvement | 654      | 11%                 | 3,434    | 3%                  |
| Data Analysis       | 625      | 10%                 | 1,770    | 2%                  |
| Workflow Management | 499      | 8%                  | 444      | 0%                  |
| Computer Science    | 490      | 8%                  | 62       | 0%                  |
| Accounting          | 475      | 8%                  | 2,055    | 2%                  |
| Business Process    | 448      | 7%                  | 578      | 1%                  |

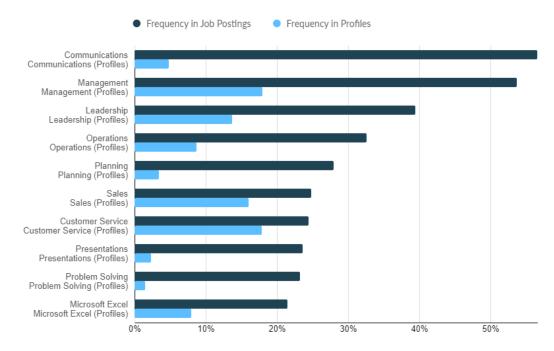
Top Specialized Skills

## Top Common Skills:

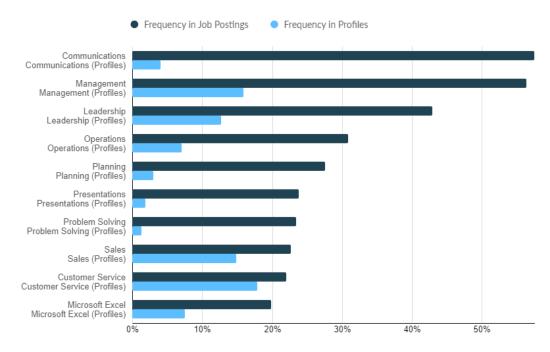
#### Nationwide:



| Skills           | Postings | % of Total Postings | Profiles  | % of Total Profiles |
|------------------|----------|---------------------|-----------|---------------------|
| Communications   | 499,438  | 57%                 | 906,840   | 5%                  |
| Management       | 462,922  | 53%                 | 2,980,329 | 18%                 |
| Leadership       | 345,271  | 40%                 | 2,265,518 | 14%                 |
| Operations       | 277,763  | 32%                 | 1,388,934 | 8%                  |
| Planning         | 248,209  | 28%                 | 623,865   | 4%                  |
| Presentations    | 205,669  | 24%                 | 430,416   | 3%                  |
| Problem Solving  | 204,709  | 23%                 | 260,503   | 2%                  |
| Customer Service | 198,775  | 23%                 | 2,789,851 | 17%                 |
| Sales            | 197,889  | 23%                 | 2,613,523 | 16%                 |
| Microsoft Excel  | 185,821  | 21%                 | 1,261,995 | 8%                  |



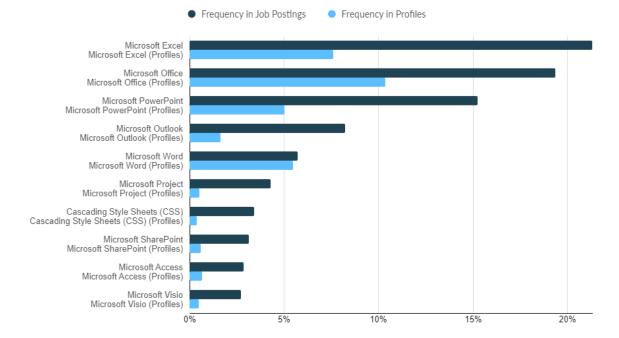
| Skills           | Postings | % of Total Postings | Profiles | % of Total Profiles |
|------------------|----------|---------------------|----------|---------------------|
| Communications   | 78,670   | 57%                 | 127,321  | 5%                  |
| Management       | 74,655   | 54%                 | 473,157  | 18%                 |
| Leadership       | 54,867   | 39%                 | 361,795  | 14%                 |
| Operations       | 45,279   | 33%                 | 229,014  | 9%                  |
| Planning         | 38,932   | 28%                 | 90,879   | 3%                  |
| Sales            | 34,557   | 25%                 | 422,464  | 16%                 |
| Customer Service | 34,048   | 24%                 | 471,929  | 18%                 |
| Presentations    | 32,867   | 24%                 | 62,009   | 2%                  |
| Problem Solving  | 32,289   | 23%                 | 40,279   | 2%                  |
| Microsoft Excel  | 29,809   | 21%                 | 209,273  | 8%                  |



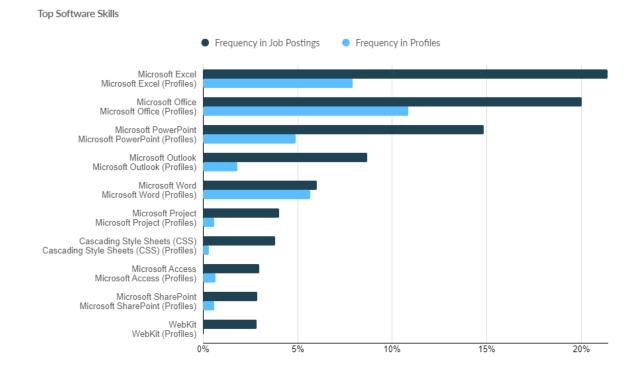
| Skills           | Postings | % of Total Postings | Profiles | % of Total Profiles |
|------------------|----------|---------------------|----------|---------------------|
| Communications   | 3,548    | 57%                 | 4,010    | 4%                  |
| Management       | 3,480    | 56%                 | 15,635   | 16%                 |
| Leadership       | 2,649    | 43%                 | 12,468   | 13%                 |
| Operations       | 1,905    | 31%                 | 6,927    | 7%                  |
| Planning         | 1,700    | 28%                 | 2,984    | 3%                  |
| Presentations    | 1,467    | 24%                 | 1,818    | 2%                  |
| Problem Solving  | 1,446    | 23%                 | 1,297    | 1%                  |
| Sales            | 1,397    | 23%                 | 14,666   | 15%                 |
| Customer Service | 1,356    | 22%                 | 17,600   | 18%                 |
| Microsoft Excel  | 1,225    | 20%                 | 7,456    | 8%                  |

## Top Software Skills: Nationwide:

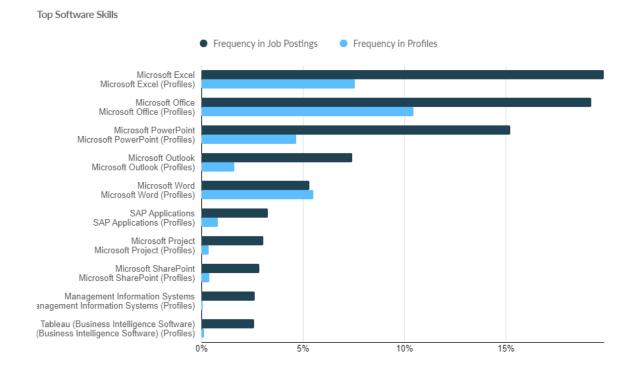
Top Software Skills



| Skills                       | Postings | % of Total Postings | Profiles  | % of Total Profiles |
|------------------------------|----------|---------------------|-----------|---------------------|
| Microsoft Excel              | 185,795  | 21%                 | 1,261,995 | 8%                  |
| Microsoft Office             | 168,901  | 19%                 | 1,716,417 | 10%                 |
| Microsoft PowerPoint         | 132,940  | 15%                 | 833,884   | 5%                  |
| Microsoft Outlook            | 71,661   | 8%                  | 274,501   | 2%                  |
| Microsoft Word               | 49,988   | 6%                  | 909,405   | 5%                  |
| Microsoft Project            | 37,419   | 4%                  | 88,632    | 1%                  |
| Cascading Style Sheets (CSS) | 29,800   | 3%                  | 65,077    | 0%                  |
| Microsoft SharePoint         | 27,490   | 3%                  | 97,624    | 1%                  |
| Microsoft Access             | 24,989   | 3%                  | 110,309   | 1%                  |
| Microsoft Visio              | 23,646   | 3%                  | 83,180    | 1%                  |



| Skills                       | Postings | % of Total Postings | Profiles | % of Total Profiles |
|------------------------------|----------|---------------------|----------|---------------------|
| Microsoft Excel              | 29,807   | 21%                 | 209,273  | 8%                  |
| Microsoft Office             | 27,905   | 20%                 | 286,702  | 11%                 |
| Microsoft PowerPoint         | 20,669   | 15%                 | 129,285  | 5%                  |
| Microsoft Outlook            | 12,076   | 9%                  | 47,764   | 2%                  |
| Microsoft Word               | 8,406    | 6%                  | 149,727  | 6%                  |
| Microsoft Project            | 5,586    | 4%                  | 15,550   | 1%                  |
| Cascading Style Sheets (CSS) | 5,311    | 4%                  | 7,927    | 0%                  |
| Microsoft Access             | 4,144    | 3%                  | 17,684   | 1%                  |
| Microsoft SharePoint         | 4,009    | 3%                  | 15,681   | 1%                  |
| WebKit                       | 3,971    | 3%                  | 0        | 0%                  |



| Skills                                      | Postings | % of Total Postings | Profiles | % of Total Profiles |
|---|----------|---------------------|----------|---------------------|
| Microsoft Excel                             | 1,225    | 20%                 | 7,456    | 8%                  |
| Microsoft Office                            | 1,187    | 19%                 | 10,310   | 10%                 |
| Microsoft PowerPoint                        | 940      | 15%                 | 4,616    | 5%                  |
| Microsoft Outlook                           | 460      | 7%                  | 1,591    | 2%                  |
| Microsoft Word                              | 328      | 5%                  | 5,432    | 6%                  |
| SAP Applications                            | 202      | 3%                  | 784      | 1%                  |
| Microsoft Project                           | 188      | 3%                  | 355      | 0%                  |
| Microsoft SharePoint                        | 177      | 3%                  | 374      | 0%                  |
| Management Information<br>Systems           | 162      | 3%                  | 75       | 0%                  |
| Tableau (Business Intelligence<br>Software) | 160      | 3%                  | 126      | 0%                  |

## Master's:

## Completions by Institution:

## Top 20 non-distance Sustainability Master's degrees Nationwide:

#### Completions by Institution

| Institution                                 | Master's<br>Degree ><br>Non-Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|---|--|------------------------|------------------------|--------------------------------|----------------------------------|
| Columbia University in the City of New York | 102  | -2.9%                  | 11.1%                  | \$60,532                       | $\frown$                         |
| University of California-Berkeley           | 70   | 250.0%                 | 7.6%                   | \$14,312                       |                                  |
| Rutgers University-New Brunswick            | 67   | -4.3%                  | 7.3%                   | \$15,003                       |                                  |
| University of Michigan-Ann Arbor            | 67   | 4.7%                   | 7.3%                   | \$16,948                       |                                  |
| University of Illinois Chicago              | 62   | Insf. Data             | 6.8%                   | \$15,427                       | /                                |
| Presidio Graduate School                    | 43   | -12.2%                 | 4.7%                   | N/A                            |                                  |
| University of Illinois Urbana-Champaign     | 37   | -22.9%                 | 4.0%                   | \$17,213                       |                                  |
| University of Washington-Seattle Campus     | 34   | 41.7%                  | 3.7%                   | \$11,745                       |                                  |
| CUNY City College                           | 28   | -3.4%                  | 3.1%                   | \$7,340                        |                                  |
| University of Miami                         | 25   | 400.0%                 | 2.7%                   | \$53,682                       |                                  |
| Washington University in St Louis           | 23   | -37.8%                 | 2.5%                   | \$56,893                       |                                  |
| Rhode Island School of Design               | 21   | -19.2%                 | 2.3%                   | \$54,890                       |                                  |
| University of Iowa                          | 17   | -5.6%                  | 1.9%                   | \$9,606                        |                                  |
| University of Oklahoma-Norman Campus        | 17   | 13.3%                  | 1.9%                   | \$9,063                        |                                  |
| University of Massachusetts-Amherst         | 17   | 13.3%                  | 1.9%                   | \$16,439                       | $\sim$                           |
| DePaul University                           | 16   | Insf. Data             | 1.7%                   | \$41,202                       | /                                |
| University of Utah                          | 14   | -6.7%                  | 1.5%                   | \$8,615                        |                                  |
| Carnegie Mellon University                  | 13   | 62.5%                  | 1.4%                   | \$58,485                       |                                  |
| Ohio State University-Main Campus           | 13   | Insf. Data             | 1.4%                   | \$11,518                       | /                                |
| University of Cincinnati-Main Campus        | 13   | -58.1%                 | 1.4%                   | \$11,401                       |                                  |

## All 13 distance offered Sustainability Master's degrees Nationwide:

Completions by Institution

| Institution                                    | Master's<br>Degree ><br>Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|--|--|------------------------|------------------------|--------------------------------|----------------------------------|
| University of South Florida                    | 83   | -9.8%                  | 48.8%                  | \$6,410                        |                                  |
| University of Wisconsin-Green Bay              | 16   | -27.3%                 | 9.4%                   | \$7,873                        |                                  |
| Unity College                                  | 12   | 300.0%                 | 7.1%                   | \$12,715                       |                                  |
| University of Wisconsin-Oshkosh                | 11   | 37.5%                  | 6.5%                   | \$7,717                        |                                  |
| Southern Methodist University                  | 9  | 28.6%                  | 5.3%                   | \$58,540                       | $\frown$                         |
| Montclair State University                     | 9  | -30.8%                 | 5.3%                   | \$13,073                       |                                  |
| University of Wisconsin-Stout                  | 9  | 28.6%                  | 5.3%                   | \$9,488                        |                                  |
| University of Wisconsin-Parkside               | 9  | 50.0%                  | 5.3%                   | \$7,444                        |                                  |
| Embry-Riddle Aeronautical University-Worldwide | 4  | 100.0%                 | 2.4%                   | \$10,296                       |                                  |
| Black Hills State University                   | 3  | 50.0%                  | 1.8%                   | \$8,672                        |                                  |
| University of Wisconsin-Superior               | 3  | -25.0%                 | 1.8%                   | \$8,140                        |                                  |
| Concordia University-Wisconsin                 | 1  | Insf. Data             | 0.6%                   | \$31,182                       | /                                |
| The University of Texas Rio Grande Valley      | 1  | Insf. Data             | 0.6%                   | \$8,917                        | /                                |
|  |  |                        |                        |                                |                                  |

### All 5 non-distance Sustainability Master's degrees Local Area:

Completions by Institution

| Institution  | Master's<br>Degree ><br>Non-Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|--|--|------------------------|------------------------|--------------------------------|----------------------------------|
| Washington University in St Louis                                | 23   | -37.8%                 | 34.8%                  | \$56,893                       |                                  |
| University of Oklahoma-Norman Campus                             | 17   | 13.3%                  | 25.8%                  | \$9,063                        |                                  |
| Kansas State University  | 12   | 200.0%                 | 18.2%                  | \$10,440                       |                                  |
| Texas State University   | 8  | -20.0%                 | 12.1%                  | \$10,855                       |                                  |
| Louisiana State University and Agricultural & Mechanical College | 6  | Insf. Data             | 9.1%                   | \$11,962                       | /                                |

### All distance offered Sustainability Master's degrees Local Area:

#### Completions by Institution

| Institution                               | Master's<br>Degree ><br>Distance<br>Offered | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|---|---|------------------------|------------------------|--------------------------------|----------------------------------|
|   | Completions<br>(2020)                       | 101(2020)              | (2020)                 | a ( 665 (2020)                 | (2010-2020)                      |
| Southern Methodist University             | 9   | 28.6%                  | 90.0%                  | \$58,540                       | <u> </u>                         |
| The University of Texas Rio Grande Valley | 1   | Insf. Data             | 10.0%                  | \$8,917                        | /                                |

### Sustainability Master's degrees Arkansas:

None currently available.

## Target Occupations:

## Nationwide:

| *Filtered   | by the proportion of the national workford        | e in these occupation | ons with a Maste                            | r's degree         |                          |  |                   |
|---|---|-----------------------|---|--------------------|--------------------------|--|-------------------|
| 689,679<br>Jobs (2016)*   | +21.2%<br>% Change (2016-2020)*                   | \$71.5K               | \$34.35/hr<br>\$71.5K/yr<br>Median Earnings |                    | (/yr 112                 |  | ,581<br>Dpenings* |
| Occupation  |   | 2016<br>Jobs*         | Annual<br>Openings*                         | Median<br>Earnings | Growth (2016 -<br>2020)* |  |                   |
| Project Management Specialists a  | and Business Operations Specialists, All Otl      | her 236,114           | 49,807                                      | \$37.15/hr         | +49.02%                  |  |                   |
| Personal Service Managers, All O Except Gambling; and Managers, All       | ther; Entertainment and Recreation Manag<br>Other | ers, 158,036          | 21,636                                      | \$39.91/hr         | +13.29%                  |  |                   |
| Sales Representatives of Services<br>Services, and Travel                 | , Except Advertising, Insurance, Financial        | 95,267                | 14,423                                      | \$28.15/hr         | +0.59%                   |  |                   |
| Chief Executives  |   | 68,046                | 7,785                                       | \$79.18/hr         | -0.37%                   |  |                   |
| Compliance Officers   |   | 51,953                | 7,234                                       | \$34.17/hr         | +19.15%                  |  |                   |
| Environmental Scientists and Spe  | cialists, Including Health                        | 27,185                | 3,722                                       | \$35.24/hr         | -1.57%                   |  |                   |
| Sales Representatives, Wholesale<br>Products                              | and Manufacturing, Technical and Scientif         | ic 25,370             | 3,182                                       | \$41.43/hr         | -11.99%                  |  |                   |
| First-Line Supervisors of Transpor<br>Aircraft Cargo Handling Supervisors | rtation and Material Moving Workers, Exce         | pt 11,599             | 2,093                                       | \$26.35/hr         | +22.55%                  |  |                   |
| Economists  |   | 8,195                 | 1,086                                       | \$52.16/hr         | -7.87%                   |  |                   |
| Conservation Scientists   |   | 4,317                 | 840   | \$30.07/hr         | +10.61%                  |  |                   |

### Local Area:

| *Filtered b   | y the proportion of the national v                 | workforce in  | these occupation  | ns with a Maste    | r's degree                 |                                 |
|---|--|---------------|---|--------------------|----------------------------|---------------------------------|
| 108,571<br>Jobs (2016)*<br>4% <mark>below</mark> National average*          | +27.8%<br>% Change (2016-2020)*<br>Nation: +21.2%* | Na            | \$31.47/hr<br>\$65.5K/yr<br>Median Earnings<br>Nation: \$34.35/hr; \$71.5K/yr |                    | 19,922<br>Annual Openings* |                                 |
| Occupation  |  | 2016<br>Jobs* | Annual<br>Openings*   | Median<br>Earnings | Growth (2016 -<br>2020)*   | Location<br>Quotient<br>(2016)* |
| Project Management Specialists ar<br>Specialists, All Other                 | nd Business Operations                             | 35,608        | 8,749   | \$35.08/hr         | +60.80%                    | 0.92                            |
| Personal Service Managers, All Otl<br>Recreation Managers, Except Gamblin   |  | 24,696        | 4,262   | \$33.43/hr         | +28.74%                    | 0.95                            |
| Sales Representatives of Services,<br>Financial Services, and Travel        | Except Advertising, Insurance,                     | 16,713        | 2,375   | \$25.03/hr         | -6.74%                     | 1.07                            |
| Chief Executives  |  | 9,999         | 1,271   | \$69.27/hr         | +7.28%                     | 0.90                            |
| Compliance Officers   |  | 9,007         | 1,210   | \$31.65/hr         | +16.35%                    | 1.06                            |
| Sales Representatives, Wholesale a<br>and Scientific Products               | and Manufacturing, Technical                       | 4,785         | 660   | \$37.50/hr         | -6.08%                     | 1.15                            |
| Environmental Scientists and Spec   | ialists, Including Health                          | 3,302         | 556   | \$32.11/hr         | +3.03%                     | 0.74                            |
| First-Line Supervisors of Transport<br>Workers, Except Aircraft Cargo Handl |  | 2,286         | 419   | \$25.20/hr         | +23.67%                    | 1.20                            |
| Conservation Scientists   |  | 865           | 160   | \$27.97/hr         | +11.56%                    | 1.22                            |
| Economists  |  | 744           | 136   | \$43.99/hr         | -13.17%                    | 0.55                            |

| *Filtered b  | y the proportion of the national v                 | workforce in  | these occupation  | is with a Maste    | r's degree                 |                                 |
|--|--|---------------|---|--------------------|----------------------------|---------------------------------|
| 108,571<br>Jobs (2016)*<br>4% below National average*  | +27.8%<br>% Change (2016-2020)*<br>Nation: +21.2%* | Na            | \$31.47/hr<br>\$65.5K/yr<br>Median Earnings<br>Nation: \$34.35/hr; \$71.5K/yr |                    | 19,922<br>Annual Openings* |                                 |
| Occupation   |  | 2016<br>Jobs* | Annual<br>Openings*   | Median<br>Earnings | Growth (2016 -<br>2020)*   | Location<br>Quotient<br>(2016)* |
| Project Management Specialists as<br>Specialists, All Other  | nd Business Operations                             | 35,608        | 8,749   | \$35.08/hr         | +60.80%                    | 0.92                            |
| Personal Service Managers, All Other; Entertainment and<br>Recreation Managers, Except Gambling; and Managers, All Other |  | 24,696        | 4,262   | \$33.43/hr         | +28.74%                    | 0.95                            |
| Sales Representatives of Services,<br>Financial Services, and Travel   | Except Advertising, Insurance,                     | 16,713        | 2,375   | \$25.03/hr         | -6.74%                     | 1.07                            |
| Chief Executives   |  | 9,999         | 1,271   | \$69.27/hr         | +7.28%                     | 0.90                            |
| Compliance Officers  |  | 9,007         | 1,210   | \$31.65/hr         | +16.35%                    | 1.06                            |
| Sales Representatives, Wholesale and Scientific Products   | and Manufacturing, Technical                       | 4,785         | 660   | \$37.50/hr         | -6.08%                     | 1.15                            |
| Environmental Scientists and Spec  | ialists, Including Health                          | 3,302         | 556   | \$32.11/hr         | +3.03%                     | 0.74                            |
| First-Line Supervisors of Transport<br>Workers, Except Aircraft Cargo Handl  |  | 2,286         | 419   | \$25.20/hr         | +23.67%                    | 1.20                            |
| Conservation Scientists  |  | 865           | 160   | \$27.97/hr         | +11.56%                    | 1.22                            |
| Economists   |  | 744           | 136   | \$43.99/hr         | -13.17%                    | 0.55                            |

## Top Companies Posting:

## Nationwide:

Top Companies Posting

| Company                | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|------------------------|------------------------------------|-------------------|--|
| Anthem Blue Cross      | 14,661 / 6,467                     | 2:1               | $\sim$   |
| Deloitte               | 9,014 / 4,858                      | 2:1               | ~  |
| Amazon                 | 8,603 / 3,694                      | 2:1               | $\sim$   |
| Citigroup              | 5,871 / 2,618                      | 2:1               |  |
| KPMG                   | 7,197 / 2,608                      | 3:1               | ~~~~   |
| PricewaterhouseCoopers | 5,308 / 2,508                      | 2:1               |  |
| Boeing                 | 6,939 / 2,148                      | 3:1               |  |
| Humana                 | 4,193 / 1,831                      | 2:1               | ~~~~   |
| UnitedHealth Group     | 3,385 / 1,632                      | 2:1               | /  |
| Centene                | 3,368 / 1,487                      | 2:1               | $\checkmark$                                   |

Top Companies Posting

| Company                | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|------------------------|------------------------------------|-------------------|--|
| Anthem Blue Cross      | 2,253 / 943                        | 2:1               |  |
| Deloitte               | 1,142 / 800                        | 1:1               | ~  |
| Amazon                 | 1,386 / 635                        | 2:1               | ~~~  |
| KPMG                   | 1,303 / 490                        | 3:1               | ~~~~   |
| PricewaterhouseCoopers | 834 / 469                          | 2:1               | _~_/   |
| Boeing                 | 1,301 / 424                        | 3:1               |  |
| Citigroup              | 999 / 420                          | 2:1               | $\sim \sim \sim$                               |
| Centene                | 928 / 396                          | 2:1               |  |
| State of Louisiana     | 1,368 / 371                        | 4:1               | $\sim$   |
| UnitedHealth Group     | 656 / 313                          | 2:1               | /  |

### Arkansas:

#### Top Companies Posting

| Company                | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|------------------------|------------------------------------|-------------------|--|
| University of Arkansas | 229 / 88                           | 3:1               | ~~~  |
| PricewaterhouseCoopers | 107 / 82                           | 1:1               |  |
| Facebook               | 87 / 73                            | 1:1               |  |
| Humana                 | 60 / 35                            | 2:1               |  |
| Applied Materials      | 37 / 33                            | 1:1               | /  |
| Anthem Blue Cross      | 46 / 31                            | 1:1               | $\searrow \sim$                                |
| Walmart                | 157 / 30                           | 5:1               |  |
| Highmark Health        | 43 / 28                            | 2:1               |  |
| Black & Veatch         | 27 / 23                            | 1:1               | $\sim\sim\sim$                                 |
| Deloitte               | 32 / 21                            | 2:1               |  |

## Top Posted Job Titles:

## Nationwide:

| Job Title                       | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|---------------------------------|------------------------------------|-------------------|--|
| Program Managers                | 34,632 / 12,569                    | 3:1               |  |
| Project Managers                | 24,289 / 10,172                    | 2:1               | ~~~  |
| Technical Program Managers      | 5,378 / 2,088                      | 3:1               | ~  |
| Behavioral Health Care Managers | 5,078 / 1,841                      | 3:1               | ~~~~   |
| Program Directors               | 4,627 / 1,701                      | 3:1               | ~~~  |
| Regulatory Affairs Specialists  | 4,007 / 1,512                      | 3:1               | $\sim\sim\sim$                                 |
| Analytics Managers              | 3,988 / 1,492                      | 3:1               |  |
| Regulatory Affairs Managers     | 3,072 / 1,463                      | 2:1               |  |
| Project Coordinators            | 4,029 / 1,299                      | 3:1               | ~~~~   |
| Compliance Managers             | 3,241 / 1,280                      | 3:1               | $\searrow$                                     |

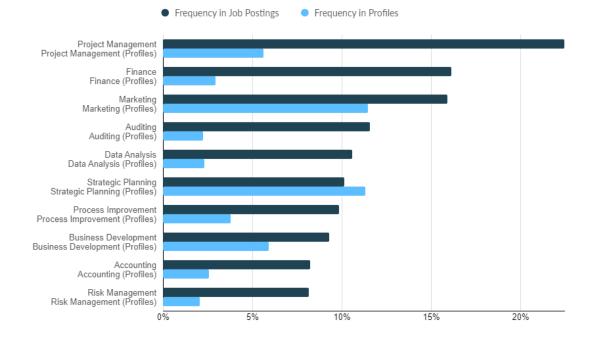
| Job Title                       | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|---------------------------------|------------------------------------|-------------------|--|
| Program Managers                | 3,906 / 1,559                      | 3:1               |  |
| Project Managers                | 2,932 / 1,341                      | 2:1               | ~~~  |
| Behavioral Health Care Managers | 1,536 / 468                        | 3:1               | ~~~  |
| Environmental Scientists        | 801 / 261                          | 3:1               |  |
| Analytics Managers              | 605 / 232                          | 3:1               | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~        |
| Program Directors               | 471 / 203                          | 2:1               | $\sim \sim \sim$                               |
| Compliance Managers             | 549 / 190                          | 3:1               | $\sim$   |
| Technical Program Managers      | 456 / 184                          | 2:1               | ~~~~   |
| Program Therapists              | 613 / 162                          | 4:1               |  |
| Program Coordinators            | 494 / 160                          | 3:1               | $\sim\sim$                                     |

| Job Title                  | Total/Unique (Jun 2021 - May 2022) | Posting Intensity | Unique Postings Trend<br>(Jun 2021 - May 2022) |
|----------------------------|------------------------------------|-------------------|--|
| Program Managers           | 71 / 50                            | 1:1               | ~~~~   |
| Project Managers           | 58 / 34                            | 2:1               | $\swarrow \checkmark \checkmark \checkmark$    |
| Compliance Managers        | 19 / 13                            | 1:1               | ~^   |
| Salesforce CPQ Architects  | 22 / 13                            | 2:1               |  |
| Technical Program Managers | 106 / 13                           | 8:1 +             | ~~~~   |
| Salesforce Managers        | 13 / 11                            | 1:1               |  |
| Area Sales Managers        | 14 / 10                            | 1:1               | $\wedge \frown \checkmark$                     |
| Compliance Analysts        | 16 / 10                            | 2:1               | $ \  \  \  \  \  \  \  \  \  \  \  \  \ $      |
| Innovation Managers        | 28 / 10                            | 3:1               | $\sim$   |
| Process Engineers          | 12 / 10                            | 1:1               | /  |

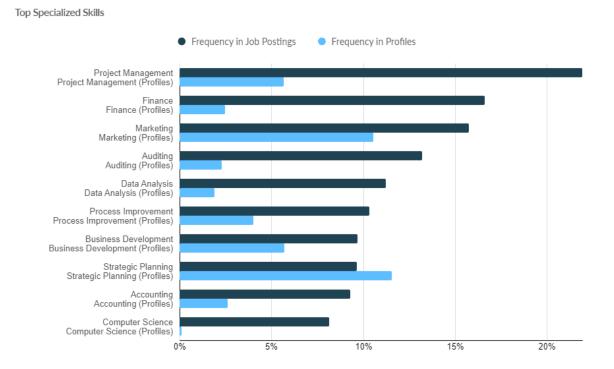
# Top Hard Skills:

## Nationwide:

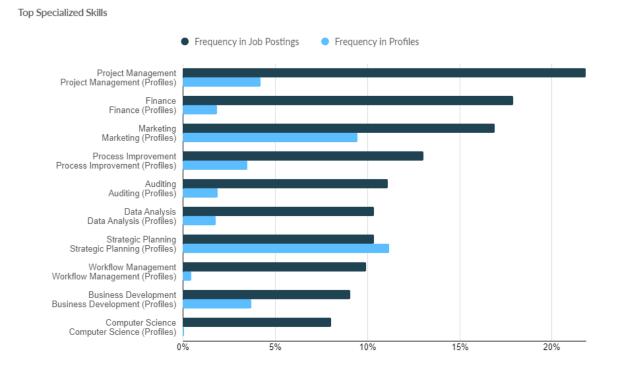
Top Specialized Skills



| Skills               | Postings | % of Total Postings | Profiles  | % of Total Profiles |
|----------------------|----------|---------------------|-----------|---------------------|
| Project Management   | 55,193   | 22%                 | 934,275   | 6%                  |
| Finance              | 39,666   | 16%                 | 488,460   | 3%                  |
| Marketing            | 39,119   | 16%                 | 1,896,276 | 11%                 |
| Auditing             | 28,462   | 12%                 | 373,506   | 2%                  |
| Data Analysis        | 26,054   | 11%                 | 381,916   | 2%                  |
| Strategic Planning   | 24,905   | 10%                 | 1,876,386 | 11%                 |
| Process Improvement  | 24,203   | 10%                 | 627,556   | 4%                  |
| Business Development | 22,840   | 9%                  | 980,880   | 6%                  |
| Accounting           | 20,210   | 8%                  | 423,437   | 3%                  |
| Risk Management      | 20,067   | 8%                  | 343,220   | 2%                  |



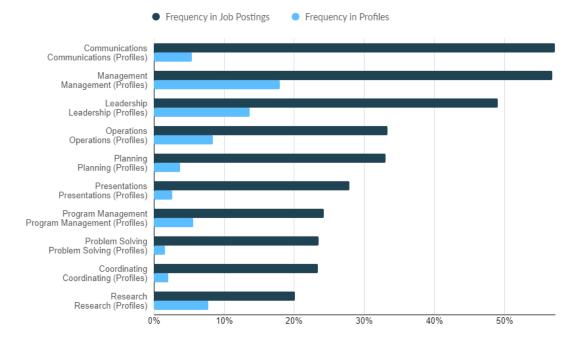
| Skills               | Postings | % of Total Postings | Profiles | % of Total Profiles |
|----------------------|----------|---------------------|----------|---------------------|
| Project Management   | 7,625    | 22%                 | 149,818  | 6%                  |
| Finance              | 5,777    | 17%                 | 65,715   | 2%                  |
| Marketing            | 5,477    | 16%                 | 278,911  | 11%                 |
| Auditing             | 4,595    | 13%                 | 60,646   | 2%                  |
| Data Analysis        | 3,901    | 11%                 | 50,259   | 2%                  |
| Process Improvement  | 3,589    | 10%                 | 106,007  | 4%                  |
| Business Development | 3,369    | 10%                 | 150,495  | 6%                  |
| Strategic Planning   | 3,359    | 10%                 | 305,363  | 12%                 |
| Accounting           | 3,236    | 9%                  | 68,731   | 3%                  |
| Computer Science     | 2,829    | 8%                  | 2,628    | 0%                  |



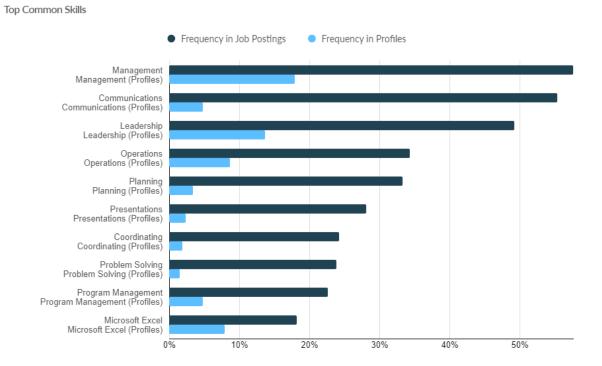
| Skills               | Postings | % of Total Postings | Profiles | % of Total Profiles |
|----------------------|----------|---------------------|----------|---------------------|
| Project Management   | 301      | 22%                 | 4,144    | 4%                  |
| Finance              | 247      | 18%                 | 1,823    | 2%                  |
| Marketing            | 233      | 17%                 | 9,332    | 9%                  |
| Process Improvement  | 180      | 13%                 | 3,434    | 3%                  |
| Auditing             | 153      | 11%                 | 1,861    | 2%                  |
| Data Analysis        | 143      | 10%                 | 1,770    | 2%                  |
| Strategic Planning   | 143      | 10%                 | 11,009   | 11%                 |
| Workflow Management  | 137      | 10%                 | 444      | 0%                  |
| Business Development | 125      | 9%                  | 3,671    | 4%                  |
| Computer Science     | 111      | 8%                  | 62       | 0%                  |

## Top Common Skills:

#### Nationwide:



| Skills             | Postings | % of Total Postings | Profiles  | % of Total Profiles |
|--------------------|----------|---------------------|-----------|---------------------|
| Communications     | 140,702  | 57%                 | 906,840   | 5%                  |
| Management         | 139,733  | 57%                 | 2,980,329 | 18%                 |
| Leadership         | 120,638  | 49%                 | 2,265,518 | 14%                 |
| Operations         | 81,919   | 33%                 | 1,388,934 | 8%                  |
| Planning           | 81,369   | 33%                 | 623,865   | 4%                  |
| Presentations      | 68,728   | 28%                 | 430,416   | 3%                  |
| Program Management | 59,542   | 24%                 | 924,620   | 6%                  |
| Problem Solving    | 57,820   | 24%                 | 260,503   | 2%                  |
| Coordinating       | 57,482   | 23%                 | 341,538   | 2%                  |
| Research           | 49,557   | 20%                 | 1,293,684 | 8%                  |



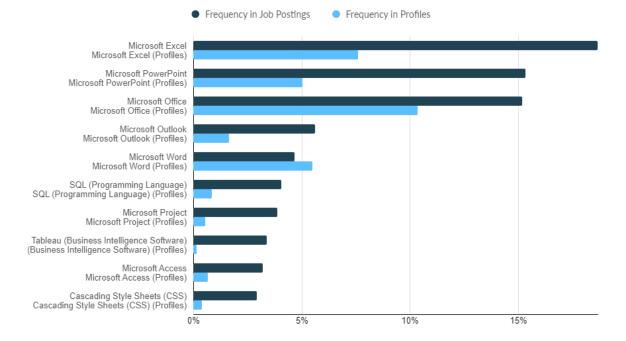
| Skills             | Postings | % of Total Postings | Profiles | % of Total Profiles |
|--------------------|----------|---------------------|----------|---------------------|
| Management         | 20,061   | 58%                 | 473,157  | 18%                 |
| Communications     | 19,288   | 55%                 | 127,321  | 5%                  |
| Leadership         | 17,142   | 49%                 | 361,795  | 14%                 |
| Operations         | 11,950   | 34%                 | 229,014  | 9%                  |
| Planning           | 11,580   | 33%                 | 90,879   | 3%                  |
| Presentations      | 9,791    | 28%                 | 62,009   | 2%                  |
| Coordinating       | 8,448    | 24%                 | 49,478   | 2%                  |
| Problem Solving    | 8,320    | 24%                 | 40,279   | 2%                  |
| Program Management | 7,878    | 23%                 | 126,613  | 5%                  |
| Microsoft Excel    | 6,331    | 18%                 | 209,273  | 8%                  |

• Frequency in Job Postings Frequency in Profiles Management Management (Profiles) Communications Communications (Profiles) Leadership Leadership (Profiles) Operations Operations (Profiles) Planning Planning (Profiles) Presentations Presentations (Profiles) Program Management Program Management (Profiles) Problem Solving Problem Solving (Profiles) Coordinating Coordinating (Profiles) Microsoft Excel Microsoft Excel (Profiles) 0% 10% 20% 30% 40% 50% 60%

| Skills             | Postings | % of Total Postings | Profiles | % of Total Profiles |
|--------------------|----------|---------------------|----------|---------------------|
| Management         | 833      | 60%                 | 15,635   | 16%                 |
| Communications     | 775      | 56%                 | 4,010    | 4%                  |
| Leadership         | 664      | 48%                 | 12,468   | 13%                 |
| Operations         | 462      | 34%                 | 6,927    | 7%                  |
| Planning           | 434      | 31%                 | 2,984    | 3%                  |
| Presentations      | 383      | 28%                 | 1,818    | 2%                  |
| Program Management | 335      | 24%                 | 3,692    | 4%                  |
| Problem Solving    | 306      | 22%                 | 1,297    | 1%                  |
| Coordinating       | 274      | 20%                 | 1,352    | 1%                  |
| Microsoft Excel    | 272      | 20%                 | 7,456    | 8%                  |

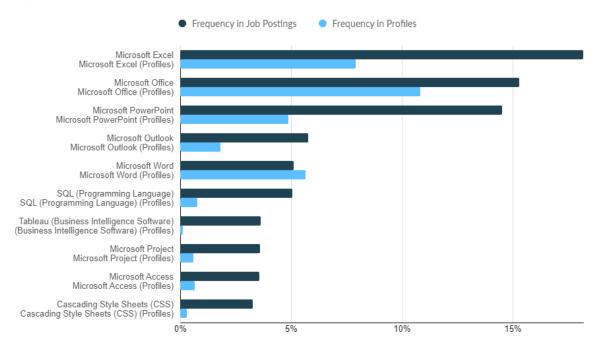
## Top Software Skills: Nationwide:

Top Software Skills

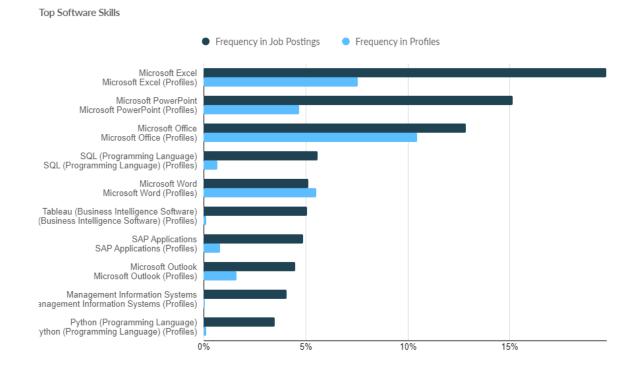


| Skills                                      | Postings | % of Total Postings | Profiles  | % of Total Profiles |
|---|----------|---------------------|-----------|---------------------|
| Microsoft Excel                             | 45,893   | 19%                 | 1,261,995 | 8%                  |
| Microsoft PowerPoint                        | 37,726   | 15%                 | 833,884   | 5%                  |
| Microsoft Office                            | 37,310   | 15%                 | 1,716,417 | 10%                 |
| Microsoft Outlook                           | 13,814   | 6%                  | 274,501   | 2%                  |
| Microsoft Word                              | 11,499   | 5%                  | 909,405   | 5%                  |
| SQL (Programming Language)                  | 9,964    | 4%                  | 140,941   | 1%                  |
| Microsoft Project                           | 9,532    | 4%                  | 88,632    | 1%                  |
| Tableau (Business Intelligence<br>Software) | 8,352    | 3%                  | 25,389    | 0%                  |
| Microsoft Access                            | 7,875    | 3%                  | 110,309   | 1%                  |
| Cascading Style Sheets (CSS)                | 7,211    | 3%                  | 65,077    | 0%                  |

Top Software Skills



| Skills                                      | Postings | % of Total Postings | Profiles | % of Total Profiles |
|---|----------|---------------------|----------|---------------------|
| Microsoft Excel                             | 6,330    | 18%                 | 209,273  | 8%                  |
| Microsoft Office                            | 5,324    | 15%                 | 286,702  | 11%                 |
| Microsoft PowerPoint                        | 5,052    | 15%                 | 129,285  | 5%                  |
| Microsoft Outlook                           | 2,009    | 6%                  | 47,764   | 2%                  |
| Microsoft Word                              | 1,784    | 5%                  | 149,727  | 6%                  |
| SQL (Programming Language)                  | 1,765    | 5%                  | 20,115   | 1%                  |
| Tableau (Business Intelligence<br>Software) | 1,264    | 4%                  | 3,425    | 0%                  |
| Microsoft Project                           | 1,258    | 4%                  | 15,550   | 1%                  |
| Microsoft Access                            | 1,242    | 4%                  | 17,684   | 1%                  |
| Cascading Style Sheets (CSS)                | 1,137    | 3%                  | 7,927    | 0%                  |
|   |          |                     |          |                     |



| Skills                                      | Postings | % of Total Postings | Profiles | % of Total Profiles |
|---|----------|---------------------|----------|---------------------|
| Microsoft Excel                             | 272      | 20%                 | 7,456    | 8%                  |
| Microsoft PowerPoint                        | 209      | 15%                 | 4,616    | 5%                  |
| Microsoft Office                            | 177      | 13%                 | 10,310   | 10%                 |
| SQL (Programming Language)                  | 77       | 6%                  | 680      | 1%                  |
| Microsoft Word                              | 71       | 5%                  | 5,432    | 6%                  |
| Tableau (Business Intelligence<br>Software) | 70       | 5%                  | 126      | 0%                  |
| SAP Applications                            | 67       | 5%                  | 784      | 1%                  |
| Microsoft Outlook                           | 62       | 4%                  | 1,591    | 2%                  |
| Management Information<br>Systems           | 56       | 4%                  | 75       | 0%                  |
| Python (Programming<br>Language)            | 48       | 3%                  | 116      | 0%                  |

## Graduate Certificate:

## Completions by Institution:

#### Top non-distance Sustainability Graduate Certificates degrees Nationwide:

Completions by Institution

| Institution                                 | Post-masters<br>certificate ><br>Non-Distance<br>Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|---|---|------------------------|------------------------|--------------------------------|----------------------------------|
| University of Utah                          | 6   | 20.0%                  | 60.0%                  | \$8,615                        |                                  |
| University of Southern California           | 2   | -80.0%                 | 20.0%                  | \$60,275                       |                                  |
| Columbia University in the City of New York | 2   | Insf. Data             | 20.0%                  | \$60,532                       | ~                                |

Top distance offered Sustainability Graduate Certificates degrees Nationwide: None currently available.

Top non-distance Sustainability Graduate Certificates degrees Local Area: None currently available.

## Postbaccalaureate Certificate:

## Completions by Institution:

#### Top 10 non-distance Sustainability Certificates degrees Nationwide:

Completions by Institution

| Institution                         | Postbaccalaureate<br>certificate > Non-<br>Distance Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|-------------------------------------|--|------------------------|------------------------|--------------------------------|----------------------------------|
| University of Iowa                  | 74   | 7.2%                   | 54.0%                  | \$9,606                        |                                  |
| University of Wisconsin-Madison     | 10   | 0.0%                   | 7.3%                   | \$10,742                       |                                  |
| University at Buffalo               | 8  | Insf. Data             | 5.8%                   | \$10,526                       | /                                |
| Syracuse University                 | 8  | 0.0%                   | 5.8%                   | \$55,088                       |                                  |
| Michigan Technological University   | 7  | 0.0%                   | 5.1%                   | \$17,645                       | $\sim$                           |
| Presidio Graduate School            | 6  | -50.0%                 | 4.4%                   | N/A                            | $\checkmark$                     |
| The New School                      | 5  | Insf. Data             | 3.6%                   | \$50,286                       |                                  |
| University of Massachusetts-Amherst | 4  | 33.3%                  | 2.9%                   | \$16,439                       |                                  |
| University of Arkansas              | 4  | 0.0%                   | 2.9%                   | \$9,384                        | $\checkmark$                     |
| Regis University                    | 2  | -60.0%                 | 1.5%                   | \$38,558                       |                                  |

## Top 5 distance offered Sustainability Certificates degrees Nationwide:

#### Completions by Institution

| Institution                            | Postbaccalaureate<br>certificate ><br>Distance Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|--|---|------------------------|------------------------|--------------------------------|----------------------------------|
| Harvard University                     | 75  | Insf. Data             | 87.2%                  | \$53,968                       |                                  |
| Tufts University                       | 8   | -11.1%                 | 9.3%                   | \$60,862                       |                                  |
| Colorado State University-Fort Collins | 1   | Insf. Data             | 1.2%                   | \$11,814                       |                                  |
| Western Kentucky University            | 1   | 0.0%                   | 1.2%                   | \$10,802                       |                                  |
| The Pennsylvania State University      | 1   | Insf. Data             | 1.2%                   | \$15,513                       | /                                |

## Top non-distance Sustainability Certificates degrees Local Area:

Completions by Institution

| Institution            | Postbaccalaureate<br>certificate > Non-<br>Distance Offered<br>Completions<br>(2020) | Growth %<br>YOY (2020) | Market Share<br>(2020) | IPEDS Tuition<br>& Fees (2020) | Completions Trend<br>(2016-2020) |
|------------------------|--|------------------------|------------------------|--------------------------------|----------------------------------|
| University of Arkansas | 4  | 0.0%                   | 100.0%                 | \$9,384                        | $\checkmark$                     |

Top distance offered Sustainability Certificates degrees Local Area: None currently available.

## Minor:

## Top Qualifications:

Top Qualifications

| Qualification   | Postings with Qualification |
|---|-----------------------------|
| quanteador  | i ostilisi min Quantador    |
| Project Management Professional Certification                     | 81,462                      |
| Security Clearance  | 20,798                      |
| Secret Clearance  | 12,336                      |
| Top Secret-Sensitive Compartmented Information (TS/SCI Clearance) | 11,513                      |
| Certified Information Systems Security Professional               | 8,484                       |
| Professional Engineer   | 7,141                       |
| Associate Project Management                                      | 5,410                       |
| Certified Information System Auditor (CISA)                       | 5,353                       |
| Certified Associate In Project Management                         | 4,770                       |
| Certified Forklift Operator                                       | 4,512                       |

\*excluded from the above list are specific degrees and licenses unlikely to related to sustainability degree.



OFFICE OF THE MAYOR

January 5, 2023

Dear University of Arkansas Global Campus,

The Environmental Resiliency online professional master's program would not only benefit our employees we feel the program also addresses subject matter we hope that our applicants are familiar with as we all work toward a more sustainable and resilient model for operations.

Our company employees approximately 900 people and 5% have jobs descriptions that could benefit from this program. We have openings presently or plan to hire employees in the next year and students with a good background in sustainability, resiliency, leadership and certifications, accounting and metrics (learned from this program) would be attractive to our organization.

The City of Fayetteville supports employees who further their education and the courses offered by Environmental Resiliency Master's Program would benefit city employees.

Sincerely, Houl Lioneld Jordan Mayor

## 🔿 Meta

January 04, 2023

University of Arkansas Global Campus 2 E Center St Fayetteville, AR 72701

Cc: Assistant Director Jo Ann Kvamme (jkvamme@uark.edu), Professor Ken McCown (kennethm@uark.edu)

Dear University of Arkansas Global Campus,

I am writing to express my interest in and support for the Environmental Resiliency online professional master's program at University of Arkansas, which will be launched in Spring 2024.

It has been expressed to me that the program will offer courses and focus areas in Sustainability, Leadership, and Resiliency. Each of these areas will be available for micro certification, graduate certificates, or combined for a master's degree.

The program focuses on assisting employees and companies in choosing more sustainable and resilient choices. As a GIS & Maps Quality Analyst at Meta, I have personal interests in exploring the intersection between environmental resiliency and leveraging open geospatial tools and datasets created at Meta such as RapiD (mapwith.ai/rapid) and Daylight (daylightmap.org). The Environmental Resiliency professional program would provide employees, like me, the ability to communicate the importance of geospatial processes within the framework of environmental resiliency.

To the extent that this letter expresses, it <u>is not</u> an intention by Meta to commit funding or other resources to the Program or to participate in a related research collaboration, consortium, advisory board, or other similar activity or organization. The commitment of such funding, resources or participation will be contingent upon the execution of a separate written agreement and any internal Meta approvals as may be required.

Sincerely,

Dr. Timmera Whaley Omidire (omidire@meta.com) GIS & Maps Quality Analyst Meta

Abhishek Tripathi Abhishek Tripathi (Jan 18, 2023 15:42 PST

Software Engineering Manager, XR Maps



January 17, 2023

Dear University of Arkansas Global Campus,

The Northwest Arkansas Land Trust (NWALT) is the region's only homegrown, accredited nonprofit organization dedicated to preserving and enhancing the quality of life for all people through the permanent protection of land. Along with permanent land protection, we actively steward and manage more than 2500 acres for wildlife habitat, water quality, and public access.

We have made sustainability and climate resilience a core focus in our strategic land protection plan. With our on-the-land efforts, we recognize the importance of each person, organization, and business in Northwest Arkansas to make efforts to be more mindful of the choices we make to provide a more sustainable and resilient world for current and future generations. It is our belief that growing leaders in environmental sustainability and resilience will lead to positive outcomes for our communities and beyond.

We all have a role to play in ensuring a better world for tomorrow, be it sustainable choices in contracting, supply chains, building maintenance and construction, or sustainable and environmentally appropriate best practices at home and in the office. These choices have direct impacts to our air and water quality, wildlife habitat, and quality of life for all people. Our organization encourages our staff to continue their education in being better stewards of our environment. Programs like the Environmental Resiliency Master's Program offer another outlet for people in our community to become thought leaders in protecting our region's abundant natural resources and preserving our quality of life enjoyed by so many in Northwest Arkansas.

Sincerely,

Grady Spann Executive Director & CEO Northwest Arkansas Land Trust www.nwalandtrust.org

#### **Appendix B**

#### **Course Evaluations**

Students will complete standard course evaluation procedure according to Academic Policy 1405.15 (<u>https://provost.uark.edu/policies/140515.php</u>).

GRAD College Cores Course Questions:

1) This course builds understanding of concepts and principles. (Code: 028)

2) This course has clearly stated objectives. (Code: 002)

3) The stated goals of this course are consistently pursued. (Code: 014)

Instructor Questions:

- 1) My instructor displays a clear understanding of course topics. (Code: 064)
- 2) My instructor demonstrates the importance and significance of the subject matter. (Code: 051)
- 3) My instructor makes good use of examples and illustrations. (Code: 032)
- 4) My instructor is readily available for consultation. (Code: 255)
- 5) My instructor provides opportunity for questions during class. (Code: 160)
- 6) My instructor explains difficult material clearly. (Code: 073)
- 7) My instructor is fair and impartial when dealing with students. (Code: 352)

Appendix C

# Johnnie Chamberlin

johnnie.chamberlin@gmail.com 501-590-6615

#### **Work Experience**

2016 – Present

Horizon Water and Environment Oakland, CA

### **Technical Analyst**

- Perform greenhouse gas, energy, and air quality modeling and technical analyses to ensure projects meet federal, state, and local environmental regulations
- Collaborate on policy guidance documents, technical memos, and grant administration

## 2016 – 2017 Project Drawdown, Sausalito, CA

## **Research Fellow**

 Researched and modeled carbon sequestration potential and economics of multiple climate change solutions including afforestation, reforestation, bamboo, building with wood, and multi-strata agroforestry 5 Kensington Ct., Unit A San Anselmo CA 94960

## Environmental Dynamics PhD Graduate Certificate in Sustainability

University of Arkansas Fayetteville, AR May 2016

M.S., Civil and Environmental Engineering Duke University - Durham, NC May 2005

**B.A., Cognitive Science** University of California, Berkeley Berkeley, CA May 2002

## 2010 – 2011 Center for Toxicology and Environmental Health, Little Rock, AR **Environmental Scientist II**

- Performed air and water sampling/monitoring, environmental data collection, analysis, & QA/QC, and reporting at numerous environmental disaster sites around the country
  - o Deepwater Horizon Oil Spill Louisiana, Alabama, Florida
  - Kalamazoo River Oil Spill Michigan
  - Yellowstone River Oil Spill Montana
  - Train Derailments South Carolina & Ohio
  - o Calcium Carbide Plant Explosion Kentucky

#### 2005 - 2009 Audubon Arkansas, Little Rock, AR

## **Director of Conservation, Assistant Director of Conservation**

- Worked with county officials and city directors and department heads on implementing environmental policies and projects
- Gave dozens of presentations to environmental professionals, students, community groups, and government officials
- Managed department budget & \$1.3 million EPA grant
- Supervised 3 full-time employees and 4 interns
- Planned, conducted, and managed reforestation and habitat improvement projects

#### Service

- Adventure Scientists Redwood Genetics Research Project 2019
- Keep Arkansas Beautiful Foundation Board 2015
- Active Transportation Advisory Committee, City of Fayetteville 2014
- Fourche Creek Committee 2011-2012
- University of Arkansas Bicycle Infrastructure Committee 2011-2012
- Tree Streets Board 2007-2011
- Coleman Creek Greenway Committee 2008-2010
- Earthwatch Research Projects in Sri Lanka and Kenya 2003

#### **Publications**

#### **Outdoor/Environmental:**

Research credit in NYT Bestseller Drawdown

Author of two guidebooks covering trails in Central Arkansas: Trails of Central Arkansas – Parkhurst Brothers 2011 Trails of Little Rock – Parkhurst Brothers 2009

Trails of Arkansas Blog - http://trailsofarkansas.com/

Dozens of articles for Inverse.com, Arkansas Wild, Sync Magazine, trails.com, and other websites

#### Academic:

- Chamberlin, J., Harrison, K., and Zhang, W., 2018. Impact of Nutrient Availability on Tertiary Wastewater Treatment by Chlorella vulgaris, Water Environment Research.
- Chamberlin, J.F., 2016. Algal Wastewater Treatment and Biofuel Production: An assessment of measurement methods, and impact of nutrient availability and species composition. University of Arkansas.
- Chamberlin, J.F., 2005. Combined Microbial and Photochemical Degradation of Dibenzothiophene. Duke University.
- Teng, F.-Z., Li, W.-Y., Ke, S., Yang, W., Liu, S.-A., Sedaghatpour, F., Wang, S.-J., Huang, K.-J., Hu, Y., Ling, M-X., Xiao, Y., Liu, X.-M., Gu, H.-O., Sio, C. K., Wallace, D. A., Su, B.-X., Zhao, L., Chamberlin, J., Harrington, M. and Brewer, A. (2014) Magnesium isotopic compositions of international geostandards, Geostandards and Geoanalytical Research.

## **DIANA CHEN**

8300 Windsong Lane Bentonville, AR 72713 443-668-1522 dianakaychen@gmail.com

## EDUCATION

2018 Ph.D. in Environmental Dynamics

University of Arkansas

- 2018 Graduate Certificate in Sustainability University of Arkansas
- 2009 M.S. in Crop, Soil, and Environmental Sciences University of Arkansas
- 2002 B.S. in BioAgricultural Sciences and Pest Management Colorado State University

## AWARDS

- 2017 First Place, University of Arkansas Three Minute Thesis Competition
- 2016 Society of Ethnobiology Graduate Fellowship in Urban Ethnobiology
- 2009 University of Arkansas Doctoral Academy Fellowship

## PUBLICATIONS

## **Journal Articles**

- 2021 Chen, D., B.M.G Kluthe, and A. O'Callahan. 2021. Immigrant Foodways in Jersey City, NJ. *Food, Culture & Society.* 1-22.
- 2017 Robbins, M.C., J.M. Nolan, and D. Chen. 2017. An Improved Measure of Cognitive Salience in Free Listing Tasks: A Marshallese Example. *Field Methods*. 29(4):395-403.
- 2017 Kluthe, B.M.G. and D. Chen. 2017. Eucalyptus sp. At the Intersection of Environment and Culture in Kenya. *Ethnobiology Letters*. 8(1).
- 2008 Storch, D. and D.M. Oosterhuis. 2008. Effect of 1-Methylcyclopropene on Growth and Biochemistry of Heat-Stressed Cotton Grown in a Controlled Environment. pp. 58-61 In Oosterhuis, D.M. (Ed.) *Summaries of Arkansas Cotton Research 2008*.Arkansas Agricultural Experiment Station, Research series 573.
- Storch, D., D.M. Oosterhuis, and E.M. Kawakami. 2008. Effect of 1 Methylcyclopropene on the Biochemistry and Yield of Field-Grown Cotton. pp.
   63-67 In Oosterhuis, D.M. (Ed.) Summaries of Arkansas Cotton Research 2008.
   Arkansas Agricultural Experiment Station, Research series 573.

### **Book Reviews**

- 2019 Chen, D. 2019. Magic Bean: The Rise of Soy in America. [Review of the book *Magic Bean: The Rise of Soy in America*, by Matthew Roth]. *Agricultural History*. 93(3):564-565.
- 2013 Chen, D. 2013. Nature's Chemicals [Review of the book *Nature's Chemicals: The Natural Products That Shaped Our World*, by R. Firn]. *Ethnobiology Letters*. 4:30-31.

#### Miscellaneous

2021 Chen, D. 2021. Breadfruit Stew. pp.317-318 In Prescott, C.C. and M.S. Thompson (Eds.) *Backstories: The Kitchen Table Talk Cookbook.* The Digital Press at the University of North Dakota.

## **TEACHING EXPERIENCE**

Adjunct Professor (Spring 2020 – Present)

Sustainability in Business, University of Arkansas

Created and evaluated class content and assessments in multiple formats for undergraduate and graduate students, Involved community leaders, Implemented adaptations to meet the needs of diverse students, Prepared letters of recommendation

Graduate Teaching Assistant (Fall 2009 – Spring 2017)

<u>Principles of Biology Laboratory</u>, University of Arkansas Delivered lectures to primarily first-year students, Prepared and supervised class experiments, Created and graded assessments, Generated photo guide to common campus flora, Supervised undergraduate and graduate shadow instructors, Implemented adaptations to meet the needs of diverse students, Prepared recommendation letters

## QUANTITATIVE RESEARCH EXPERIENCE

Graduate Research Assistant (Fall 2007 - Spring 2009)

University of Arkansas Cotton Physiology Laboratory

Designed and conducted laboratory and field research projects to test physiological and morphological effects of a synthetic plant hormone and elevated carbon dioxide on cotton, Assisted with laboratory experiments testing heat stress responses of cotton and canola

## **GUEST LECTURES**

- 2020 "Keeping Culture Through Cuisine: Maintenance of Food Sovereignty for Immigrant Groups Contributes to Sustainable Food Systems in Jersey City" Saint Peter's University Sustainability Council
- 2018 "Got Breadfruit? Marshallese Foods in Springdale" University of Arkansas Environmental Sociology Class

### **CONFERENCE PAPERS**

- 2019 "Eating Breadfruit in Arkansas: Historical Power Imbalance as a Barrier to Food Security and Food Sovereignty"
  - Agricultural History Society Conference, Washington, DC
- 2014 "The Revival of Grandmother Corn: The Role of Women in Food Security in the Cherokee Nation"

Agricultural History Society Conference, Provo, UT

- 2011 Society of Ethnobiology Conference, Columbus, OH "From Soup to Nuts: Ecology, Nutrition, and Consumption of Kunuche"
- 2008 Beltwide Cotton Conference, San Antonio, TX "Effect of 1-Methylcyclopropene on Cotton"

### NON-PROFIT INVOLVEMENT

Program Facilitator (August 2021 - Present)

<u>PJ Library</u>

Coordinated and led events, Created promotional materials, Assessed program effectiveness by data collection and analysis

Consultant (September 2018 – Present)

Arkansas Coalition of Marshallese

Assisted in writing and editing grants, press releases, and other materials, Coordinated and staffed events

Board Secretary (January 2018 – April 2020)

Tri Cycle Farms

Recorded and distributed meeting notes, Assisted in writing and editing grants and other materials, Coordinated events

Lead Gardener (March 2016 – September 2017)

Northwest Arkansas Children's Shelter

Enlarged and maintained vegetable garden and fruit tree plantings, Led environmental science activities for third grade students

## JOHN KESTER III

## 4371 SW 10<sup>th</sup> Pl., Deerfield Beach, FL 33442 Phone: 1.573.286.4482 Email:jkester@mapei.com

## **EDUCATION**

| Ph.D.  | Environmental Dynamics (Primary Field: Public Policy), University of Arkansas, 2015  |
|--------|--|
|        | Dissertation: Applications of Cultural Theory and Empirical Analysis of<br>Sustainable Energy Policy Preferences in Arkansas |
|        | (Chair: Geoboo Song, Members: Jon Johnson, William McComas, Kim Needy, Steve Boss)   |
| M.A.   | Sustainable Communities, Northern Arizona University, 2011   |
|        | <i>Thesis: Integrating Community-Driven Economics into Elementary Education: Applications of</i>                             |
|        | Culturally-Relevant Pedagogy and Public Achievement  |
| B.A.   | Biology, Economics, Denison University, 2009   |
|        | Cum Laude, Omicron Delta Epsilon Honoree   |
| Others | Graduate Certificate in Sustainability, Environmental Dynamics Program,<br>University of Arkansas, 2014                      |
|        | Summer Institute on Sustainability and Energy, University of Illinois at Chicago, 2014                                       |
|        | Marine Protected Areas: Management Techniques and Policies, South Caicos, TCI, Boston University, 2008                       |

### PRIMARY APPOINTMENTS

| 2015-2017      | Research Associate, The Sustainability Consortium, University of Arkansas  |
|----------------|--|
| 2011-2015      | Distinguished Doctoral Fellow, Environmental Dynamics Program, University of Arkansas-Fayetteville   |
| 2013-2014      | Teaching Assistant (Research Methods in Political Science; Advanced Research<br>Methods in Political Science; Policy Analysis: Theories and Practice),<br>Department of Political Science, University of Arkansas-Fayetteville |
| 2012-2015      | Graduate Research Assistant, The Sustainability Consortium, University of Arkansas-Fayetteville  |
| Kester, CV, 20 | Page 1   |

#### **RESEARCH AND TEACHING INTERESTS**

| Public Policy  | Policy analysis; theories of public policy process; benefit-cost<br>analysis; theories of individual level policy behavior;<br>environmental policy; energy policy  |
|----------------|---|
| Sustainability | Sustainable development, alternative economics, renewable energy,<br>energy storage, supply chain, consumer products, communication,<br>corporate social responsibility   |
| Methodology    | Philosophy of science; research design; multivariate statistical<br>analysis; limited dependent variable analysis; multi-level<br>modeling; survey methods; survey experiment; time series<br>analysis; panel data analysis; spatial analysis |

#### **PUBLICATIONS (PEER-REVIEWED)**

Kester III, John, Rachael Moyer, and Geoboo Song. 2015. "Down the line: Assessing the Trajectory of Energy Policy Research Development." Policy Studies Journal 43(S1): S40-S55

Kester, J. (2014). Concept Map. In W. F. McComas (Ed.), The language of science education (p. 19). Boston: Sense Publishers.

Kester, J. (2014). Learning Progression. In W. F. McComas (Ed.), The language of science *education* (p. 61). Boston: Sense Publishers.

Kester, J. (2014). Pedagogical Practices in Science Teaching. In W. F. McComas (Ed.), *The language of science education* (p. 72). Boston: Sense Publishers.

Kester, J. (2014). Situated Learning. In W. F. McComas (Ed.), The language of science education (p. 98). Boston: Sense Publishers.

#### **OTHER PUBLICATIONS**

Song, Geoboo, John Kester III, and Rachael Moyer. 2014. 2014 Arkansas Energy Policy Survey (Phase I): Assessing Local Policy Elites' Opinions On Arkansas Energy Policy Issues. University of Arkansas, Fayetteville, AR.

Song, Geoboo, John Kester III, and Rachael Moyer. 2014. 2014 Arkansas Energy Policy Survey (Phase I): Frequency Distributions & Descriptive Statistics. University of Arkansas, Fayetteville, AR. Kester, CV, 2018

#### ACADEMIC CONFERENCE PARTICIPATION (SELECTED)

Kester III, John and Geoboo Song. "Policymaker Preferences for Energy Efficiency and Renewable Energy Policies in Arkansas". Presented at the 35<sup>th</sup> annual meeting of the Association for Public Policy Analysis and Management. Albuquerque, NM., November 2014.

Kester III, John and Geoboo Song. "Disentangling Local Policy Elites' Decision-making on Sustainable Energy Policies: An Arkansas Perspective" Presented at the 110<sup>th</sup> annual meeting of the American Political Science Association. Washington D.C., August 2014.

Kester III, John and Geoboo Song. "Disentangling Local Policy Elites' Decision-making on Sustainable Energy Policies." Presented at the 72<sup>nd</sup> annual meeting of the Midwest Political Science Association. Chicago, April 2014.

Kester III, John and Geoboo Song. "Why Do Arkansas Local Policy Elites Decide To Adopt Energy Efficiency and Renewable Energy Policies?" Presented at the 85<sup>th</sup> annual meeting of the Southern Political Science Association. New Orleans, January 2014.

Kester III, John and Sarah Lewis. "Development of Comprehensive Sustainability Metrics for Consumer Products." Presented at the Geosciences and Environmental Dynamics Colloquium. Fayetteville, Arkansas, February 2013.

Kester III, John. "Smart Energy Education for Arkansas Cities." Presented at the Clinton Global Initiative University Meeting, St. Louis, April 2013.

Kester III, John. "On the Development of a Research Methods Course for Sustainability?" Presented at the 2013 Engineering Sustainability Meeting. Pittsburgh, April 2013.

Kester III, John. "Metrics Next: Measuring Health, Happiness and Opportunity." Presented at the Sustainable Communities Leadership Summit. Fayetteville, Arkansas, October 2012.

Kester III, John. "Developing an Undergraduate Research Methods Course for Sustainability." Presented at the Association for the Advancement of Sustainability in Higher Education Annual Meeting. Los Angeles, October 2012.

Kester III, John. "Measuring What Matters" Presented at the Happiness Conference: A Strategic Gathering." Seattle, August 2012.

Kester III, John. "Public Input and Participation in Sustainability Policy" Presented at the Clinton Global Initiative University Meeting. Washington, D.C. April 2012.

Kester III, John. "Green Business: An Effective Environmental Policy Tool" and "Integrating Community-Driven Economics into Elementary Education." Presented at the International Conference on the Arts and Humanities. Honolulu, January 2012.

Kester III, John and Bryan McLaren. "Creating Sustainable Student Involvement: Connecting the Campus to the Community" Presented at the Association for the Advancement of Sustainability in Higher Education Annual Meeting. Pittsburgh, October 2011.

Student Panel. "Connecting the Classroom to the Campus to the Community." Presented at the Smart and Sustainable Campuses Annual Meeting. College Park, Maryland, March, 2011.

Kester III, John, Blaise Scarnati, Rom Coles, and Miguel Vasquez. "Civic Education: Completing the Loop in K-12 Education" Presented at the Civic Agency Institute. Washinton, D.C., December, 2010.

Kester III, John, and Carter Cox. "How to Connect the Campus to the Wider Community." Facilitated Student Workshop at Association for the Advancement of Sustainability in Higher Education Annual Meeting, Denver, October 2010.

#### **COURSES TAUGHT**

| 2014 (Fall)   | Policy Analysis, Teaching Assistant for Dr. Geoboo Song<br>(Graduate class, University of Arkansas-Fayetteville)                                   |
|---------------|--|
| 2014 (Spring) | Advanced Research Methods in Political Science, Teaching Assistant for Dr.<br>Geoboo Song<br>(Graduate class, University of Arkansas-Fayetteville) |
| 2013 (Fall)   | Research Methods in Political Science, Teaching Assistant for Dr. Geoboo Song<br>(Graduate class, University of Arkansas-Fayetteville)             |
| 2011 (Summer  | r) Service Learning<br>(High school, Upward Bound, Flagstaff, Arizona)   |

- 2011 (Spring) First Year Seminar Program: Public Achievement, Co-instructor with Gerald Wood, Jacob Dolence, and Lauren Berutich (Undergraduate class, Northern Arizona University)
  Academic Enrichment Teacher (Elementary school, Kinsey, Flagstaff, Arizona)
  2010 (Fall) First Year Seminar Program: Public Achievement, Co-instructor with Gerald Wood, Jacob Dolence, and Lauren Berutich (Undergraduate class, Northern Arizona University)
  Academic Enrichment Teacher (Elementary school, Kinsey, Flagstaff, Arizona)
- 2010 (Spring) Teaching Coach, Public Achievement Program (Undergraduate and Graduate Students, Northern Arizona University)

#### **RELEVANT PROFESSIONAL EXPERIENCE**

2014-Present Commitment Mentor for Conservation, Clinton Global Initiative University

#### **GRANTS, AWARDS AND HONORS**

| 2013      | Outstanding Cabinet Member of the Year – Associated Student Government    |
|-----------|---|
| 2011-2015 | Distinguished Doctoral Fellow, University of Arkansas-Fayetteville        |
| 2010      | Golden Key Honorary Society   |
| 2009      | "The Heart of the Team Award", Men's Varsity Baseball, Denison University |
| 2006-2008 | Dean's List, Denison University, Graduated Cum Laude                      |
| 2008      | Omicron Delta Epsilon, Economic Honorary, Denison University              |
| 2005      | Most Outstanding Male Athlete, Phoenix Country Day School                 |

#### **Geoboo Song**

Department of Political Science University of Arkansas Old Main 437 Fayetteville, AR 72701, USA Phone: 1.479.575.6433 Email: gbsong@uark.edu

#### Jon Johnson

Department of Management University of Arkansas BADM 412 Fayetteville, AR 72701, USA Phone: 1.479.575.6227 Email: jonjohn@walton.uark.edu

#### **Steve Boss**

Department of Geosciences University of Arkansas Ozark Hall 225 Fayetteville, AR 72701, USA Phone: 1.479.575.7134 Email: sboss@uark.edu

#### William McComas

College of Education and Health Professions University of Arkansas 301 Peabody Hall Fayetteville, AR 72701, USA Phone: 1.479.575.7525 Email: mccomas@uark.edu

#### Kim Needy

Graduate School and International Education University of Arkansas Ozark Hall 213-B Fayetteville, AR 72701, USA Phone: 1.479.575.7762 Email: kneedy@uark.edu

## Sarah E. Lewis, Ph.D., SEA

sarahelainelewis@gmail.com 479-263-2087 @SarahELewis1

#### INTRODUCTION

A sustainability professional, educator, scientist, professional coach, and entrepreneur whose passion is at the interface of humans and the environment, I am interested in opportunities to work with diverse global stakeholders to identify solutions to the world's complex environmental, social, and economic sustainability imperatives.

#### **PROFESSIONAL EXPERIENCE**

#### Founder and CEO - Edgewater Coaching and Consulting, January 2022 to present

Building bold leadership potential in those seeking to create a more beautiful and sustainable world.

- Beaver Watershed Alliance Advise on the vision, methods, and development of a global Success Metrics Framework for assessing watershed sustainability success. Providing leadership coaching for the executives leading the initiative.
- Individual clients Business and Life coaching Working with clients to support them in manifesting their highest potential for their businesses and their lives overall. Focused on clients who are sustainability minded.

#### Senior Director, Innovation – The Sustainability Consortium (TSC), January 2017 to December 2021

Oversee and build the new TSC Innovation Program, a strategic program created by TSC Board of Directors

- Executive team member
- Developed operational model and funding strategies for new Innovation Program within TSC
- Managed, build, and mediate stakeholder relationships across wide array of topics and networks
- Developed ideas through collective action with diverse stakeholders
- Developed budgets, write grant proposals, and build relationships with potential funders
- Created culture of ideation among members and stakeholders
- Founded TSC Sustainability Leadership Institute

## Managing Director, Members and Implementation – The Sustainability Consortium, January 2014 to December 2016

Oversee member engagement and implementation services related to the development and use of TSC tools.

- Developed and oversaw TSC working group and stakeholder engagement processes and strategies
- Developed systems that enable the use of TSC Toolkits by retailers and manufacturers (e.g. TSC Service Provider trainings, TSC Learning Center, in-house retailer pilot projects, retailer tracking)
- Managed, built, and mediated stakeholder relationships
- Member of TSC Leadership Team, contributing to the overall strategy and budget management for TSC
- Collaborated across global teams on TSC deliverables according to TSC mission, goals, and strategic plans.

#### Working Group Director - The Sustainability Consortium (TSC), 2011 to December 2013

Directed development of the Sustainability Measurement and Reporting System (SMRS) for the Food, Beverage, & Agriculture; Clothing, Footwear, & Textiles; Packaging; and Paper, Pulp & Forestry Sectors

- Managed and built stakeholder relationships
  - Managed, mediated, and built key stakeholder relationships
- Facilitated member use and implementation of the SMRS
  - Created and led TSC Implementation Toolkit program driving use of products
  - Conducted on-site member visits and advisement, i.e. Darden Restaurants, Kroger, Walmart
- Directed research staff in the development of the SMRS
  - Guided research team in incorporating member input, delivering professional material
  - Led the development of innovation projects
    - Seafood Sustainability Principles, animal welfare map, supply network diagrams

• Participated in hiring and training process for the research team

#### Working Group Coordinator and Manager– The Sustainability Consortium (TSC), 2010 to 2011

Led the development of the Sustainability Measurement and Reporting System (SMRS) for the Food, Beverage, & Agriculture Sector Working Group

- Founding team member of TSC
- Managed development of life cycle assessments for orange juice, strawberry yogurt, and packaged cereal.
- Led member engagement in the development of life cycle assessments and hotspot analyses
  - Organized and hosted global working group meetings in Germany, Amsterdam, United Kingdom, Washington D.C., and Savannah, Georgia.

#### **Adjunct Professor**

Agricultural Economics, University of Arkansas, 2013 to December 2021

• Committee member for dissertation research in textiles sustainability policy

Environmental Sociology, University of Arkansas at Little Rock, 2011 to 2014

- Developed and taught in-depth study of the interactions of public perception and the environment with a focus on the impacts of perception on decision making for water resources.
- Led students in developing research projects on public perceptions of water quality in their community.

#### City Council Member - Elected Official for the City of Fayetteville, Arkansas

Ward 4 Position 2 Representative of the City of Fayetteville, Arkansas, 2008 to 2012

- Chairperson of the Water and Sewer Committee and the Environmental Action Committee
- Sponsor and co-author of municipal policies:
  - Low Impact Development Ordinance, Streamside Protection Ordinance, Recycling Resolution, Residential Parking Ordinance, Community Wildlife Habitat Ordinance, and Energy Efficiency Building Standards Ordinance

#### Entrepreneur, 2006 to 2010

EcoExplique, Founder and President – Environmental education consultancy

- Fayetteville Public Schools Designed and hosted stream field trips for teachers and students
- Winrock International Facilitated implementation of the EECBG Program
- L'Oreal US French Translation for energy efficiency program
- Jones Foundation Go Green Week Led workshops on biodiversity, stream geomorphology, recycling
- SAM's Club Education consultant for SIFE program

#### Graduate Research Assistant, Environmental Dynamics Doctoral Program, University of Arkansas

- Center for Agricultural and Rural Sustainability, UA College of Agriculture 2008 to 2009
  - o LCA study for Keystone Group Field to Market Sustainable Agricultural Outcomes Report
  - Project management LID ordinance review and development, EPA 319 grant
  - Curriculum Instructor NSF Research Experience for Undergraduates (REU)
  - Data collection Bioassessment watershed study for Springdale and Rogers, AR
- Applied Sustainability Center, UA Walton College of Business, 2007 to 2008
  - Development of stakeholder meetings for Walmart, Dairy Management & others
  - Founding staff member of The Sustainability Consortium

#### **French Instructor**

- NorthWest Arkansas Community College (NWACC), Bentonville, AR, 2000-2006, 2010-2011
  - Elementary French I & II, Organized 3 study abroad trips to Europe and Canada.

#### Earth Science Instructor and Science Department Chair

Washington Junior High School, Bentonville, Arkansas, 2000 to 2005

• Taught regular and pre-AP integrated 8th grade Earth Science.

#### **RELEVANT PROFESSIONAL EXPERIENCE**

- Certified Life and Professional Coach
- Certified Sustainability Excellence Associate: SEA
- Languages: English and French
- IT Proficiency: Microsoft Office, SharePoint, Blackboard, Webex, social media platforms, Wrike, Google
- SIMAPRO Life Cycle Assessment Training, 2009
- Arc-GIS certificate, 2008 2010

#### **PROFESSIONAL and VOLUNTEER LEADERSHIP**

- Board Member of the International Society of Sustainability Professionals, 2014 to 2019
   Vice President of the Board of Directors, July 2016 to present
- Board Member, Walton Arts Center, 2014 to 2020
- Board Member, Arkansas United, 2017 to present
- Board Member, Watershed Conservation Resource Center, 2020 to present

#### PUBLICATIONS

- Mars, C., Lewis, S.E., Gilliam, K., and Park, J. 2020. Creating Circular Economies in Northwest Arkansas. The Sustainability Consortium and the Northwest Arkansas Council. https://sustainabilityconsortium.org/wpcontent/uploads/2021/07/NWAC\_Sustainability\_2020FullReport-1.pdf
- Lewis, S.E., J.H. Popp, L.A. English, and T.O. Odetola. 2017. Willingness to Pay (WTP) for Riparian Zones in an Ozark Watershed. Journal of Water Resource Planning and Management, 2017, 143(5): 04017006. https://ascelibrary.org/doi/abs/10.1061/%28ASCE%29WR.1943-5452.0000740
- Lewis, S. January 2014. The Leaky Faucet: Using Supply Network Diagrams to Prioritize Product Sustainability Decisions. CSRwire. http://www.csrwire.com/blog/posts/1200-the-leaky-faucet-using-supply-networks-to-prioritize-product-sustainability-decisions
- Dooley, K., *Lewis*, S., and Cagle, C., 2013. "Doing more with less in textiles," World Textile Information Network, November 27, 2013.
- Lewis, S.E., J.H. Popp. 2012. Perception vs. Reality: Stakeholder Perception of Watershed Ecosystem Integrity. Journal of Soil and Water Conservation. v. 68(2) 89-98.

#### EDUCATION

| Degree   | Major                                  | University             | Year |
|----------|--|------------------------|------|
| Ph.D.    | Environmental Dynamics                 | University of Arkansas | 2010 |
| M.A.     | French                                 | University of Arkansas | 1999 |
| B.S. Ed. | Biology and French Secondary Education | University of Nebraska | 1997 |

#### **Study Abroad, France**

- Diploma of Prof/Clef, 18 credit hours 1995
- Université de la Franche Comté, Centre de Linguistique Appliqué, Besançon, France

#### References available upon request

## David R. Lyon, Ph.D.

9005 Pin Brush Dr, Austin, TX 78748 • cell: 1-479-629-6523 • davidrichardlyon@gmail.com

Announcement: RTP-EIF-2022-0004 (Environmental Implementation Fellow, GS-15)

#### <u>Summary</u>

I am an environmental scientist with a Ph.D. and over 13 years experience developing emission inventories and quantifying methane emissions from the oil and gas industry. I am highly knowledgeable about the Methane Emissions Reduction Program (MERP) of the Inflation Reduction Act (IRA) and have worked with numerous stakeholders including Congressional staff on its development and strategies for implementation. My passion for mitigating methane emissions and extensive experience managing scientific studies, developing policy, and communicating with diverse stakeholders makes me well suited for this position advising senior officials on implementation of MERP and other methane-related programs of the IRA.

#### **Experience**

#### Environmental Defense Fund (EDF), Austin, TX

Senior Scientist

May 2021 – present

35 hours/week

\$114,000/year

- Advise Congressional staff and other stakeholders on the development and implementation of the Methane Emissions Reduction Program of the Inflation Reduction Act
- Assist writing comments to EPA on the proposed methane rule and Greenhouse Gas Reporting Program revisions including EDF's framework for implementing the MERP requirement to update GHGRP Subpart W methodologies to use more empirical data to increase the accuracy of reported emissions
- Participate in strategic planning and organizational design of programs for quantifying methane emissions including for EDF and the Colorado Department of Public Health and Environment
- Develop new methods and approaches in planning, integrating, and evaluating programs related to use of empirical data to quantify oil and gas methane emissions
- Assist in EDF's long- and short-range program planning and strategy development
- Communicate knowledge of statutes, laws, and regulations related to oil and gas methane emissions to stakeholders including regulators and media
- Analyze U.S. federal, state, and international environmental policies related to methane emissions reporting and mitigation
- Write peer-reviewed papers and reports summarizing scientific research and policies
- Oral communication including testifying to U.S. Congressional committees, providing expertise to policymakers, presenting at scientific conferences and stakeholder groups, and giving interviews to national and international media
- Manage EDF's Permian Methane Analysis project using multiple measurement approaches to quantify oil and gas methane emissions and rapidly publish data online at PermianMAP.org
- Provide thought leadership on technologies and policies to detect, quantify, and mitigate oil and

gas methane emissions to EDF staff and external stakeholders

• Supervise staff (1 post-doc/scientist, 1 research analyst)

#### Environmental Defense Fund, Austin, TX

Scientist March 2014 – April 2021 35 hours/week \$100,000/year

- Duties listed previously under EDF Senior Scientist
- Contribute to the design, planning, execution, and analysis of EDF-sponsored research studies on quantifying methane emissions from the oil and gas supply chain
- Advise internal and external projects on innovative approaches for leak detection and mitigation
- Provide comments to EPA on proposed updates to the Greenhouse Gas Inventory
- Prepare and review manuscripts for submission to peer-reviewed journals
- Communicate science and advocacy through presentations, briefings, and media interviews
- Provide scientific expertise to other EDF programs and external groups

#### Environmental Defense Fund, Austin, TX

Research Analyst June 2012 – March 2014 35 hours/week

\$60,000/year

- Organized a top-down/bottom-up methane emissions reconciliation research campaign in the Barnett Shale with a dozen research teams
- Research, analyze, synthesize, and interpret data related to oil and gas methane emissions
- Analyze, interpret, and communicate data to policymakers, industry, the scientific community, and other stakeholders in support of EDF advocacy on environmental policy
- Write reports, blogs, and other communication materials for general audiences

#### University of Arkansas at Little Rock, Little Rock, AR

Part-time Lecturer January 2012 – May 2012 10 hours/week

• Taught a senior-level environmental science course Fundamentals of Air Pollution

#### Arkansas Department of Environmental Quality, North Little Rock, AR

Environmental Program Coordinator January 2009 – May 2012 40 hours/week \$40,000/year

- Obtained EPA funding, managed project, and authored report on a study to develop an emissions inventory and monitor air quality impacts of natural gas development in the Fayetteville Shale
- Managed a \$500,000 project to develop and implement a web-based emissions inventory reporting system for a multi-state consortium of environmental agencies

- Led the state's air pollution emissions inventory program, which included approximately 175 regulated facilities and several nonpoint emission source categories
- Analyzed emissions data and produced reports for the agency and public
- Analyzed current and proposed federal air regulations to assist agency planning
- Supervised up to four staff

#### **Education**

#### University of Arkansas, Fayetteville, AR

Ph.D. in Environmental Dynamics

Graduation May 2016

- Dissertation: Quantifying, Assessing, and Mitigating Methane Emissions from Super-emitters in the Oil and Gas Supply Chain
- Honors: 4.0 GPA; Doctoral Academy Fellowship

### University of Kentucky, Lexington, KY

M.S. in Forestry

Graduation May 2004

- Thesis: Persistent Effects of Eastern Redcedar on Calcareous Glade Soils and Plant Community
- Honors: 4.0 GPA; Garden Club of America 2003 Fellowship in Ecological Restoration

### Hendrix College, Conway, AR

B.A. in Biology with Chemistry Minor

Graduation June 2002

• Honors: 3.95 GPA; Summa Cum Laude with Distinction; Phi Beta Kappa

#### **Select Testimony and Presentations**

#### Congressional Hearing Testimony (June 8, 2022; remote)

U.S. House of Representatives Committee on Science, Space, and Technology Detecting and Quantifying Methane Emissions from the Oil and Gas Sector <u>https://science.house.gov/hearings/detecting-and-quantifying-methane-emissions-from-the-oil-and-gas-sector</u>

#### Congressional Oversight Field Hearing Testimony (April 15, 2019; Santa Fe, NM)

U.S. House of Representatives Committee of Natural Resources, Subcommittee on Energy and Mineral Resources

Oil and Gas Development: Impacts on Air Pollution and Sacred Sites

https://naturalresources.house.gov/hearings/oil-and-gas-development-impacts-on-air-pollution-andsacred-site

## EPA Workshop invited speaker (August 23, 2021; remote)

Methane Detection Technology Virtual Workshop PermianMAP: EDF's Campaign Using Multiple Technologies to Measure Oil and Gas Methane Emissions and Facilitate Mitigation in the Permian Basin https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry/epa-methane-detectiontechnology-workshop

EPA conference invited plenary speaker (July 30, 2019; Dallas, TX) 2019 International Emissions Inventory Conference A new paradigm of measurement-based emission inventories https://www.epa.gov/sites/default/files/2019-08/documents/lyon epa nei plenary final.pdf

#### **Publications**

- Lyon, D. R., Hmiel, B., Gautam, R., Omara, M., Roberts, K. A., Barkley, Z. R., ... & Hamburg, S. P.
   (2021). Concurrent variation in oil and gas methane emissions and oil price during the COVID-19 pandemic. Atmospheric Chemistry and Physics, 21(9), 6605-6626.
- Lyon, D. R. (2016). Methane emissions from the natural gas supply chain. In: Kaden, D.A. and Rose, T.L. eds. *Environmental and Health Issues in Unconventional Oil and Gas Development*. Elsevier. pp. 33-48.
- Lyon, D. R., Alvarez, R. A., Zavala-Araiza, D., Brandt, A. R., Jackson, R. B., & Hamburg, S. P. (2016). Aerial surveys of elevated hydrocarbon emissions from oil and gas production sites. Environmental Science & Technology, 50 (9), pp 4877–4886, DOI: 10.1021/acs.est.6b00705.
- Lyon, D. R., Zavala-Araiza, D., Alvarez, R. A., Harriss, R., Palacios, V., Lan, X., ... & Herndon, S. C.
   (2015). Constructing a spatially resolved methane emission inventory for the Barnett Shale region. Environmental Science & Technology, 49(13), 8147-8157.
- Lyon, D. R., & Chu, T. (2011). Emissions inventory & ambient air monitoring of natural gas production in the Fayetteville Shale region. Arkansas Department of Environmental Quality (ADEQ), North Little Rock, AR. https://www3.epa.gov/ttnchie1/conference/ei20/session6/dlyon.pdf
- Lyon, D. R., & Ziegler, S. E. (2009). Carbon cycling within epilithic biofilm communities across a nutrient gradient of headwater streams. Limnology and Oceanography, 54(2), 439-449.
- Yu, J., Hmiel, B., Lyon, D. R., Warren, J., Cusworth, D. H., Duren, R. M., Chen, Y., Murphy, E., & Brandt, A. R. (2022). Methane Emissions from Natural Gas Gathering Pipelines in the Permian Basin. Environmental Science & Technology Letters, DOI: 10.1021/acs.estlett.2c00380
- Cusworth, D. H., Thorpe, A. K., Ayasse, A. K., Stepp, D., Heckler, J., Asner, G. P., ..., Lyon, D. R., ... & Duren, R. M. (2022). Strong methane point sources contribute a disproportionate fraction of total emissions across multiple basins in the United States. Proceedings of the National Academy of Sciences, 119(38), e2202338119.
- Monteiro, V. C., Miles, N. L., Richardson, S. J., Barkley, Z., Haupt, B. J., Lyon, D. R., ... & Davis, K. J. (2022). Methane, carbon dioxide, hydrogen sulfide, and isotopic ratios of methane observations from the Permian Basin tower network. Earth System Science Data, 14(5), 2401-2417.

- Shen, L., Gautam, R., Omara, M., Zavala-Araiza, D., Maasakkers, J. D., Scarpelli, T. R., ..., Lyon, D. R., ...
   & Jacob, D. J. (2022). Satellite quantification of oil and natural gas methane emissions in the US and Canada including contributions from individual basins. Atmospheric Chemistry and Physics, 22(17), 11203-11215.
- Omara, M., Zavala-Araiza, D., Lyon, D.R., Hmiel, B., Roberts, K.A. and Hamburg, S.P., (**2022**). Methane emissions from US low production oil and natural gas well sites. Nature communications, 13(1), pp.1-10.
- Irakulis-Loitxate, I., Guanter, L., Liu, Y.N., Varon, D.J., Maasakkers, J.D., Zhang, Y., Chulakadabba, A., Wofsy, S.C., Thorpe, A.K., Duren, R.M. and Frankenberg, C., ..., Lyon, D. R., ... & Jacob, D. J. (2021). Satellite-based survey of extreme methane emissions in the Permian basin. Science Advances, 7(27), p.eabf4507.
- Zhou, X., Peng, X., Montazeri, A., McHale, L.E., Gaßner, S., Lyon, D.R., Yalin, A.P. and Albertson, J.D., (2020). Mobile measurement system for the rapid and cost-effective surveillance of methane and volatile organic compound emissions from oil and gas production sites. Environmental Science & Technology, 55(1), pp.581-592.
- Rutherford, J.S., Sherwin, E.D., Ravikumar, A.P., Heath, G.A., Englander, J., Cooley, D., **Lyon, D. R.,** Omara, M., Langfitt, Q. and Brandt, A.R., (**2021**). Closing the methane gap in US oil and natural gas production emissions inventories. Nature communications, 12(1), pp.1-12.
- Robertson, A.M., Edie, R., Field, R.A., Lyon, D. R., McVay, R., Omara, M., Zavala-Araiza, D. and Murphy, S.M., (2020). New Mexico Permian Basin measured well pad methane emissions are a factor of 5–9 times higher than US EPA estimates. Environmental Science & Technology, 54(21), pp.13926-13934.
- Zhang, Y., Gautam, R., Pandey, S., Omara, M., Maasakkers, J.D., Sadavarte, P., Lyon, D. R., Nesser, H., Sulprizio, M.P., Varon, D.J. and Zhang, R., (2020). Quantifying methane emissions from the largest oil-producing basin in the United States from space. Science advances, 6(17), p.eaaz5120.
- Ravikumar, A.P., Sreedhara, S., Wang, J., Englander, J., Roda-Stuart, D., Bell, C., Zimmerle, D., Lyon,
   D. R., Mogstad, I., Ratner, B. and Brandt, A.R. (2019). Single-blind inter-comparison of methane detection technologies–results from the Stanford/EDF Mobile Monitoring Challenge. Elementa, 7(1).
- Fox, T.A., Ravikumar, A.P., Hugenholtz, C.H., Zimmerle, D., Barchyn, T.E., Johnson, M., Lyon, D. R. and Taylor, T. (2019) A methane emissions reduction equivalence framework for alternative leak detection and repair programs. Elementa, 7(1).
- Hajny, K., Salmon, O.E., Rudek, J., Lyon, D.R., Stuff, A.A., Stirm, B.H., Kaeser, R., Floerchinger, C.,
   Conley, S.A., Smith, M.L. and Shepson, P.B. (2019). Observations of Methane Emissions from
   Natural Gas-Fired Power Plants. Environmental Science & Technology, 53 (15), 8976-8984.
- Alvarez, R. A., Zavala-Araiza, D., Lyon, D. R., Allen, D. T., Barkley, Z. R., Brandt, A. R., ... & Kort, E. A. (2018). Assessment of methane emissions from the US oil and gas supply chain. Science, eaar7204.

- Englander, J. G., Brandt, A. R., Conley, S., **Lyon, D. R.,** & Jackson, R. B. (**2018**). Aerial Intervear Comparison and Quantification of Methane Emissions Persistence in the Bakken Formation of North Dakota, USA. Environmental science & technology, 52(15), 8947-8953.
- Lavoie, T. N., Shepson, P. B., Cambaliza, M. O., Stirm, B. H., Conley, S., Mehrotra, S., ... & Lyon, D. R. (2017). Spatiotemporal variability of methane emissions at oil and natural gas operations in the Eagle Ford Basin. Environmental science & technology, 51(14), 8001-8009.
- Lavoie, T. N., Shepson, P. B., Gore, C. A., Stirm, B. H., Kaeser, R., Wulle, B., Lyon, D. R. & Rudek, J. (2017). Assessing the methane emissions from natural gas-fired power plants and oil refineries. Environmental science & technology, 51(6), 3373-3381.
- Zavala-Araiza, D., Alvarez, R. A., Lyon, D. R., Allen, D. T., Marchese, A. J., Zimmerle, D. J., & Hamburg,
   S. P. (2017). Super-emitters in natural gas infrastructure are caused by abnormal process conditions. Nature communications, 8, 14012.
- Alvarez, R. A., Lyon, D. R., Marchese, A. J., Robinson, A. L., & Hamburg, S. P. (2016). Possible malfunction in widely used methane sampler deserves attention but poses limited implications for supply chain emission estimates. Elementa, 4.
- Marrero, J. E., Townsend-Small, A., Lyon, D. R., Tsai, T. R., Meinardi, S., & Blake, D. R. (2016). Estimating Emissions of Toxic Hydrocarbons from Natural Gas Production Sites in the Barnett Shale Region of Northern Texas. Environmental Science & Technology, 50(19), 10756-10764.
- Lamb, B. K., Cambaliza, M. O., Davis, K. J., Edburg, S. L., Ferrara, T. W., Floerchinger, C., ... & Lyon, D.
   R. (2016). Direct and indirect measurements and modeling of methane emissions in Indianapolis, Indiana. Environmental Science & Technology, 50(16), 8910-8917.
- Townsend-Small, A., Ferrara, T. W., Lyon, D. R., Fries, A. E., & Lamb, B. K. (2016). Emissions of coalbed and natural gas methane from abandoned oil and gas wells in the United States. Geophysical Research Letters, 43(5), 2283-2290, DOI: 10.1002/2015GL067623.
- Zavala-Araiza, D., Lyon, D. R., Alvarez, R. A., Davis, K. J., Harriss, R., Herndon, S. C., ... & Marchese, A. J. (2015). Reconciling divergent estimates of oil and gas methane emissions. Proceedings of the National Academy of Sciences, 112(51), 15597-15602, DOI: 10.1073/pnas.1522126112
- Zavala-Araiza, D., Lyon, D. R., Alvarez, R. A., Palacios, V., Harriss, R., Lan, X., Talbot, R., Hamburg, S. P. (2015). Towards a Functional Definition of Methane Super-Emitters: Application to Natural Gas Production Sites. Environmental Science & Technology, 49, DOI: 10.1021/acs.est.5b00133.
- Karion, A., Sweeney, C., Kort, E. A., Shepson, P. B., Brewer, A., Cambaliza, M. O. L., Conley, S., Davis, K. J., Deng, A., Hardesty, M., Herndon, S. C., Lauvaux, T., Lavoie, T., Lyon, D. R., Newberger, T., Petron, G., Rella, C., Smith, M., Wolter, S., Yacovitch, T., Tans, P. (2015). Aircraft-based estimate of total methane emissions from the Barnett Shale region. Environmental Science & Technology, 49, DOI: 10.1021/acs.est.5b00217.

Mobile Laboratory Observations of Methane Emissions in the Barnett. Environmental Science & Technology, 49, DOI: 10.1021/es506352j.

- Lavoie, T. N., Shepson, P. B., Cambaliza, M. O. L., Stirm, B. H., Karion, A., Sweeney, C., Yacovitch, T.
   I., Herndon, S. C., Lan, X., Lyon, D. R. (2015). Aircraft-Based Measurements of Point Source Methane Emissions in the Barnett Shale Basin. Environmental Science & Technology, 49, DOI: 10.1021/acs.est.5b00410.
- Harriss, R., Alvarez, R. A., Lyon, D. R., Zavala-Araiza, D., Nelson, D., Hamburg, S. P. (2015). Using Multi-Scale Measurements to Improve Methane Emission Estimates from Oil and Gas Operations in the Barnett Shale Region, Texas. Environmental Science & Technology, 49, DOI: 10.1021/acs.est.5b02305.
- Brantley, H. L., Thoma, E. D., Squier, W. C., Guven, B. B., & Lyon, D. R. (2014). Assessment of methane emissions from oil and gas production pads using mobile measurements. Environmental science & technology, 48(24), 14508-14515.
- Lane, C. S., Lyon, D. R., & Ziegler, S. E. (2013). Cycling of two carbon substrates of contrasting lability by heterotrophic biofilms across a nutrient gradient of headwater streams. Aquatic sciences, 75(2), 235-250.
- Ziegler, S. E., & Lyon, D. R. (2010). Factors regulating epilithic biofilm carbon cycling and release with nutrient enrichment in headwater streams. In Global Change and River Ecosystems—Implications for Structure, Function and Ecosystem Services (pp. 71-88). Springer, Dordrecht.
- Ziegler, S. E., Lyon, D. R., & Townsend, S. L. (2009). Carbon release and cycling within epilithic biofilms in two contrasting headwater streams. Aquatic Microbial Ecology, 55(3), 285-300.

## SIYAO MA A.A.C.S.B. SCHOLARLY ACADEMIC QUALIFIED

412 154th Ave NE Bellevue, WA 98007 • Cell: 626-365-7198 • msiy0907@gmail.com

## **EDUCATION**

| Doctor of Philosophy: Environmental Science<br>University of Arkansas, Fayetteville, AR, USA  | 20192022 |
|---|----------|
| • Degree conferred: May 2022  |          |
| • Dissertation defense date: May 2021   |          |
| Doctoral Qualification Exam date: May 2020  |          |
| Master of Science: Agriculture Economics and Agribusiness   | 20172018 |
| University of Arkansas, Fayetteville, AR, USA   |          |
| <ul> <li>Study emphasis: The evaluation of environmental factors involving innovative and sustaina production methods by analyzing risk-return tradeoffs.</li> <li>GPA: 4.0/4.0</li> </ul>            | ble      |
| <ul> <li>Exchange Student: Economics</li> <li>Pittsburg State University, Pittsburg, KS, USA</li> <li>Study emphasis: Microeconomics, econometrics, environmental and resources economics.</li> </ul> | 20162017 |
| • GPA: 3.8/4.0  |          |
| Bachelor of Art: Economics  | 20132016 |
| Henan University of Science and Technology, Luoyang, Henan, China   |          |
| <ul> <li>Study emphasis: Microeconomics, environmental and resources economics.</li> </ul>  |          |

• GPA: 92/100

## **APPOINTMENTS**

#### **ERM Quantitative Analyst**

BECU, Seattle, WA, USA

- I develop and align ESG ambitions and strategy with the company's Sustainability Council, investor relations and senior leadership teams to ensure all key material topics are properly addressed.
- I work across business lines to map out and execute a strategy to manage and improve the organization's • management of material ESG topics.
- I conduct independent validations of statistical models using advanced econometric techniques.
- Maintain firmwide model inventory and processes around model maintenance and performance tracking. •

#### **Research Fellow**

University of Waterloo, Geography and Environmental Management Department, Waterloo, ON, Canada

- I use multiple data processing tools to obtain and analyze global climate data to explore the distribution • and seasonality of global climatic suitability for tourism organizations.
- I construct dynamic models to analyze the climate change impact on tourism and winter sports.
- My Google Scholar link: https://scholar.google.com/citations?user=vKbeoBMAAAAJ&hl=en&oi=ao •

#### **Graduate Assistant**

University of Arkansas, Geosciences Department, Fayetteville, AR, USA

• I served as teaching assistant for the Application in Sustainability course (43 students total) in fall 2021.

#### 2021--2022

2018-- 2021

- I taught two online sections (53 students total) of Earth Science Lab in spring 2021.
- I served as teaching assistant for the Meteorology course in fall 2020.
- I served as teaching assistant to develop the online version of the Foundations in Sustainability course in spring 2020.
- I served as teaching assistant for the Meteorology course in fall 2019.
- I served as teaching assistant for the World Regional Geography course in spring 2019.
- My TA's duties include maintaining daily classroom schedules, tutor students, deliver lectures upon Professor requests, proctor exams, grade papers and assignments, and other miscellaneous projects.

#### **Adjunct Instructor of Management**

#### Montana State University Billings, College of Business, Billings, MT, USA

- I taught two online sections (58 students total) of Business and Environment. My overall student evaluation is 4.75/5.0.
- Business and the Environment is an interdisciplinary course in management that explores the interactions between organizations (including for-profit businesses and non-profit organizations), society, and the environment.
- My duties included designing and developing course content, delivering online lectures, providing timely and detailed feedback to students, and working collaboratively with students on methods and written assignments.

## RESEARCH

Note. Australian Business Deans Council (ABDC) ratings provided where applicable

#### **Peer-Reviewed Journal Articles**

- 1. Craig, C. A., & Ma, S. (2022). Weather and recreational vehicle camping businesses. *Annals of Tourism Research Empirical Insights*, *3*(2), 100063. [2021 IF = 1.1]
- 2. Rutty, M., Hewer, M., Knowles, N., & **Ma**, **S**. (2022). Tourism & climate change in North America: regional state of knowledge. *Journal of Sustainable Tourism*, 1-24. [2021IF = 9.47]
- 3. Fang, Y., Trupp, A., Hess, J. S., & **Ma**, **S**. (2022). Tourism under climate crisis in Asia: impacts and implications. *Journal of Sustainable Tourism*, 1-17. [ABDC A\*; 2021IF = 9.47]
- 4. Scott, D., Knowles, N. L., **Ma, S.,** Rutty, M., & Steiger, R. (2022). Climate change and the future of the Olympic Winter Games: athlete and coach perspectives. *Current Issues in Tourism*, 1-16. [2021 IF = 7.570]
- 5. **Ma, S.**, Craig, C. A., Scott, D., & Feng, S. (2021). Global Climate Resources for Camping and Nature-Based Tourism. *Tourism and Hospitality*, 2(4), 365-379. [2021 IF = 1.884]
- Ma., S., Craig, C. A., Feng, S. & Liu, C. (2021). Climate resources at United States National Parks: A tourism climate index approach. *Tourism Recreation Research*, DOI: 10.1080/02508281.2021.1946652. [2021 IF = 3.03]
- C.A. Craig, Ma, S., Karabas, I., & Feng, S. (2021). Camping, weather, and disasters: Extending the Construal Level Theory. *Journal of Hospitality and Tourism Management*. DOI: 10.1016/j.jhtm.2021.10.005 [2021 IF = 5.959]
- 8. Craig, C. A., **Ma**, **S**. & Karabas, I. (2021). COVID-19, camping, and Construal Level Theory. *Current Issues in Tourism*, DOI: 10.1080/13683500.2021.1895730. [2021 IF = 7.570]
- 9. Craig, C., **Ma, S.**, & Poggioli, N. (2021). A climate resource approach to weather and climate change. *Academy of Management Proceedings*, 2021(1), DOI: 0.5465/AMBPP.2021.16358abstract.
- 10. C.A. Craig & S. Ma (2021). Sustainable entrepreneurship and the effects of climate change. Proceeding of the *Travel and Tourism Research Association: Advancing Tourism Research Globally*, 25.

- C.A. Craig, Ma, S., Karabas, I., & Feng, S. (2020). The Disaster-Proximity-Construal (DPC) framework: Exploring outdoor tourism, climate change, and COVID-19. *Journal of Hospitality and Tourism Management* [2021 IF = 5.959]
- 12. **Ma, S.,** Craig, C.A., Feng, S. (2020). Camping climate resources: The Camping Climate Index (CCI) in the United States. *Current Issues in Tourism*, DOI: 10.1080/13683500.2020.1846503. [2021 IF = 7.570]
- 13. **Ma, S.**, Craig, C.A., Feng, S. (2020). The Camping Climate Index (CCI): The development, validation, and application of a camping-sector tourism climate index. *Tourism Management*. *80*, 104105. [2021 IF = 13.790]
- Ma., S., Craig, C. A., & Feng, S. (2020). Broadening our sight of camping and climate change relationships: A camping-sector climate index. *Academy of Management Proceedings*, 2020(1), DOI: 10.5465/AMBPP.2020.12724abstract.

#### **Conference Presentations**

- Ma., S., Craig, C. A., Feng, S. & Yan., J. (2021, December). *The global (re) distribution of climate resources for nature-based tourism*. American Geophysical Union Annual Conference, New Orleans, USA. (refereed)
- 2. Craig, C.A., **Ma, S.**, Poggioli, N., & Feng, S. (2021, August). *A climate resource approach to weather and climate change*. Academy of Management Association Conference [virtual]. (refereed)
- 3. **Ma., S.**, Craig, C. A., & Feng, S. (2021, March). *Camping season change in the United States*. The Sixth International Conference on Climate, Tourism and Recreation [virtual]. (refereed)
- 4. **Ma., S.**, Craig, C. A., & Feng, S. (2020, December). *An inter-comparison of tourism climate indices in the Southern United States: A national park case study*. American Geophysical Union Annual Conference, San Francisco, USA [virtual]. (refereed)
- 5. **Ma., S.**, Craig, C. A., & Feng, S. (2020, August). *Broadening our sight of camping and climate change relationships: A camping-sector climate index.* Academic of Management Annual Conference, Vancouver, BC, Canada [virtual]. (refereed)
- 6. C.A. Craig, S. Feng, S. Ma (2019, July). *Exploring the spatial and temporal impact of climatic variability on the camping industry*. Spatial Statistics Conference, Barcelona, Spain. (refereed poster)

## AWARDS

- 03/2021: Sturgis International Fellowship (\$15,500)
- 01/2019: Doctoral Academic Fellowship (\$48,000)
- 04/2018: Graduate Golden Medal at the MANRRS Arkansas Dicamba Project
- 03/2018: Second place at the Fulbright Language Speech Contest, University of Arkansas
- 05/2017: Outstanding Undergraduate Student in Henan Province Award
- 04/2016: 1<sup>st</sup> Prize in the 19<sup>th</sup> "FLTRP CUP" National College Student Debating Competition
- 10/2016: National Scholarship (\$1,000)
- 10/2015: National Scholarship (\$1,000)

## SKILLS

- Adept at econometrics, quantitative research, and statistical analysis.
- Programming language: R, Python, STATA.
- Regression, Simulation, Optimization, Linear Programing, Sensitivity Analysis, Hypothesis testing, ANOVA, Forecasting, Machine Learning.
- Data science pipeline: cleansing, wrangling, visualization.
- Strong experience with large data sets and distributed computing.

- Strong experience with 3rd party data APIs and websites metrics and web analysis.
- Adobe software suite.
- Microsoft software suite.

## **QUALIFICATION CERTIFICATES**

- 05/2021: Certificate of Sustainability
- 07/2017: Certificate of Basis Trading Administration
- 11/2013: Certificate of Internal Auditor Professional
- 10/2013: National Second-Level Athlete in China (Track and Field)

curriculum vitae - leadership, management, and practice summary

-12 years of service as a department head with three different universities accountable for mission, strategic plan implementation, budgets, staffing, mentorship, outreach and external relations, development, recruiting, annual evaluations, DEI hires strategic plan curriculum overhaul to focus upon advocacy education for designers

-6 years service an off-campus resident director of Richard Neutra's House accountable for outreach to the general public, scholarship development, fundraising and events, community outreach advocacy for architecture and sustainable design, maintenance of house in keeping with National Register requirements

#### -3 years service as Community Design Center Director

accountable for developing and implementing fundraising through community impact projects. Took Center from \$0 - to \$250K annual, expanded staff from 2 to 7 FTE, responsible for working with community, including local AIA component to initiate forums, lecture series, and charrettes

Served on Las Vegas component executive board, COTE committee and ad hoc, AIA State of Nevada Service Award

-10 years of service on non-profit, Council of Educators in Landscape Architecture Saw strategic plan through development, inception, implementation, plan, and assessment Served as regional representative and sat on membership committees Served as two term treasurer and initiated a successful dues increase to build capacity Served as President to use capacity to better serve membership through successful development of website, completion of strategic planning goals, and organizational health Increase connections between allied organizations of landscape architecture through annual meetings of CLARB, LAAB, LAF, and CELA

#### - 25<sup>+</sup> years of interdisciplinary research-based urban design work for communities

Community design for resilience from regional scale to site design and design-build Specialty in knowledge transfer - using university research applied to community design Over \$11 million developed in grants and donations with a focus upon infrastructure Partners and funders include State of California, The Nature Conservancy, The Downtown Project (Las Vegas), National Park Service, UNESCO, and HUD

#### - 5 years of professional practice

US Army Corps of Engineers - Historic Planning and Preservation Private firms and consultation - Native American communities and sustainable buildings Partners and funders include State of California, The Nature Conservancy, The Downtown Project (Las Vegas), National Park Service, UNESCO, and HUD

Kenneth D. McCown, Assoc. AIA, ASLA, ILFI, ACD, ASAI

# Kenneth D. McCown, Assoc. AIA, ASLA, ILFI, ACD, ASAI curriculum vitae

428 S West Ave Fayetteville, AR 72701 phone: 323.620.3539 e-mail: <u>kenmccown@gmail.com</u>

education

Management Development Program, Harvard Graduate School of Education, June 2017. Continuing education program graduate in management and leadership in higher education.

Master of Architecture, University of Illinois at Urbana-Champaign, 1997. Design Project Thesis: "A Prairie Settlement," an exploration into regional architecture, planning, ecological system design and eco-phenomenological design as a method of relating suburban growth patterns to place.

Bachelor of Landscape Architecture, 1992. University of Illinois at Urbana-Champaign.

experience

**Professor, Head, Department of Landscape Architecture; Adjunct Professor Department of Architecture, Academic Director, Sustainability, University of Arkansas** (*July 2016 -*). Serve as head for the Department of Landscape Architecture and faculty in the Fay Jones School of Architecture and Design. Began as Director of First Year interdisciplinary design studies, 2017-18; teaching interdisciplinary studios in resilience and urbanism (Living Building Challenge), research and design methods, graduate foundation in sustainability, and electives in site analysis for architects.

Professor, Chair, Department of Landscape Architecture, Iowa State University (December 2014 - April, 2016). Taught interdisciplinary studios in the College of Design in resilience and urbanism, and served as chief administrator for the Department of Landscape Architecture.

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Director, Downtown Design Center, Lincy University Professor, University of Nevada, Las Vegas (*July 2012-December 2014*). Teaching architecture studios in School of Architecture, Lincy University Professor, and administration of UNLV Downtown Design Center in downtown Las Vegas.

Associate Professor, College of Architecture and Design, University of Tennessee-Knoxville (*May 2012-July 2012*). Taught architecture study abroad program in Finland for the School of Architecture at Aalto University.

Associate Professor, College of Architecture and Design, University of Tennessee-Knoxville (*January 2012-May 2012*). Taught interdisciplinary studios and thesis projects in landscape architecture and architecture.

**Chair, Landscape Architecture Graduate Program, University of Tennessee-Knoxville** (*June 2010-January 2012*) Administration of cross-collegiate landscape architecture program.

Associate Professor, School of Architecture and Landscape Architecture, Arizona State University (*Fall 2007-May 2010*). Taught interdisciplinary studios and lectures in sustainability/resilience, urban design, theory, design and construction in architecture and landscape architecture.

Director, Richard and Dion Neutra VDL Research House II (2002-2007). Noted in fellowships.

Assistant Professor, California Polytechnic State University, Pomona (2002-2007). Taught sustainable landscape technology and construction, interdisciplinary design studios in architecture, landscape architecture and urban planning, urban design seminars, thesis studio, interdisciplinary theory seminars, qualitative methods, pollution regimes, design/build, historic landscapes, urban planning, regenerative studies and professional practice.

**Visiting Assistant Professor, School of Architecture, Plym Associate, University of Illinois** (*Fall 2001*). Taught architecture Plym Studio with Frances Halsband. Project at Yale University for making, building and playing pianos.

Visiting Assistant Professor, University of Illinois (1999-2001). Taught foundation studio, introduction to landscape architecture, construction, visual communications, and competition studios in the Department of Landscape Architecture.

Visiting Lecturer, University of Illinois (1998-99). Taught basic design, urban design and construction classes in the Department of Landscape Architecture.

**Teaching Associate, University of Illinois** (1998/S). Taught site design and construction classes in the Department of Landscape Architecture.

**Teaching Associate, University of Illinois** (1997/F). Taught foundation design and site engineering classes in the Department of Landscape Architecture.

**Teaching Assistant, University of Illinois** (1996-97). Team taught foundation design studios in the School of Architecture.

**Teaching Assistant, University of Illinois** (1996/S). Taught upper level design studio in Department of Landscape Architecture.

**Teaching Assistant, University of Illinois** (1994/S). Taught construction class in the Department of Landscape Architecture.

**Teaching Assistant, University of Illinois** (1993/S). Taught landscape site design in the Department of Natural Resources.

**Design Consultant**, (July 2012-February 2013). Consulting with FirstPic; assisting with sustainable development on Tribal Lands including Nez Perce area in Idaho and Choctaw area in Mississippi.

**Design Management Consultant,** (*March 2008-June 2008*). Management and landscape planning for Darien Conservation Park for Office of Planning and Architecture.

**Design Consultant**, (*September 2007-May 2008*). Project Advisor and planning and design team member in Design Workshop, Inc., based in the Tempe, AZ office.

**Design Consultant**, (*July 2007-September 2008*). Site planner, architectural design and urban designer for eco-executive villas in Kunming, China at Eco-expo town with PREP-A.R.E., Inc.

**Project Manager,** (*June 2007- September 2007*). Principal investigator for an urban analysis and set of recommendations for Barrio Chino for the Office of Casco Antiquo in Panama City, Panama.

**Project Manager**, (*June, July 2006*). Principal investigator for a proposal for an International Water Research and Demonstration Center for the El Chorillo District and Amador Peninsula in Panama City, Panama. Design for the Office of Casco Antiguo.

**Project Manager**, (*June, July 2005*). Co-principal investigator for a redevelopment plan for the El Chorillo District and surrounding sites in Panama City, Panama. Design and production of urban design development plans and design research for UNESCO and the Panamanian Ministry of Housing.

**Director**, (2002-2007). Richard and Dion Neutra VDL Research House II. Duties included research of historic landscape planning and architectural analysis and assessment, creation of digital models for building management, identification of funding and grant writing, fundraising, design, construction management and interpretation.

**Design Team Member**, (*Summer 2000-Summer 2002*). Independent work, work with Kevin Hinders, RA. Design and design/build work including planning, design and construction of offices in the School of Architecture, University of Illinois.

**Designer**, (*Spring/Summer 2000*). Agra, India, Taj Mahal Cultural Heritage District, including Historic Landscape Master Planning for Taj Mahal and other monuments. Department of Landscape Architecture, University of Illinois.

**Design Team Member**, (*Summer 1998*). Design and Construction of display systems and furnishings for Eco-Revelatory Exhibition, including photography of works and exhibition.

**Design Team Member**, (*Summer 1997*). Design development and presentation of Terry Harkness' Foothill Mountain Observatory, for Eco-Revelatory Exhibition.

**Design Team Member, Office of Facility Planning and Management, University of Illinois** (*Summer 1996*). Worked with interdisciplinary team, producing a vision for the Campustown area for the University Chancellor, and the City of Champaign.

**Intern, United States Army Construction Engineering Research Laboratories** (Spring and Summer 1996). Prepared historic landscape inventories and preliminary design schemes for the United States Military Academy at West Point, NY. Based upon these, guidelines were established to preserve the post's historic character.

K. McCown: vitae, page 2

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Intern, University of Illinois, United States Army Construction Engineering Research Laboratories, (1995). Prepared award-winning landscape master plan for Historic Landscape Districts at Fort Sam Houston, San Antonio, TX.

**Graduate Research Assistant**, (Spring 1993). Produced analytical drawings of landscape designs by Walter Burley Griffin for publication.

Landscape Designer, Blue Ridge School District, IL (Spring and Summer 1992). Redesigned school grounds in county district, including playgrounds.

Intern Landscape Designer, Brad Smith Associates, Melbourne, FL (Summer 1989). Participated in earthwork, subdivision, and plaza designs.

awards and bonors

University of Arkansas Community Design Center, "Whitmore Community Food Hub:" 2021 AIA Honor Award for Regional and Urban Design, 2019 The Plan Awards: Urban Planning Finalist, 2018 AN Best of Design Award for Unbuilt - Urban, 2018 World Architecture News Award: Shortlist, 2018 American Architecture Award, 2018 Green GOOD DESIGN Award, 2017 WAFX Award Ethics Prize, 2017 WAF Award for Master Planning Future: Shortlist. Ken McCown part of a team led by Steve Luoni, McCown direct responsibility for site analysis, site planning, and ecological modeling of systems for resilience and sustainability.

Award of Honor, National ASLA 2020 Student Awards - Design Category, "Foodways," Ben Magee, Jacob Costello, Max Frank, Ken McCown studio instructor with advisor Scott Biehle.

**Building Voices Design Competition Citation Award Super Jury Award,** Fay Jones School of Architecture + Design, "Tri-Cycle Farms," Cox, E., Gorgi, P. Redmon, A. McCown, K. Biehle, S. studio instructors. April, 2019. Award for best advance studio project in Fay Jones School during academic year. External jury evaluation by Julie Snow, Adam Yarinsky, and Lisa Iwamoto.

Merit Award, ASLA Central States Region, "Las Vegas Resilience Atlas," McCown, K., primary author with collaborators (names available upon request). April, 2019.

Honor Award, ASLA Central States Region, "Interstate 11 Supercorridor," McCown, K., Ziegler, L., Carnate, E., Gann, A., Kalaveshi, B., Diaz, A., Fivecoat, K. April, 2017.

Merit Award, Iowa ASLA, "Carson Parklet," McCown, K., Zawarus, P., Anderson, J., Osorio, J., plus additional design team student members as construction team. April, 2016.

Merit Award, ASLA Central States Region, "Carson Parklet," McCown, K., Zawarus, P., Anderson, J., Osorio, J., plus additional design team student members. April, 2016.

Mayor's Urban Design Award, Public Space, City of Las Vegas, NV, "Cedar Trail," McCown, K., Zawarus, P., Anderson, J., Vermillion, J., Weber, E., design team members. December, 2014.

**State of Nevada ASLA 2014 Award of Honor,** "Cedar Trail," McCown, K., Zawarus, P., Anderson, J., Vermillion, J., Weber, E., design team members.

Award of Citation, 2014 AIA Las Vegas Unbuilt Architecture Awards, "Las Vegas Museum of Modern Art," Ken McCown, team leader, Esther Garcia, design team member.

Award of Citation, 2014 AIA Las Vegas Unbuilt Architecture Awards, "City Square / Power Strip," Ken McCown, team leader, Phil Zawarus and Esther Garcia, design team members.

2013 State of Nevada American Institute of Architects Associate Service Award

Award of Merit, 2012 Tennessee ASLA Awards, Student Planning Category, "Nashville Deck Park," by Michael Payne, Ken McCown studio instructor/thesis advisor.

Award of Excellence, 2011 Tennessee ASLA Awards, Student Design, "Vulcan Stormwater Park," by Nathan Oliver, Chris Chandler and Ezekiel Cooper, Ken McCown studio instructor.

Award of Honor, National ASLA 2010 Student Awards - Design Category, "Biophones," Nicholas Glover, Ken McCown studio instructor.

2010 CELA Award of Excellence in Design Studio Teaching

Arizona ASLA 2010 Professional Awards Honor in Communication and Award in Research, "Scottsdale Sustainable Systems Inventory," McCown, K., Luk, A., Ahyong, V., Min, B., Sears S.

Arizona ASLA 2010 Student Awards, "McDowell Exchange Corridor," Louie, C., Spray, R., Ahyong, V., Sears, S., students, McCown, K., instructor.

Award of Honor, ASLA 2008 Student Awards, "Kids at the Creek: Planting the Seeds of Stewardship in Chollas Creek," McCown, K. and Woodward, J., principal advisors, Delgado, D., Pregill, P., advisors, Benito, M., Briscoe, E., Garrison, J., La Grange, C., student investigators, 2008.

Award of Excellence, ASLA 2008 Student Awards, "Public Space as Catalyst for the Regeneration of South Los Angeles," McCown, K. and Woodward, J., principal advisors, Delgado, D., Pregill, P., advisors, Garcia, R., Lopez, S., Lum, L., Tabuena, A., student investigators, 2008.

Best of Design Faculty, "Build with Thine Own Hands," <u>Design Communications Association 2007</u> <u>Conference</u>, Ball State University, Muncie, IN, Andy Wilcox, collaborator, September 12-15, 2007.

Jury Award, "Ivanhoe," <u>Design Communications Association 2007 Conference</u>, Ball State University, Muncie, IN, Andy Wilcox, collaborator, September 12-15, 2007.

National Award of Merit, American Society of Landscape Architects. Taj Mahal National Park, Department of Landscape Architecture, University of Illinois at Urbana-Champaign, 2002.

Undergraduate Award of Honor, American Society of Landscape Architects. Illinois Chapter.

Second Place, Excellence in Teaching Award, School of Architecture, 1997.

Award of Excellence, United States Army Corps of Engineers. For performance above and beyond the call of normal duty, 1996.

First Place, Category of Historic Architecture Research, Texas State Historic Commission. Suzanne Keith Loechl, P.I.C., 1996.

Edward C. Earl Prize, School of Architecture, University of Illinois at Urbana-Champaign. Award for most accomplished design work within first year architecture studios, 1992.

#### competitions

(three submissions of sukkah projects) "Etrog, Lulav, Yachad" Anderson, J., Tucker, J. Dickinson, R. Willis, E., Frank, M. Wilson, M., collaborators, <u>Sukkah x Detroit</u>, Detroit, MI, September, 2018.

Finalist, "The Waiting Game - Carson Parklet," Jonathon Anderson, primary collaborator, <u>Interior</u> <u>Design Educators' Council Creative Scholarship Annual Juried Competition</u>, Portland, Oregon, March 9-13 2016.

Honorable Mention, Urban Design Category, "Next Generation Infrastructure - Interstate 11 Supercorridor," Logan Ziegler, Burim Kalaveshi, Amanda Gann, Andres Diaz, Kristina Fivecoat, and Emy Carnate, collaborators, <u>Rethinking the Future Awards International Competition</u>, 2014.

"Cube," Alexander Klenk, Andrew Martin, Jesus Garcia, William Hunter and Eric Weber, collaborators, <u>2014 Helsinki Guggenheim Museum Competition</u>, Helsinki, Finland.

Finalist, "Yachad," Jonathon Anderson, Nasar Saghafi, Phil Zawarus, collaborators, <u>2014 Sukkahville</u> <u>Competition</u>, St. Louis, Missouri.

"Arbortvita," Jonathon Anderson, Joshua Vermilion, Nasar Saghafi, Phil Zawarus, Esther Garcia collaborators, <u>2014 Jardin de Metis Competition</u>.

"SmART Hut," Jonathon Anderson, Joshua Vermilion, Nasar Saghafi, Phil Zawarus, Eric Weber, Esther Garcia, collaborators, <u>Warming Huts: An Art & Architecture Competition On Ice</u>, 2013.

"Doubled Negative," Jesus Diaz, Phil Zawarus, collaborators, <u>Watermarks Competition</u>, Submitted June, 2013.

"Desert Diptych," Jesus Diaz, Phil Zawarus, collaborators, <u>Watermarks Competition</u>, Submitted June, 2013.

*Nomination, <u>Mayor's Urban Design Award</u>, City of Las Vegas, Nevada, 2013. For 'Town Square Park(ing) Day' installation in downtown on 3<sup>rd</sup> Street.* 

"World Table," Steven Clarke, Esther Garcia, collaborators, <u>2013 Jardin de Metis International</u> <u>Garden Festival Design Competition</u>, November, 2012.

"Liitto," Luke Murphree, Scott Wall, Phil Zawarus, Kate Armstrong, Maudy Buidipradigdo, Emily Dent, Ambrose Luk, Kevin Hinders, Paul Attea, Christina Clouthier, collaborators. <u>Helsinki South</u> <u>Harbor Urban Design Competition</u>, December 2011.

Finalist, National ASLA 2010 Professional Awards in Communication and Research, "Scottsdale Sustainable Systems Inventory," McCown, K., Luk, A., Ahyong, V., Min, B., Sears S., student assistants.

<u>Tallinn Architecture Biennale: Street 2020</u>, Tricia Stuth, Ted Shelton, collaborators, Emily Dent, Phil Zawarus, Luke Murphree, Maudy Buidipradigdo, and Kate Armstrong, student assistants.

"Secret Circle," Nathan Dickman, Ambrose Luk, Nicholas Glover, collaborators, <u>2011 Jardin de</u> <u>Metis International Garden Festival Design Competition</u>, December 2010.

Honorable Mention, "Tenosique Flood Observatory," Robert Cannavino, Nathan Dickman, Ambrose Luk, Adriana Ramos Hinojos, Gabriel Diaz-Montemayor, collaborators, <u>Arquine Design</u> <u>Competition</u>, March 2010.

"Detox Box," Nathan Dickman, Ambrose Luk, collaborators, <u>2010 Jardin de Metis International</u> <u>Garden Festival Design Competition</u>, December 2009.

"Moore Square Redesign," Robert Cannavino, Nathan Dickman, Ambrose Luk, collaborators, <u>Moore Square Design Competition</u>, September 2009.

"Skylines at the Equator," Kevin Hinders, Paul J. Armstrong, Emily Bateman, Cody Bornsheuer, Jeff Kansler, Mark Mitalski, collaborators, <u>EVOLO Skyscraper Competition 2009</u>, January 2009.

"Wave Garden," Kevin Hinders, collaborator, <u>10th International Garden Festival 2009 in Métis</u>, November 2008.

Honorable Mention, "Parque Del Lagos, Quito, Ecuador," Andy Wilcox, Kevin Hinders, Milagros Zingoni, Samantha Sears, Tyler Stradling, Gabriel Diaz-Montemayor, collaborators, <u>Parque del Lagos Competition</u>, October 2008.

**First Place,** Ken McCown project advisor on "Integrating Habitats," <u>2008 Wayne Grace Memorial</u> <u>Design Competition</u>, Benjamin McDowell, Tyler Stradling, Michael Nicoli, collaborators, July 2008.

"Nitrogen Bioreactor: Fuels from Farm Runoff," Ken McCown, Tyler Stradling, Will Iadevaia, collaborators, submitted to <u>Metropolis Magazine Next Competition</u>, February 2008.

**First Place,** Ken McCown project instructor on "Nature in Neighborhoods," <u>Metro Integrating</u> <u>Habitats Competition</u>, Benjamin McDowell, Tyler Stradling, Michael Nicoli, Todd Severson, students, December 2007.

Honorable Mention, Ken McCown project instructor on "Green Village," <u>Metro Integrating</u> <u>Habitats Competition</u>, Ashley Poulton, Juan A. Rodriguez Martin, Josh Trommler, Valeria Bravo, Brett Gehring, students, December 2007.

**Finalists,** Ken McCown project instructor on four exhibited projects for the re-use of Eagle Mountain Mine, Desert Center, CA in the "U.S. Green Buildings Council Emerging Talent Competition," Los Angeles, CA, June 2007.

"Build with Thine Own Hands," Wilcox, A., Haines, G., Del Rosario, G., Johnston, P., Wightman, R., collaborators, submitted to <u>Universal Sacred Space Competition</u>, February 2007.

"Seeing Green," Joan Woodward, Doug Delgado, Phil Pregill, Ande Lohla, Riaz Adaikkalam, Jessica Bagwell, Claire Goode, collaborators, submitted to <u>ASLA Awards Competition</u>, Planning Category, February 2007.

"Water Refineries / Pollution Ecologies," Ken McCown with Kevin Hinders, Gordon Haines, Andy Wilcox, submitted to <u>Pamphlet Architecture Competition 29</u>, January 2007.

"Barometer," Sam Jenniches, Gordon Haines, Gil Del Rosario, Patrick Johnston, collaborators, submitted to <u>Chicago Architectural Club 2007 Competition</u>, January 2007.

"36 Views of Silver Lake," Kevin Hinders, Andy Wilcox, collaborators, submitted to <u>ASLA Awards</u> <u>Competition</u>, Planning Category, June 2005.

"Broadway in Bloom," Angie Megert, Tori Kjer, Tavi Perttula, Claire Goode, collaborators, April 2004.

"Machu Picchu, Lodge in Cusco," Angie Megert, Tori Kjer, Tavi Perttula, Gregorio Barger, Claire Goode, collaborators, submitted February 2004.

**Recommended Scheme**, "Park for the 21st Century," <u>Graham Foundation Competition</u>, A. Megert, S. Storheim, T. Perttula, M. Murguia, G. Barger, collaborators, submitted December 2003.

**Finalist**, "Redevelopment of the Northern Osaka Train Station Area," Kevin Hinders, Taka Sato, Jeremy Person, collaborators, submitted January 2003.

"Civic: Los Angeles City Hall Downtown Plaza," Ezra Williams, Amy Hoffman, collaborators, December 2002.

"Gainesville Bike Trails," Terence Harkness, collaborator, submitted June 2002.

**Finalist, Award Winner,** "International TreeHouse Competition: Shelter for a TreeHouse Resort," Kevin Hinders, collaborator, March 2001.

Award of Merit, "Nature's Theatre: The NCR International Design Competition for the Amphitheater at Saluda Shoals Park," Jeffrey Poss, collaborator, February 2001.

"Seaside Ceremonial Landmark," Ken McCown with Matt Fordam, Lauren Leighty, Dan Ryan, Shawn Sinn, design team, submitted January 2001.

**Selected Scheme**, "Transformation and Renewal of the San Lorenzo area in Rome," Kevin Hinders, Kurt Baumgartner, and Varrki George, collaborators, Summer 2000.

"The San Francisco Prize: Harvey Milk Plaza," Dianne Harris, collaborator, August 2000.

"Dr. Martin Luther King Jr. National Memorial Competition," Kevin Hinders, collaborator, May 2000.

"Transitional Fusion: Dallas Transit District," Michael Hoffman and Jeannette Lenear, collaborators, 1999.

Honorable Mention, "The San Francisco University Gateway Plaza," Michael Loganbill, designer, Ken McCown academic instructor, 1999.

Honorable Mention, "Shelter Resorts," Kevin Hinders, collaborator, 1999.

"The Millennium Plaza: Place and No-Place," Kevin Hinders, collaborator, 1999.

Honorable Mention, "The Millennium Plaza: Remnant Spaces," Wheeling, IL. Michael Hoffman designer, Ken McCown academic instructor, 1999. (*exhibited at http://www.wheelingil.org/winners.htm*)

Third Place, "The Los Angeles Downtown Arts District Competition," with Kevin Hinders, 1999.

Finalist, "The Downtown that Never Was," Channahon, IL, Kevin Hinders, collaborator, 1998.

Third Place, Cultural Resources "Award for Installations," <u>Pentagon Environmental Awards</u> <u>Competition</u>, Suzanne Keith Loechl, P.I.C., 1996.

**Finalist, Kluesing Prize,** Award for integration of art and landscape presented by the University of Illinois Department of Landscape Architecture, 1992.

exhibitions/installations

*(three sukkah projects)* "Etrog, Lulav, Yachad" Anderson, J., Tucker, J. Dickinson, R. Willis, E., Frank, M. Wilson, M., collaborators, <u>Isaac Agree Downtown Synagogue and Eastern Market After Dark</u>, Detroit, MI, September, 2018.

"The Waiting Game - Carson Parklet," Anderson, J., primary collaborator, <u>Interior Design Educators'</u> <u>Council Creative Scholarship Annual Juried Competition</u>, Portland, OR, March 9-13, 2016.

"The Waiting Game/Carson Parklet," Anderson J., Zawarus, P., Osorio, J. principal collaborators, (several fabricators and installation team members: names available upon request - including facilitation from local AIA and ASLA chapters), Las Vegas, Nevada, April 25, 2015 - present.

"Cube," Klenk, A., Martin, A., Garcia, J., Hunter, W., and Weber, E., collaborators, <u>2014 Helsinki</u> <u>Guggenheim Museum Competition</u>, Kunsthalle, Helsinki, Finland, April 25 - May 16, 2015.

McCown, K., Anderson, J., Saghafi, N., Zawarus, P., project team members, "Yachad," in <u>Sukkah</u> <u>City STL</u>, Washington University main campus quadrangle, St. Louis, MO, October 5 - 12, 2014.

McCown, K., with Klenk, A., Martin A., project team members, "Manufacturing Main Street," in <u>White House Maker Faire</u>, White House, Washington, D.C., June 18, 2014.

McCown, K., Anderson, J., "Park(ing) Day 2013," in <u>Open Cities ACSA/AIK International</u> <u>Conference</u>, Seoul, Korea, June 21-23, 2014.

McCown, K., "UNLV Downtown Design Center," in <u>Greetings from Las Vegas</u>, exhibition at the Gateway Motel, Las Vegas, NV, December 5, 2013 (juried exhibition for arts organizations/artist working on sustainability in the desert regions).

McCown, K., Anderson, J., team leaders, Wolak, T., Ziegler, L., Tinoco, E., Martin, A., Duncomb, J., student collaborators, "Twist," <u>Park(ing) Day</u>, Las Vegas, NV, September 20, 2013.

McCown, K., Mossman, C. (Gensler), team leaders, Verlanic, B., Umanzor, Y., Saghafi, T., Olsen, D., Sanchez, A., Duncan, L., Gross, E., Le, T., Pattah, R., student collaborators, "U-Park Installation," <u>Park(ing) Day</u>, Las Vegas, NV, September 21, 2012.

McCown, K., Jestonen, J., team leaders, Allen, H., Budde, J., Carlton, B., Clouthier, C., Forbes, M., Kessel, W., Moore, J., Murdaugh, R., Murray, R., Rambo, S., Reed, B., Reindl, S., Robinson, F., Schultz, Z. Wilds, S., student collaborators, "Villa Wuorio," <u>Museum of Finnish Architecture</u>, Helsinki, Finland, as-built models and drawings submitted for permanent collection in 2012.

McCown, K., Sears, S., "In the Center: Sky - Earth - Horizon," <u>Council of Educators in Landscape</u> <u>Architecture 2012 Conference</u> (photography presented at ceremonies and galas, curated by Stephen Sears), Urbana, IL, March28-31, 2012.

"Digital Forest," Tallinn Architecture Biennale Street 2020 Competition, Kadriorg Art Museum, Tallinn, Estonia, September 9-25, 2011, Tricia Stuth, Ted Shelton, collaborators, Emily Dent, Phil Zawarus, Luke Murphree, Maudy Buidipradigdo, and Kate Armstrong, student assistants.

McCown, K., "Scottsdale Sustainable Systems Inventory," <u>IFLA 48th World Congress</u>, Zurich, Switzerland, June 27-29, 2011. (*poster presentation*)

McCown, K., "Analysis and Recommendations for Barrio Chino, Panama City, Panama," <u>IFLA 48th</u> <u>World Congress</u>, Zurich, Switzerland, June 27-29, 2011. (*poster presentation*)

McCown, K., "Scottsdale Sustainable Systems Inventory," <u>ACSA Annual Meeting</u>, Montréal, Québec, Canada, March 3-6, 2011. (*poster presentation*)

"Symbiotic Waste Union," <u>D3 Natural Systems 2009 Exhibition</u>, Grace Gallery, New York City, NY, McCown, K., principal advisor, Vizcaino, N., Jim, C., Quick, K., Crowley, C., student investigators, October 15-23, 2009. Gregory Marinic and Mary-Jo Schlacter, curators.

Multiple projects featured in: <u>Meet and Gr(eat) Faculty Exhibition: Kevin Hinders</u>, West Gallery, Temple Hoyne Buell Hall, Urbana, IL, September 28-October 9, 2009.

"Public Space as Catalyst for the Regeneration of South Los Angeles," <u>2009 Active Living Research</u> <u>Annual Conference</u>, San Diego, CA, McCown, K. and Woodward, J., principal advisors, Delgado, D., Pregill, P., advisors, Garcia, R., Lopez, S., Lum, L., Tabuena, A., student investigators, February 18-20, 2009.

McCown, K., "Integrating Habitats," <u>Council of Educators in Landscape Architecture 2009 Annual</u> <u>Conference</u>, Tucson, AZ, January 14-17, 2009.

McCown, K., "Disciplines in the Desert," <u>Council of Educators in Landscape Architecture 2009</u> <u>Annual Conference</u>, Tucson, AZ, January 14-17, 2009.

McCown, K., Andy Wilcox, Kevin Hinders, Milagros Zingoni, Samantha Sears, Tyler Stradling, Gabriel Diaz-Montemayor, collaborators, "Quito Airport, Quito, Ecuador," <u>Quito Urban Ideas</u> <u>Competition Exhibition</u>, October 2008.

"Transforming Urban Environments for a Post-Peak Oil Future," <u>Resilience 2008: Resilience,</u> <u>Adaptation and Transformation in Turbulent Times, International Science and Policy Conference</u>, Stockholm, Sweden, Joan Woodward, Isby Swick, Yarnie Chen, Matt Deines, Henry Fleischmann, Sonya Reed, Ken McCown, Doug Delgado, Phil Pregill, collaborators, April 14-17, 2008.

"Build with Thine Own Hands," <u>Design Communications Association 2007 Conference</u>, Ball State University, Muncie, IN, Andy Wilcox, Gordon Haines, Gil Del Rosario, Patrick Johnston, G. Russell Wightman, collaborators, September 12-15, 2007.

"Ivanhoe Water Refinery," <u>Design Communications Association 2007 Conference</u>, Ball State University, Muncie, IN, Andy Wilcox, collaborator, September 12-15, 2007.

"Silver Lake Canal," <u>Design Communications Association 2007 Conference</u>, Ball State University, Muncie, IN, Andy Wilcox, Kevin Hinders, collaborators, September 12-15, 2007.

Ken McCown project advisor on five exhibited projects: "Wetlands at Pershing Square' (Kai Craig), 'Salk Institute,' 'The Lookout,' 'Transparency,' Infinity' (Patrick Johnston)," <u>Design Communications Association</u> <u>2007 Conference</u>, Ball State University, Muncie, IN, collaborators, September 12-15, 2007.

Ken McCown project advisor on four exhibited projects: 'OHV Center,' 'Re-thinking Waste,' 'Nomadic Derive' and 'Stripping,' for the re-use of Eagle Mountain Mine, Desert Center, CA in the "U.S. Green Buildings Council Emerging Talent Competition," Los Angeles, CA. Southern California Institute of Architecture (SCI-Arc), June 2007.

"Peaking Without Oil: An Agricultural Plan for the City of San Buenaventura," <u>Agriculture at the Metropolitan Edge Symposium</u>. Center for Global Metropolitan Studies, University of California, Berkeley, Joan Woodward, Ken McCown, principal investigators, Isby Swick, Matt Deines, Sonya Reed, Yarnie Chen, Henry Fleischmann, collaborators, April 5-6, 2007.

"<u>Crossing the Drive, Chicago Architecture Club 2007 Competition</u>," Trading Room, Art Institute of Chicago, Sam Jenniches, Gordon Haines, Gil Del Rosario, Patrick Johnston, collaborators, January 2007-February 2007. (*Featured competition entry*)

"<u>Treehouses in Paradise, Fantasy Designs for the 21st Century</u>," Pacific Design Center, Los Angeles, CA, Kevin Hinders, collaborator, June 9-July 31, 2006. (*Featured competition entry*)

"36 Views of Silverlake Reservoir," <u>1st Annual International Landscape Studies Conference</u>, Tongji University, Shanghai, China, Andy Wilcox, Kevin Hinders, collaborators, October 28-29, 2005.

"Broadway in Bloom," <u>Municipal Arts Society</u>, New York, NY, Angie Megert, Tori Kjer, Tavi Perttula, Claire Goode, collaborators, May 7-June 7, 2004.

Web site exhibition at *www.arquitectum.com*, "Machu Picchu, Lodge in Cusco," Angie Megert, Tori Kjer, Tavi Perttula, Gregorio Barger, Claire Goode, collaborators, submitted February 2004.

"Park for the 21st Century," Graham Foundation Competition, <u>Chicago Architecture Foundation</u>, March 26-May 2, 2004.

"Civic: L. A. City Hall Downtown Plaza," Gallery 727, Los Angeles, CA, May 20 - June 28, 2003.

"Redevelopment of the Northern Osaka Train Station Area," <u>TN Probe</u>, Osaka and Tokyo, Japan, March and June, 2003.

"Taj Mahal Riverfront Park," University of Illinois, Department of Landscape Architecture, <u>International Federation of Landscape Architecture Annual Conference</u>, Calgary, Alberta, May 25-29, 2003.

"Nature's Theatre: The NCR International Design Competition for the Amphitheater at Saluda Shoals Park," <u>Columbia Civic Center</u>, Columbia, SC, Summer 2001.

"Transformation and Renewal of the San Lorenzo Area in Rome," Kevin Hinders, Kurt Baumgartner, Varrki George, collaborators, Summer 2000, selected for exhibition and publication.

"Competitions," <u>Department of Architecture Faculty Exhibit</u>: Jeff Poss, Kevin Hinders and Ken McCown, <u>Temple Hoyne Buell Hall Architecture Gallery</u>, University of Illinois at Urbana-Champaign, Spring 2000.

"Campus Gateway," San Francisco Gate Competition, <u>San Francisco State University Library</u>, San Francisco, CA, Spring 2000.

"An Urban Village," Save the Downtown Arts District Competition, <u>Action: Space</u>, Los Angeles, CA, March 6-20, 1999.

"Campustown 2000," <u>24th International Making Cities Livable Conference</u>, St. Augustine, FL, March 8-12, 1999.

"A Prairie Settlement: The Agrarian View," <u>24th International Making Cities Livable Conference</u>, St. Augustine, FL, March 8-12, 1999.

"Eco-Revelatory Exhibition," <u>Temple Hoyne Buell Hall Architecture Gallery</u>, University of Illinois at Urbana-Champaign, September 28-October 20, 1998. <u>Chicago Botanic Garden</u>, Chicago, IL, March 6-April 19, 1999. <u>Boston Architectural Center</u>, concurrent with ASLA convention, September 12 -October 15, 1999. Iowa State University, Ames, IA, February 2000. <u>Smithsonian</u> <u>National Building Museum</u>, Washington D.C., Summer 2000. Ken McCown, exhibit constructor, T. Harkness, B. Randall, H. Hentschel, D. Johnston, collaborators.

"Foothill Mountain Observatory," project in Eco-Revelatory Exhibition, Terry Harkness, P.I.C.

"Channahon Village Center," The Downtown That Never Was, <u>Channahon, IL Community Center</u>, Channahon, IL, May 1998.

"Campustown 2000," Faculty Ten Exhibit, <u>Temple Hoyne Buell Architecture Gallery</u>, University of Illinois at Urbana-Champaign, May 1998. Kevin Hinders, P.I.C.

reports

McCown, K., "Southern Nevada Inventory of Sustainable Systems." An atlas of the Las Vegas Valley to prepare a resilience plan for the metropolitan region. 280 pages.

Samuels, L. project director, McCown, K., Boyer, J., co-prinicpal project partners., "I-11 Supercorridor: A Next Generation Infrastructure Case Study." 181 pages. (*Arizona Department of Transportation and the Sonoran Institute use this work in presentations related to the Interstate 11 Corridor*) (forthcoming) McCown, K., "An Urban Design Plan for the Vulcan Site and West Side District." This report contains analysis of West Side District and abandoned Vulcan Materials Site in Chattanooga, TN. Report for the Lyndhurst Foundation and River City Company for public outreach. 87 pages.

Vermillion J., McCown, K., (Zawarus, P. graphics editor) "Everyone Deserves a Roof 2.0: A Study for a Portable Homeless Shelter." This report contains design thinking, process and documentation of prototypes built for a mobile unit for the homeless. 2014. 33 pages

McCown, K., "Sustainable Systems Inventory: Scottsdale, Arizona." This report contains analysis of critical urban systems in the City of Scottsdale - water, energy, transportation, agriculture, ecosystems, policy and waste - to understand how to respond to critical trends affecting the city's residents and systems. The report also contains design projects for sustainable sites within the city. 2010. 337 pages.

McCown, K., (ed.), "An Analysis and Recommendations for Barrio Chino, Panama City, Panama for the Oficina de Casco Antiguo." This report contains an analysis and planning recommendations for Chinatown in Panama City, Panama for UNESCO. 2008. 107 pages.

McCown, K., Woodward, J., Delgado, D., Pregill, P., (eds.), "Peaking Without Oil: A Plan for the City of San Buenaventura." This report contains an analysis and planning recommendations for the City of San Buenaventura, CA for a response to a Peak Oil condition. 2007. 278 pages.

McCown, K., Woodward, J., Delgado, D., Pregill, P., (eds.), "Urban Ecotones." This report includes a recommendation to Riverside County, CA and the City of Riverside, CA for an urban growth boundary to preserve essential life support systems including habitat and water. Within the growth boundary, recommendations establish a sustainable and regenerative infrastructure for housing, transportation, energy and water. 2007. 260 pages.

McCown, K., Woodward, J., Delgado, D., Pregill, P., (eds.), "Kids at the Creek." This report includes an analysis and plan of Chollas Creek and adjacent neighborhoods in San Diego, CA. The purpose of the plan is to engage children in natural experiences in an area with few parks by rehabilitating the major waterway that runs through the neighborhoods. Ken McCown was co-principal investigator involved in all aspects of this project. 2007. 338 pages.

McCown, K., Woodward, J., Delgado, D., Pregill, P., (eds.), "Public Space Plan for South Los Angeles." This report includes an analysis and plan of a Council District in the South Los Angeles Neighborhood (historically known as South Central) for public space rehabilitation. It provides a method for analyzing public space for environmental health, and demonstrates design principles through a case study/development along the Slauson Corridor. Ken McCown was co-principal investigator involved in all aspects of this project. 2007. 283 pages.

McCown, K., Woodward, J., Delgado, D., Pregill, P., (eds.), "Del Rey Lagoon Master Plan." This plan provides a plan and design for the Del Rey Lagoon, Marina Del Rey, CA. Ken McCown was co-principal investigator involved in all aspects of this project. 2007. 275 pages.

McCown, K., Woodward, J., Delgado, D., Pregill, P., (eds.), "Green Linkages: A Vision for the City of West Covina." This plan provides a set of standards and guidelines for a regenerative public infrastructure in West Covina, CA. This report gives principles for development, a city plan, and demonstration of application through case study sites in West Covina. Ken McCown was co-principal investigator involved in all aspects of this project. 2007. 224 pages.

McCown, K., Woodward, J., Delgado, D., Pregill, P., (eds.), "Master Plan for R-Ranch in the Sequioas." This plan examines the sustainability and regeneration of lands in joint ownership in the Sequioas, adjacent to national park lands. The plan provides strategies and principles for long-term environmental management of the natural resources in the development area. Ken McCown was co-principal investigator involved in all aspects of this project. 2007. 310 pages.

McCown, K., Woodward, J., Delgado, D., Pregill, P., (eds.), "Seeing Green: Grounds for a Renewed Urban Infrastructure." This document works to augment the Coyote Creek Watershed Management Plan of the City of Orange, CA. It streamlines policy for green development by eliminating conflict between agencies and precincts. It provides guidelines for the redevelopment of lands in the watershed, demonstrating these regenerative design ideas in a project in La Habra, CA. Ken McCown was coprincipal investigator involved in all aspects of this project. 2006. 204 pages.

Pellegrino, Paulo, Taylor, James (eds.), "Brazilian Capacity Building Programme for Landscape Architecture." A report on an international program funded by UNESCO. This program brought in landscape architecture professionals from around the world to teach landscape architecture courses at FUPAM in Brazil. These courses would set up a curriculum of landscape architecture in Brazil,

which had no schools or profession of landscape architecture. Ken McCown taught the 'Reading the Landscape' course, in July 2005. 31 pages.

McCown, K., Peters, B. (eds.), "Urban Redevelopment for El Chorrillo." A report prepared by the Department of Architecture, Penn State University and the College of Environmental Design, California Polytechnic State University, Pomona. Ken McCown was a team member responsible for writing, photography, urban design, and illustrative drawings of the El Chorrillo Urban Redevelopment Master Plan for UNESCO and the Ministry of Housing of the Panamanian Government. 2005. 102 pages.

Hoffman, M. (ed.), "Taj National Park and Cultural Heritage District Development Plan and Report." A report prepared by the Department of Landscape Architecture, University of Illinois at Urbana-Champaign. Ken McCown was a team member responsible for photography, landscape planning, illustrative drawings, and urban design of the riverfront area. 2000. 64 pages.

Loechl, Suzanne (ed.), "Historic Landscape Inventory for the United States Military Academy at West Point, New York." A report prepared by the Department of Cultural Resources of the United States Corps of Engineers Construction Research Laboratory in Champaign, IL. Ken McCown assisted in researching historic maps in order to categorize periods of growth at the Academy. Based upon this research, Ken prepared maps illustrating the development of the Academy during each era of growth. 1997. 100 pages.

Loechl, Suzanne (ed.), "Historic Landscape Management Plan for the United States Military Academy at West Point, New York." A report prepared by the Department of Cultural Resources of the United States Corps of Engineers Construction Research Laboratory in Champaign, IL. Ken McCown created master plans, guiding future growth for historic landscape areas such as the Parade Grounds, Thayer Pedestrian Walk, and the South Fill. 1997. 48 pages.

Hinders, K. (ed.), "Campustown Revitalization Plan; Drainage, Public Improvements and Appearance Subcommittee of the Campustown 2000 Task Force." A report prepared by the Office of Facility Planning and Management, University of Illinois at Urbana-Champaign. Ken McCown was a team member responsible for public surveys, landscape planning, illustrative drawings, and urban design of the Campustown area. 1996. 69 pages.

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Schultz, Bailey. "'Under cover' indoor farming industry takes root in Nevada," <u>Las Vegas Review</u> Journal, June 16, 2018. (article notes Southern Nevada Inventory of Sustainable Systems) <u>https://</u> www.reviewjournal.com/business/under-cover-indoor-farming-industry-takes-root-in-nevada/

Billick, K. "Urban Design Professional Practice Survey Results," "City Square/Power Strip project featured at bottom of page on <u>The Field</u>. *https://thefield.asla.org/2017/11/09/urban-design-professional-practice-network-survey-results*, November 9, 2017

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Brause, C., "The Designer's Field Guide to Collaboration," Routledge, New York, New York, 2017. Ken McCown's collaborative work cited on pp 77-79.

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Perrigo, T., "Energy Exchange: Federal Sustainability for the Next Decade Conference," U.S. Department of Energy, Phoenix Convention Center, August 11 - 13, 2015. Phoenix, Arizona. (Southern Nevada Inventory of Sustainable Systems) presented within the 'Climate Adaption Planning' session. (several other regional and national presentations of this project by Mr. Perrigo, list available upon request)

U.S. Department of Energy Author not noted, "Best Little Park That Could," <u>Vegas Seven</u>, Best of the City Issue 2015, July 20, 2015. *http://vegasseven.com/best-of-the-city-2015/community-culture/best-little-park/* 

Bliss, Michelle, "Tiny Public Parks Force Urban, Natural Worlds To Collide," KUNR (NPR), July 20, 2015. http://kunr.org/post/tiny-public-parks-force-urban-natural-worlds-collide?utm\_ content=bufferbaaa9&utm\_medium=social&utm\_source=linkedin.com&utm\_campaign=buffer (also featured on the radio, podcast on webpage)

Chidester, Eva, "Nevada's first pop-up park coming to downtown Las Vegas," Las Vegas Sun, April 17, 2015, page 1 and 4. (front page of paper with photo) http://lasvegassun.com/news/2015/apr/17/ nevadas-first-pop--park-comes/ (also featured on morning, evening and late evening news on Fox (+Fox latino), CBS, ABC and NBC segments, links or video available upon request)

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Willis, Stacy, "Designing a Rebel Roof," <u>Vegas Seven</u>, April 17 - 23, 2014 issue. page 16. (EDAR unit featured) *http://vegasseven.com/2014/04/15/rebels-chance-shelter-homeless/* 

Holmes, Damian, "University of Nevada, Las Vegas Downtown Design Center - Power Strip / City Square," <u>World Landscape Architecture</u>, posted in November, 2013. *http://worldlandscapearchitect. com/power-strip-city-square-las-vegas-usa-unlv-downtown-design-center/#.UwjnIkJdXsM* 

Rolley, S., ed., "CELA Taskforce on STEM Education Report to ASLA COE," 2013. Ken McCown projects invited for inclusion: Scottsdale Sustainable Systems Inventory, Pollution Ecologies, Peak Oil Plan for the City of San Buenaventura, CA.

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Harkness, T., Sinha, A., "Views of the Taj: Figure in the Landscape," <u>Landscape Journal</u>, Volume 28, Number 2, 2009, pages 198-217.

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"Eco-Revelatory Exhibition, Foothill Mountain Observatory," Landscape Journal, Spring 1999.

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McCown, K., ""The Genius of the Place": Frederick Law Olmsted, Landscape Architecture and Arkansas," Central Arkansas Library System sponsored online event. McCown, K. served as moderator and introductory speaker. Hosted from Little Rock, AR, April 14, 2022.

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McCown, K. "Big Data and Bricolage," <u>Rowe Rome 2017 Conference</u>, University of Sapienza, Rome, Italy, June, 20-23, 2017.

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McCown, K., (et.al) "Future Directions in Landscape Architecture - A CELA Perspective," ASLA 2014 Board of Trustees Meeting at the ASLA National Conference - Resilience, Denver Convention Center, Denver, CO, November 17, 2014.

McCown, K., Ego, H., Hunter, W., Saghafi, N., Van Diepen, R., "Southern Nevada Inventory of Sustainable Systems," <u>State of Nevada American Planning Association Conference</u>, Las Vegas, NV, October 12-15, 2014.

McCown, K., Ego, H., "Southern Nevada Inventory of Sustainable Systems: Water Resources and Community Resiliency," <u>Watersmart Innovations Conference</u>, Las Vegas, NV, October 7-10, 2014. (*interactive poster presentation session*)

Gann, A., McCown, K., "UNLV Downtown Design Center - Interstate 11 Pilot Study," <u>National</u> <u>Transportation Institute</u>, Las Vegas, NV, July 17, 2014.

McCown, K., Anderson, J., "Park(ing) Day 2013," <u>Open Cities: The New Post Industrial World</u> <u>Order: ACSA /AIK Annual International Conference</u>, Seoul, Korea, June 21 - 23, 2014. (exhibited on web at: http://www.acsa-arch.org/programs-events/conferences/international-conference/2014international-conference/research-design-projects) McCown, K., "Richard Neutra: What Should Neighbors Have Thought?," <u>Las Vegas Preservation</u> <u>Organization Lecture Series</u>, Las Vegas, NV, May 9, 2014.

McCown, K., "The Sustainability Atlas," <u>TEDxUNLV</u>, Las Vegas, NV, April 11, 2014.

McCown, K., "The Las Vegas Sustainability Atlas," <u>Convene For Green</u>, Las Vegas Springs Preserve, Las Vegas, NV, April 5, 2014.

Anderson, J., McCown, K., Zawarus, P., "Making as Applied Creative Thinking and its Effect on the Synthetic Landscape," <u>CELA Annual Meeting: Landscape, City, Community</u>, Baltimore, MD, March 26-29, 2014.

McCown, K., "City as Start Up - Learning from Las Vegas Again," <u>CELA Annual Meeting:</u> <u>Landscape, City, Community</u>, Baltimore, MD, March 26-29, 2014.

McCown, K., Zawarus, P., "Animating Landscapes: Communicating Sustainable Design through Dynamic Visualization," <u>CELA Annual Meeting: Landscape, City, Community</u>, Baltimore, MD, March 26-29, 2014.

McCown, K., Zawarus, P., "Animating Landscapes: Communicating Sustainable Design through Dynamic Visualization," <u>Hawai'ian International Conference on the Arts and Humanities</u>, Honolulu, HI, January 10-16, 2014.

McCown, K., "How Cities Work," <u>Interstate 11 Summit</u> sponsored by University of Arizona Renewable Energy Network, and Arizona State University Global Institute of Sustainability (with Arizona Department of Transportation and the Sonoran Institute), Tempe, AZ, February 1, 2014.

McCown, K., "The Sustainability Atlas," <u>Connecting For Change; ASPA/YNPN/APA/UNLV</u> <u>Conference</u>, Henderson, NV, December 5, 2013.

McCown, K., "Integrating Disciplines and Teaching Relationships Between Ecology, Experience and Design Through Time and Process," <u>CELA Annual Meeting: Space, Time and Duration</u>, Austin, Texas, March 27-30, 2013.

McCown, K., "University of Tennessee Landscape Architecture Program," <u>Tennessee ASLA Annual</u> <u>Conference</u>, Knoxville, TN, October 21, 2012.

McCown, K., "3 Stories of the Environmental Histories of Sonoran Desert Cities", <u>American Society</u> of Environmental Historians Annual Conference, Tempe, AZ, April 12-17, 2011.

McCown, K., "Scottsdale Sustainable Systems Inventory," <u>CELA 2011 Annual Conference</u>, Los Angeles, CA, March 30-April 2, 2011. (*published in proceedings*)

McCown, K., "Scottsdale Sustainable Systems Inventory," <u>Resilience 2011 Annual Conference</u>, Tempe, AZ, March 11-16, 2011.

McCown, K., "Peak Oil, Phenomena, Phenologies," <u>Nashville Civic Design Center - Urban Design</u> <u>Forum</u>, Nashville, TN, October 21, 2010.

McCown, K., "Pollution Ecologies," <u>CELA/ISOMUL International Conference 2009-2010</u>, Maastricht, The Netherlands, May 12-14, 2010.

McCown, K., "Modern Directions," <u>CELA/ISOMUL International Conference 2009-2010</u>, Maastricht, The Netherlands, May 12-14, 2010.

McCown, K., "Panama City, Panama: A Case Study in Ecology as a Foundation for Urban Design," <u>Urban Ecology & Ecological Design: Perspectives in Integration & Future Directions</u>, Christchurch, New Zealand, November 17-19, 2009.

McCown, K., Hinders, K., "Pollution Ecologies," <u>Urban Ecology & Ecological Design: Perspectives</u> in Integration & Future Directions, Christchurch, New Zealand, November 17-19, 2009.

McCown, K., Hoffman, D., Meunier, J., Boradkar, P., Ewan, J., "Sustainable Urbanism and Design: New Directions in Research and Practice," <u>United States Green Buildings Council 2009 Conference</u>, Phoenix, AZ, November 11-14, 2009.

McCown, K., with Quick, K., Vizcaino, N., Jim, C., "Symbiotic Waste Union," <u>American Public</u> <u>Works Association / Arizona Recycling Coalition 2009 Conference</u>, Phoenix, AZ, August 17, 2009.

Woodward, J., Scarfo, B., McCown, K., "Peak Oil Pedagogy," <u>Council of Educators in Landscape</u> <u>Architecture 2009 Annual Conference</u>, Tucson, AZ, January 14-17, 2009.

McCown, K., "That Other Cycle: Nitrogen," <u>Council of Educators in Landscape Architecture 2009</u> <u>Annual Conference</u>, Tucson, AZ, January 14-17, 2009. McCown, K., "Historic Landscape Master Plan of the Richard and Dion Neutra VDL Research House II," <u>Council of Educators in Landscape Architecture 2009 Annual Conference</u>, Tucson, AZ, January 14-17, 2009.

McCown, K. (invited speaker and panelist), "Local Urban Design," <u>Reimagining Cities:</u> <u>Urban</u> <u>Design After the Age of Oil</u>, University of Pennsylvania, Philadelphia, PA, November 6-8, 2008.

McCown, K., Levinson, N., "Peak Oil Phoenix," <u>APA Climate Change Professional Development</u> <u>Workshop</u>, Phoenix Convention Center, Phoenix, AZ, October 24, 2008.

McCown, K., "Lost in Translation: Meanings/Material/Markings," <u>Material Matters: Making</u> <u>Architecture: ACSA West Conference</u>, University of Southern California, Los Angeles, October 16-19, 2008. (*published in proceedings*)

McCown, K., Levinson, N., "Peak Oil Phoenix," <u>Green Summit</u>, Phoenix Convention Center, Phoenix, AZ, September 5-7, 2008.

McCown, K., "Recapturing a Waterfront: Panama City, Panama," <u>45th IFLA World Congress of</u> <u>the International Federation of Landscape Architects: Transforming with Water</u>, Apeldoorn, The Netherlands, June 30-July 3, 2008. (*edited version published in proceedings*)

McCown, K., "Making the Desert Bloom: Mojave 2057," <u>45th IFLA World Congress of the</u> <u>International Federation of Landscape Architects:</u> <u>Transforming with Water</u>, Apeldoorn, The Netherlands, June 30-July 3, 2008. (*edited version published in proceedings*)

McCown, K., "Hydrological Systems," invited presentation to Skidmore, Owings and Merill planning and design division, Chicago, IL, March 10, 2008.

McCown, K., "Water Refineries / Pollution Ecologies," <u>U.S. Green Buildings Conference</u>, Chicago, IL, November 7-9, 2007.

McCown, K., "Effects upon Mixed-Use Development by Public Sector Management of Ecological Resources in Southern California," <u>International Symposium for the Daejeon Urban Renaissance</u> <u>Development Competition</u>, Daejeon and Seoul, Korea, October 11-15, 2007. (*published in proceedings*)

(accepted, unpresented) McCown, K., Woodward, J., Delgado, D., Pregill, P., Deines, M., Fleischmann, H., Swick, E., Chen, Y., Reed, S. "Urban Design after Peak Oil," <u>51st IFHP World Congress</u>, Copenhagen, Denmark, September 23-26, 2007.

Apostol, I., McCown, K., "Teaching the Dialectics of Design to Problem Solving Practitioners," <u>Association of European Schools of Planning 2007 Conference</u>, Naples, Italy, July 11-14, 2007. (*published in proceedings*)

McCown, K., "Richard Neutra's Silver Lake: The Legacy of Experimentation," <u>32<sup>nd</sup> Annual</u> <u>California Preservation Conference</u>, Los Angeles, CA, May 4, 2007.

abbreviated list of architecture university groups and professional architecture firms delivered lectures/ presentations of Richard and Dion Neutra VDL Research House II: AIA Los Angeles, Arizona State University, Art Center - Pasadena, Auburn University, Cal Poly SLO, Georgia Institute of Technology, Harvey Mudd College, Illinois Institute of Technology, Japan Institute of Architects Executive Board and members, Johnson Fain, Marmol Radziner, New Jersey Institute of Technology, New School, Otis College of Art and Design, Pasadena Community College, Penn State University, Texas Tech University, The Catholic University of America, Tulane University, UNITEC - New Zealand, University of Arkansas, University of Calgary, University of California - Berkeley, University of California Los Angeles, University of Idaho, University of New Mexico, University of Southern California, Woodbury University.

Goode, C., McCown, K., "Six Principles of Policy and Design: An Approach to Seeing Green," <u>Hawai'ian International Conference on the Arts and Humanities</u>, Honolulu, HI, January 12-15, 2007. (*published in proceedings*)

McCown, K., "Using Digital Tools Critically in Landscape Design," <u>Hawai'ian International</u> <u>Conference on the Arts and Humanities</u>, Honolulu, HI, January 12-15, 2007.

McCown, K., "Digital Tools as an Evaluative Model for Design," <u>CELA International Conference</u> 2006, Vancouver, Canada, June 14-18, 2006.

McCown, K., Hinders, K., Wilcox, A., "Regenerating Los Angeles: 36 Views of Silver Lake Reservoir," <u>CELA International Conference 2006</u>, Vancouver, Canada, June 14-18, 2006.

McCown, K., "Richard Neutra: Housing Healthy Communities," <u>MOCA After Dark Series</u>, Los Angeles Museum of Contemporary Art, Lecture at Poster Apartments, North Hollywood, CA, May 27, 2006.

McCown, K., "The Richard and Dion Neutra VDL Research House II," <u>USC Getty Arts Fellowship</u> <u>Program</u>, Lecture at the Neutra VDL House, Silverlake, CA, May 20, 2006.

McCown, K., Hinders, K., Wilcox, A., "Regenerating Los Angeles: 36 Views of Silver Lake Reservoir," <u>Eco Waves Conference</u>, San Francisco, CA, January 13-15, 2006.

McCown, K., Hinders, K., Wilcox, A., "Regenerating Los Angeles: 36 Views of Silver Lake Reservoir," <u>International Federation of Landscape Architecture Annual Conference</u>, Miraflores, Lima, Peru, November 3-5, 2005. (*published in proceedings*)

McCown, K., Wilcox, A., "Topography: Indexed, Poised Revealed," <u>CELA International Conference</u> 2005, Athens, GA, September 21-24, 2005.

McCown, K., "Encounters with the Past: Sustainable Tourism in Agra, India," <u>ACSA International</u> <u>Conference</u>, Mexico City, June 9-12, 2005. (*published in proceedings*)

McCown, K., "Sweetness and Light," <u>Rutgers University Department of Landscape Architecture</u> <u>Spring Lecture Series</u>, New Brunswick, NJ, March 24, 2005.

Hinders, K., McCown, K., "An Analysis of the International Treehouse Resort Competition," <u>Hawai'ian International Conference on the Arts and Humanities</u>, Honolulu, HI, January 13-16, 2005.

McCown, K., "Looking Past Form to the Past," <u>CELA International Conference 2004</u>, Christchurch, New Zealand, June 24-28, 2004.

McCown, K., "Sweetness and Light," <u>Auburn University School of Architecture Spring Lecture</u> <u>Series</u>, Auburn, AL, April 5, 2004.

McCown, K., Rock, R., "One to One: Full Scale Design Implementation and the Unseen Process," <u>Design Communication Association Conference</u>, San Luis Obispo, January 7, 2004. (*published in proceedings*)

McCown, K., "Looking Outside of the Box: Methods for an Interdisciplinary Design Process," <u>ACSA Southwest Regional Meeting</u>, Houston, TX, November 14, 2003. (*published in proceedings*)

McCown, K., "Green since 1933, The Richard and Dion Neutra VDL Research House," <u>U.S. Green</u> <u>Buildings Council GreenBuild Conference & Expo</u>, Pittsburgh, PA, November 12, 2003.

McCown, K., Hinders, K., "The Cutting Edge: Portable Resorts for Tropical Environments," <u>International Federation of Landscape Architecture Annual Conference</u>, Calgary, Alberta, May 25-29, 2003. (*published in proceedings*)

McCown, K., Farberow, H., "Multi-Disciplinary Collaboratively Taught Studios," <u>Conference on the</u> <u>Beginning Design Student</u>, Oklahoma State University, Stillwater, OK, April 3-5, 2003. (*published in proceedings*)

McCown, K., "The Fox and the Hedgehog," California Polytechnic University, <u>Department of</u> <u>Architecture Lecture Series</u>, Pomona, CA, February 17, 2003.

McCown, K., "Articulations," California Polytechnic University, Department of Landscape Architecture, Pomona, CA, May 29, 2002.

McCown, K., "Articulations," Design Workshop, Denver and Aspen, CO, May 8-9, 2002.

Hinders, K., McCown, K., "Design/Build in the International Setting," <u>ACSA International</u> <u>Conference</u>, Istanbul, Turkey, June 15-19, 2001. (*published in proceedings*)

Hinders, K., McCown, K., "Copper Design/Build Charette," <u>ACSA West Central Regional</u> <u>Meeting</u>, Springfield, MO, October 20-22, 2000. (*published in proceedings*)

McCown, K., "A Prairie Settlement: The Agrarian View," <u>ACSA West Central Regional Meeting</u>, Fargo, ND, September 24-26, 1999. (*published in proceedings*)

McCown, K., "Intersections," Louisiana State University School of Landscape Architecture, Baton Rouge, LA, March 27, 1999.

McCown, K., "A Prairie Settlement: The Agrarian View," <u>24th International Making Cities Livable</u> <u>Conference</u>, St. Augustine, FL, March 8-12, 1999. (*published in proceedings*)

#### service/critic/moderator

*Invited Juror*, <u>30 Crossing Design Competition</u>, Little Rock, AR, August 2022. (run by StudioMAIN)

*Steering Committee Member,* Sun Belt Urban Research Initiative, <u>Kinder Institute for Urban Research,</u> <u>Rice University</u> with Arizona State University, USC, UCLA, UNC, et. al., September 2016 - .

Invited Juror, Obama Presidential Center Competition, Chicago, IL, April 2016. (run by Arcbazar)

Invited Panelist and Design Review Team Member, for Kum and Go Headquarters (RDG and Renzo Piano), Des Moines, IA, January - June 2016.

Invited Reviewer, Arizona State University, urban design studio, Tempe, AZ, December 9, 2015.

*Invited Reviewer*, University of Illinois at Urbana-Champaign, Chicago Urban Design studio, Chicago, IL, November 5, 2015.

*Invited Reviewer*, University of Arkansas Department of Landscape Architecture, Curriculum review with faculty, Spring Semester 2015 work, Fayetteville, Arkansas, April 20, 2015.

*Invited Juror*, <u>HUD/EDA Sponsored Las Vegas Strong Cities</u>, Strong Communities Challenge, City of Las Vegas, Nevada, Fall 2014.

*Curator*, (co-principal investigator with principal investigator David Gould from the University of Iowa), <u>UNLV - University of Iowa Faculty Institute at the Downtown Project</u>, City of Las Vegas, Nevada, May 29-31, 2014. (event to establish service learning and research teams focused upon social entrepreneurship in Las Vegas, 20 faculty invited Downtown Project, sponsor, \$10,000 financial and in-kind support)

*Visiting Critic,* University of Arizona College of Architecture and Landscape Architecture, Tucson, AZ, March 7, 2014.

*Visiting Critic*, University of Texas-Arlington Landscape Architecture program, Arlington, TX, April 29, 2014.

Invited Panelist, TEDx UNLV Panel on Sustainability, University of Nevada, Las Vegas, April 9, 2014.

*Visiting Critic,* University of New Mexico, Albuquerque, NM, Architecture Fall final reviews 2013 (also gave presentation on UNLV Downtown Design Center).

Committee Member, American Institute of Architects, Las Vegas Chapter COTE, October 2013-2015.

Invited Juror, Mayor's Urban Design Award, City of Las Vegas, Nevada, 2013, 2014.

*Curator / Host / Sponsor*, <u>21: A Pecha Kucha Night of UNLV Faculty Presenting in the Community</u>, Downtown Project's Learning Village, Las Vegas, Nevada, October 15, 2013.

*Invited Participant (by national competition),* 'Cities of Tomorrow: Arizona State Walton Sustainability Solutions Sandpit Competition,' Cave Creek, AZ August 11-14, 2013.

*Exemplary Work Submittal*, ASLA STEM Lobby to the White House, Scottsdale Sustainable Systems Inventory, Pollution Ecologies and Peak Oil Ventura Reports used in document sent to federal government to lobby for landscape architecture as a STEM discipline, July, 2013.

*Invited Studio Critic/Lecturer,* Human Settlements Studio, KU Leuven, Department of Architecture, Urbanism and Planning, June 10, 2013.

Juror, State ASLA Awards (Idaho, Montana, Utah) awards programs Spring/Summer, 2013.

President / Executive Board Member, Council of Educators in Landscape Architecture, March 2013 - March 2016.

Manuscript Reviewer, Landscape Journal, 2012-. (also book proposals at Wiley Press, 2008 - present)

*Invited Visiting Studio Critic/Lecturer*, Arizona State University, architecture and landscape architecture, December 6, 2012.

*Invited Visiting Studio Critic/Lecturer*, Penn State University, architecture and landscape architecture, March 29-April 6, 2012.

Invited Jury Member, "Horton Plaza v3.0: Open Ideas Urban re-Design Competition 2011."

*Reviewer*, Sustainability Track, <u>CELA Conferences</u>, 2009, 2010, 2011, 2012.

*Invited Visiting Critic/Lecturer, "*Elementos de Arquitectura de Paisaje," Universidad De Monterrey, March 14-April 6, 2011.

Visiting Critic, Arizona State University, The Design School, Tempe, AZ, several visits, Spring 2011.

*Invited Panelist*, Landscape Journal - Multifunctional Landscapes Session, <u>Urban/Nature: 2011</u> <u>Council of Educators Conference</u>, Los Angeles, March 30 - April 2, 2011.

service/critic/moderator

(continued)

Treasurer / Executive Board Member, Council of Educators in Landscape Architecture, March 2011 - 2013.

*Visiting Critic*, University of Illinois at Urbana-Champaign, School of Architecture, Urbana, IL, Final Reviews, Plym Studio - Juhani Pallasmaa, December 2010.

Representative/Director, Region 6, Council of Educators in Landscape Architecture, 2010 - 2011.

Plenary Panelist, closing session, <u>Urban Ecology & Ecological Design: Perspectives in Integration &</u> <u>Future Directions</u>, Christchurch, New Zealand, November 17-19, 2009.

Member, Scientific Committee, International Federation of Landscape Architects 2009 Conference: Green Infrastructure: High Performance Landscapes.

*Reviewer*, Region and Community Committee, <u>United States Green Buildings Council Conference</u>, February 2009.

Discussant, "Design Implementation," CELA Annual Meeting, Tucson, AZ, January 14-17, 2009.

Critic, University of Arizona, School of Architecture, Tucson, AZ, Final Reviews, December 2008.

Representative/Director, Region 2, Council of Educators in Landscape Architecture, 2008 - 2010.

*Visiting Professor, "Capture a Moment, Design Representation" <u>Cal Poly Pomona, Department of</u> <u>Landscape Architecture Modules Week</u>, Pomona, CA, April 28-May 2, 2008.* 

*Curator, Moderator, "Landscape Architecture in 2057," <u>Cal Poly Pomona Department of Landscape Architecture 50th Anniversary: Expanding Terrain</u>, Pomona, CA, April 28, 2007.* 

*Moderator, "Landscape Architecture," <u>Hawai'ian International Conference on the Arts and</u> <u>Humanities</u>, Honolulu, HI, January 12-15, 2007.* 

*Visiting Professor, "Water Refineries," John Tillman Lyle Center for Regenerative Studies, Cal Poly Pomona, Fall Quarter, 2006.* 

*Visiting Critic,* The Pennsylvania State University, School of Architecture Summer Program, Casco Viejo, Panama, Final Reviews, June 2006.

*Visiting Critic*, The University Santa Maria Antigua, School of Architecture, Panama City, Panama, Final Studio Reviews, June 2006.

Moderator, "Shifting Ground," CELA Annual Meeting, Vancouver, Canada, July 14-18, 2006.

Reviewer, Sustainable Sites Committee, United States Green Buildings Council Conference, 2006.

*Visiting Critic*, The Ohio State University, Austin E. Knowlton School of Architecture, Winter Quarter Final Project Reviews, March 2006.

*Reviewer*, Architectural Design Drawings, Undergraduate Category, Design Communications Association, July 2005.

*Visiting Professor,* "Urban Infrastructure, Architectural Relations and Landscape Reading," University of Sao Paolo, course created by Ken McCown funded by a grant from UNESCO and IFLA to FUPAM, July 6-11, 2005.

Visiting Studio Critic, University of Southern California School of Architecture, Fall Semester, 2004.

Visiting Studio Critic, Woodbury School of Architecture, Fall and Spring Semesters 2003 - 2006.

Guest Lecturer, Architectural Drafting and Design Studio, Pasadena City College, Fall Semester, 2004.

Moderator, "Finishing School," ACSA Southeast Regional Meeting, Tampa, FL, November 7-9, 2003.

*Moderator*, <u>Cultural Landscapes Symposium</u>, John Tillman Lyle Center for Regenerative Studies, Pomona, May 15, 2003.

*Guest Lecturer/Course Instructor*, "Presentation Graphics," Graphics Workshop, Morton Arboretum, Lisle, IL, February 18-19, 2000.

publications

McCown, K., "Foothill Mountain Observatory," in <u>Landscape Observatory: The Work of Terence</u> <u>Harkness</u>, edited by Elen Deming, ORO Editions, New York, NY, 2017, pp. 165-177.

McCown, K., "Mojave Future," in <u>Representating Landscapes: Hybrid</u> edited by Nadia Amoroso, (McCown student and grant work featuring Tom Martin and Bogdan Machedon), Routledge Publishers, New York, NY, 2016, pp. 165-177.

McCown, K., Zawarus, P., "Get animated! Dynamic Visualization and the Site Analysis Process," in <u>Innovations in Landscape Architecture</u>, book edited by Anderson, J. and Ortega, D. Routledge, New York, 2016, pp. 60-75.

Richardson, Timothy, "Landscape and Garden Design Sketchbooks," <u>Thames & Hudson</u>, London, 2015. Ken McCown's sketching work featured in book pages 174 - 183.

McCown, K., Zawarus, P. Anderson, J., Vermillion, J., Weber, E., (UNLV Downtown Design Center) "Cedar Trail," in <u>World Landscape Architecture Magazine</u>, Volume 16, November 2014.

*(forthcoming)* McCown, K. "Landscape Architecture, Energy Demand and Climate Change," in Journal of Sustainability, special issue.

McCown, K., Zawarus, P., Leverance, M. (UNLV Downtown Design Center) "Las Vegas Valley Trails Map and City of Las Vegas Trails Map," published through Outside Las Vegas Foundation, March 2014.

McCown, K. (UNLV Downtown Design Center) "World Table," in <u>World Landscape Architecture</u> <u>Magazine</u>, Volume 11, December 2013.

Gaston, Gary, Landstreet, Julia, ed., "Midtown-Downtown Freeway," <u>Reclaiming Public Space</u> <u>in Downtown Nashville</u>, Nashville Civic Design Center (publisher), March 2013. pages 51, 52. (Michael Payne's 'Nashville Deck Park', Ken McCown primary advisor, Ted Shelton and T.K. Davis Committee Members)

McCown, K., Wilcox, A. "2.1 Design Faculty - Best in Category Build with Thine Own Hands," in <u>Representation 2007-08: Journal of the Design Communications Association</u>, March 2009, page 69.

McCown, K., Wilcox, A. "2.7 Juror Award Selection - Juror Award, Nancy Chang - *Ivanhoe*," in <u>Representation 2007-08: Journal of the Design Communications Association</u>, March 2009, page 73.

McCown, K., Levinson, N., "Urban Design Beyond Oil," <u>Urban China</u>, 2008, Volume 32, "Energy Strategy," November, pages 70-73.

McCown, K., "Recapturing a Waterfront: Panama City, Panama," <u>Transforming with Water:</u> IFLA 2008 - Proceedings of the 45th World Congress of the International Federation of Landscape <u>Architects</u>, Wybe Kuitert, Editor, Blauwdruk/Techne Press, The Netherlands, 2008, pp. 189-191.

McCown, K., "Making the Desert Bloom," <u>Transforming with Water: IFLA 2008 - Proceedings of</u> <u>the 45th World Congress of the International Federation of Landscape Architects</u>, Wybe Kuitert, Editor, Blauwdruk/Techne Press, The Netherlands, 2008, pages 288, 301-303.

Hinders, K., McCown, K., "The Primitive Tree Hut," <u>Treehouses in Paradise: Fantasy Designs for</u> <u>the 21</u>st <u>Century</u>, David Greenberg, Editor, Abrams Publishers, New York, 2006, p. 100.

Centouri, J., McCown, K., Rock, R., "A Temporal Process," <u>cityworks LosAngeles: HANDBOOK</u>, Martin, E., Editor, Forum Press, Los Angeles, CA, pages 49-55.

McCown, K., "Looking Past Form to the Past," Landscape Review, Volume 10, Issue 2, pp. 54-57.

McCown, K. (ed.), "Situation and Response: The Architecture of R.M. Kliment and Frances Halsband Architects," Plym Fellowship Book, 49 pages.

Erdman, J. (ed.), Weddle, R. (ed.), Hinders, K., McCown, K., Poss, J., Taylor, C., "Designing/Building/ Learning," <u>Journal of Architectural Education</u>, February 2002, Vol. 55, Issue 3, pages 174-180.

#### contracts/grants/fellowships

McCown, K., Billig, N., co-principal investigators, "Tourism and Economic Development Plan for Trofaiach, Austria," Trofach, Austria, \$20,000, (pending project beginning).

Erdman, K., Coffman, J. McCown, K., co-principal investigators, "GRRI CESU: Partnershipto Increase Recreation Opportunities and Access- RTCA," National Park Service, Department of the Interior, annually recurring \$24,551, begun in 2019, projected through 2024. Project to connect and improve transportation and amenities between communities and federal lands from the Great Plains down into Arkansas. Workshops, planning, and design with community members and agencies.

McCown, K., Folan, P., co-principal investigators, "Economic Development Plan for the City of Alturas, CA," City of Alturas, CA, \$55,554, August, 2020.

McCown, K., principal investigator, "Desert Urbanism and Community Design," <u>Iowa State</u> <u>University Extension</u>, March 2015, \$1,500. Funding to assist with urban and community design projects in Downtown Las Vegas. McCown, K., co-principal investigators, "Carson Parklet," <u>Downtown Project</u> and <u>The Nature</u> <u>Conservancy</u>, January 2015, \$20,000. Design and Construction of a Parklet for downtown Las Vegas. (Jonathon Anderson co-principal investigator at University of Nevada, Las Vegas.)

Hunter, W., McCown, K., co-principal investigators, "West Las Vegas HUNDRED," <u>City of Las</u> <u>Vegas</u>, October, 2014, \$98,000. Master Plan for Historic West Las Vegas. (project given to Steven Clarke, ensuing DDC Director after Ken McCown)

McCown, K., principal investigator, "West Las Vegas HUNDRED," <u>City of Las Vegas</u>, October, 2014, \$26,000. Master Plan for Historic West Las Vegas. (\$29,000 pending further review)

Vermilion, J., McCown, K., co-principal investigators, "EDAR Unit Prototyping," <u>EDAR: Everyone</u> <u>Deserves a Roof</u>, May 2014, \$10,000. Portable homeless shelter to be prototyped in Summer 2014.

McCown, K., Nowak, G., Philander, K., Bernhard, B., \$45,000 plus tuition and fees waiver (estimated \$90,000 additional), "Doctoral Graduate Research Assistant Award," <u>University of Nevada, Las</u> <u>Vegas Graduate College</u>, award announced May 2014, duration 2014 - 2017. For study of integrated resorts; urban design and hospitality innovation.

McCown, K., "Southern Nevada Sustainability Atlas," <u>City of Las Vegas</u>, \$75,000. June 2014.

McCown, K., co-principal investigator, Samuels, L., Boyer, J., "NexGen Infrastructure: Interstate 11," <u>Arizona State University Walton Global Sustainability Initiative</u>, December 2013, \$60,000. (\$10,000 direct for UNLV Downtown Design Center to produce publication from ASU GIOS)

McCown, K., principal investigator, "Advanced Urban Manufacturing District in Downtown Las Vegas," <u>Factorli</u>, sponsor, also working with City of Las Vegas Planning Department as a first test of the proposed form-based code, May 2014, \$9,940.

McCown, K., principal investigator, "Urban Trail Redesign," <u>Outside Las Vegas Foundation</u>, December 2013, \$15,000. (subcontracted off of awarded grant application with UNLV DDC and others led by OLVF to Wells Fargo Urban LIFT - additional \$22,000 for materials and construction)

McCown, K., principal investigator, "Trails Map of the Las Vegas Metropolitan Area," <u>Outside Las</u> <u>Vegas Foundation</u>, December 2013, \$5,000. (project and funding ongoing annually)

McCown, K., principal investigator, "Thiriot School Garden," <u>Create a Change Now</u>, December 2013, \$1,500 gift for service. Edible school garden designed for local elementary school in Las Vegas.

Vermilion, J., McCown, K., co-principal investigators, "EDAR Unit Prototype," <u>EDAR: Everyone</u> <u>Deserves a Roof</u>, December 2013, \$2,500. Portable homeless shelter to be designed and prototyped in Spring 2014. (additional funding added for work construction due to unexpected progress)

Nowak, G., McCown, K., co-principal investigators, "Boulder City Hospital Construction Feasibility Study," <u>Building Hope Nevada, USDA</u>, May 2013, \$16,500.

Stout, R., McCown, K., co-principal investigators, "Thermography Study," <u>SH Architecture</u>, February 2013, \$1,500.

McCown, K., <u>Lincy University Professor Fellowship</u>, \$75,000 distributed over three years, University of Nevada, Las Vegas.

McCown, K., Collett B., Wall, S., "Low Impact Stormwater Management for the Knoxville MSA," \$43,000, a funding for a report to identify and define watershed issues and their interrelationships to prevailing development patterns within the Knoxville MSA. A Low Impact Development (LID) storm water management toolkit is proposed to mitigate issues and identify areas for further study. The First Creek/White's Creek watershed is a focused study area and prototype. Brad Collett implemented and guided all aspects of completed study. Proposal submitted, May 2012.

McCown, K., Dodds, G., <u>University of Tennessee Chancellor's Fellowship</u>, \$320,000 for recruiting and retention of students to graduate architecture and landscape architecture programs, December 2011.

Yue, Xue, awardee, McCown, K., grant advisor and faculty sponsor, "Comparative Study of Chinese Gardens," <u>University of Tennessee McClure Fellowship</u>, Fall 2011, \$5,250.

McCown, K., Wall, S., principal investigators, "HUD Sustainable Cities Grant - Knoxville, TN MSA," <u>Housing and Urban Development</u>, Fall 2010, UT-Knoxville provided \$1.2 million in matching funds and is negotiating \$250,000 in grants over a three year period for sustainable systems studies. Grant to be conferred on February 1, 2011, funding expected to start in the Summer of 2012.

McCown, K., Wall. S., McRae J., <u>University of Tennessee Opportunity Hire Program</u>, \$145,800 for hire of history faculty to support architecture and landscape architecture programs, January 2011.

McCown, K., principal investigator, "West Side District Waterfront: Chattanooga," <u>RiverCity</u> <u>Company</u>, Fall 2010, \$2,500. (\$2,500 funding gift match garnered from ESPN funds)

McCown, K., principal investigator, "Scottsdale Sustainable Systems Inventory," <u>City of Scottsdale</u>, AZ, February 2008, \$43,000.

McCown, K., Levinson, N., collaborators, "Post-Petroleum Era and Nanotechnology in the City of Phoenix, AZ," <u>NSF Grant</u>, July 2008, \$50,000 was a portion of a \$6.2 mil. grant from the NSF written by David Guston - lead investigator. This money for research and publication went unused by the awardees due to both leaving Arizona State University.

McCown, K., Levinson, N., co-principal investigators, "Beyond Oil: A Post-Petroleum Plan for the City of Phoenix, AZ," <u>Phoenix Zoological Society</u>, July 2008, \$15,000.

McCown, K., principal investigator, "Urban Design and Watershed Analysis and Recommendations for Curundu," <u>Office of Casco Antiguo, Panama</u>, January 2008, \$10,600.

McCown, K., principal investigator, "Analysis and Recommendations for Barrio Chino," <u>Office of</u> <u>Casco Antiguo, Panama</u>, July 2007, \$3,000 used for travel and studio expenses.

McCown, K., Woodward, J., co-principal investigators, "Ecological Prototypes for Chollas Creek," \$25,000, *Groundworks San Diego*, for design prototypes to restore the Chollas Creek.

McCown, K., Woodward, J., co-principal investigators, "After Peak Oil: A Vision for Ventura," \$25,000, The City of San Buenaventura, for policy for urban and regional development after peak oil.

McCown, K., Woodward, J., co-principal investigators, "Public Space Plan for South Los Angeles," \$25,000, Community Redevelopment Agency of Los Angeles, a plan for redevelopment of the public space infrastructure of South Los Angeles District 9.

McCown, K., Woodward, J., co-principal investigators, "Urban Ecotones: A Green Redevelopment Initiative for the Inland Empire," \$29,500, California Resource Connections, Inc., a supplemental urban design plan to the Santa Ana Watershed Plan.

"Using Digital Tools Critically in Landscape Design," Hawai'ian International Conference on the Arts and Humanities, Honolulu, HI, January 12-15, 2007, <u>California Poly Pomona Mini-Research</u> <u>Grant</u>, \$900 for expenses.

"International Demonstration and Research Wetlands," <u>UNESCO and Panama Ministry of</u> <u>Housing</u>, July 2006, \$3,000 used for travel and studio expenses.

McCown, K., Woodward, J., co-principal investigators, "Green Redevelopment for the Coyote Creek Watershed," \$31,000, Watershed and Coastal Resources Division, Resources and Development Management Department, County of Orange, for green policy and planning.

McCown, K., Woodward, J., co-principal investigators, "Del Rey Lagoon and Parkway: Gateway for the Ballona Watershed," \$19,600, Ballona Institute, for design guidelines to restore Del Rey Lagoon.

McCown, K., Woodward, J., co-principal investigators, "R-Ranch in the Sequoia National Forest," \$25,000, R-Ranch, for master plan for the R-Ranch.

McCown, K., Woodward, J., co-principal investigators, "West Covina Green Links Plan" \$30,000, City of West Covina, for master plan to link Covina public resources with neighboring cities.

"Historic Landscape Master Plan for the Richard and Dion Neutra VDL Research House II," <u>California Poly Pomona Research Grant</u>, \$4,000 used for student assistants to develop a plan and digital model for implementation and maintenance.

"Urban Redevelopment for El Chorrillo," <u>UNESCO and Panama Ministry of Housing</u>, July 2005, \$6,000 used for travel expenses, and three student assistants.

"Encounters with the Past: Sustainable Tourism in Agra, India," ACSA International Conference 2005, Mexico City, Mexico, June 9-13, 2005, <u>California Poly Pomona Mini-Research Grant</u>, \$1,000 for travel expenses.

"Looking Past Form to the Past," CELA International Conference 2004, Christchurch, New Zealand, June 24-28, 2004, <u>California Poly Pomona Mini-Research Grant</u>, \$1,000 for travel expenses.

"Civic Visions: 36 Views of Silver Lake Reservoir," California Poly Pomona Research Grant, \$5,000.

grants/fellowships (continued)

"Richard and Dion Neutra VDL Research House II Fellowship," Resident Director, 2003-2007. Funding development included several donated professional services for repair of house systems and a structural analysis of house, revenue generation and donation through sponsored events including local preservation groups and a joint event with <u>Architecture</u> magazine. (\$250,000 estimated gifts, in-kind services and revenue generated in addition to value of fellowship)

"Redevelopment of the Northern Osaka Train Station Area," <u>California Polytechnic State University</u> of Pomona Mini-Grant, \$750 for computing supplies.

photography

*Firms and organizations used/using photographs in publications and presentations:* Rodin Museum, Antoine Predock, Morphosis, Office DA, NADAA, Walter Hood, Olin, A New Norris House, Beverly Pepper, The Nature Conservancy, The Cultural Landscape Foundation, Marfa, Texas, 72andSunny, Tempe Center for the Arts, National Museum of Ceramics and Decorative Arts "Gonzalez Marti", Valencia, Spain, and the Columbus, Indiana Visitors' Center and iNaturalist.org. Examples of publications not noted in entries below include photographs featured in <u>Architectural</u> <u>Record, Fast Company, De Zeen Magazine, Scientific American, Wired, Los Angeles Times</u> and the <u>New York Times</u>.

McCown, K. in Remodelista: "<u>The Low-Impact Home: A Sourcebook for Stylish, Eco-Conscious</u> Living," by Margot Guralnick, Fan Winston, Sept. 2022 (photographs of A New Norris House)

McCown, K., Erlanger House photos used by the University of Illinois Department of Dance in department ceremonies and gifts, Spring 2022.

McCown, K., in <u>Japan and the West: An Architectural Dialogue</u>, by Neil Jackson, Lund Humprhies, London, 2019 (photograph Bloedel Guest House p. 346)

McCown, K., in <u>Landscape Observatory: The Work of Terence Harkness</u>, edited by Elen Deming, ORO Editions, New York, NY, 2017 (photography throughout book - pages available upon request)

McCown K., Photograph of sculpture at Storm King Art Center in *"Salvadori's Structure in Architecture: The Building of Buildings,"* Deborah Oakley and Robert Heller, Pearson Publishing. Boston, 2017.

McCown, K., Photograph of Petroglyph National Monument and Albuquerque, "*Timetracks: A Walk Through Time*," <u>New Mexico Museum of Natural History and Science</u>, Albuquerque, NM. 2017.

McCown, K., Photographs of Emscher Park in *"From Derelict Lands into Green Spaces"* by Patricia Mara Sanches, SENAC Publishers, Sao Paulo, Brazil.

McCown, K., photograph in film, "Dynamic Islamic Arts," <u>King Abdulaziz Center for World</u> <u>Culture</u>, Children's Discovery Zone, Dhahran, Saudi Arabia.

McCown, K., Photographs is "Houses for All Regions: CRAN Residential Collection," American Institute of Architecture, 2014, Images Publishing, pp.124-129.

McCown, K., Photograph of Westin Bonaventure Hotel in Los Angeles, in *"Le Language Hypermodern de l'architecture,"* Nicolas Bruno Jacquet, Parentheses, Beverly, MA, 2014, p. 94.

McCown, K., Photograph of Steven Holl's work, in *"The Language of Architecture,"* edited by Andrea Simitch and Val Werke, Rockport, Beverly, MA, 2014, p. 120.

McCown, K., 'The Elegance of Air Travel,' <u>CBRE Urban Photographer of the Year Competition 2013</u>, *http://www.cbrephotographer.com* Ken McCown won '1300 hours' in the 24-hour competition (12,500 entries). Photo also published in exhibition catalog of this competition pp. 44-5.

McCown, K., Photography of Hargreaves Associates work at Crissy Field, San Francisco, CA and Guadalupe Park, San Jose, CA, in *"Unearthed: The Landscapes of Hargreaves Associates,"* by Karen M'Closkey, University of Pennsylvania Press, Philadelphia, 2013. Ken McCown photos, pp. 56-7, 90, 128-9.

McCown, K., Photograph of Villa Savoye in "Mutations: The DNA of Twentieth Century Design," <u>Virginia Center for Architecture</u>, Richmond, VA, July 25-October 13, 2013.

McCown, K., Photograph of Weegee Art Museum in *"Taipei Design & City Exhibition"*, <u>Songshan</u> <u>Cultural and Creative Park</u>, Taipei, Taiwan, August 29 - September 29, 2013.

#### photography(continued)

McCown, K., Photograph of Library at University of California, San Diego in "Modernist Maverick: The Architecture of William L. Pereira," <u>Nevada Museum of Art</u>, Reno, NV, July 27, 2013 - October 13, 2013 (photograph appears in advertising, exhibition, and in exhibition catalogue). Also appears in reviews including Alan Hess' on <u>The Architects' Newspaper</u>: <u>http://archpaper.com/news/articles</u>. <u>asp?id=6868&utm\_campaign=sep\_30\_2013</u>, <u>art ltd.</u> journal, May/June 2013, pp44-5 and <u>Western</u> <u>Art and Architecture</u>, June/July 2013.

McCown, K., Photograph of Aalto University in *"Swatch: Top Daylighting,"* <u>Architecture 2030</u> <u>Palette</u>, 2013 - present.

McCown, K., Photograph of Rodin Museum in Seoul, in "*Translucent Building Skins: Material Innovations in Modern and Contemporary Architecture*," by Scott Murray. Routledge Press, New York, NY 2013 (figure 2.17 pp. 39, 40)

Finalist, "Radical Change & Resilience Category," Ken McCown photograph:

"Desiccation," IFLA Image Competition, Auckland, New Zealand, exhibited at <u>IFLA</u> <u>2013 World Congress</u>, April 10 - 12, 2013. Archived on the web: http://www.youtube.com/ watch?v=xKR0PsLR8xk&feature=share&list=PLEoBcmwedS6C66lwzMOcAC2hCMPvvK9rU

McCown, K., Photograph of A New Norris House Loft in *"Light, Space & Time Exhibition,"* <u>Light, Space & Time Exhibition</u>, January, 2012. (photo earned 'Special Recognition')

McCown, K., Photograph of Silos and fields in Kansas, in *"The Color of Drought,"* <u>EPA State of the</u> <u>Environment Photo Project</u>, August 16, 2012.

McCown, K., Photograph of Cromlech Glen in "Beverly Pepper: Monumenta," by Robert Hobbs, Skira, 2012. pp. 56-7.

McCown, K., Photograph of Rose and Sky in *"Exposure,"* poetry by Jonathan Steffen, Falcon Editions, Windsor, Berkshire, UK, 2012. p. 8.

McCown, K., Photograph of Salk Institute in *"Architecturra in calcestruzzo,"* by Fiona McLachlan, UTET Scienze Techniche Press, Milan and Torino, 2012 (page 55, fig. 2.45,6).

McCown, K., Photograph of Chapel of St. Ignatius by Steven Holl in *"Architectural Colour in the Professional Palette,"* by Fiona McLachlan, Routledge Press, New York, NY, 2012 (page 84).

McCown, K., Photographer "Reading L.A.: Charles Jencks on Frank Gehry, Thom Mayne and the rest of the L.A. School" by Christopher Hawthorne, <u>Los Angeles Times</u>, July 29, 2011. <u>http://latimesblogs.latimes.com/culturemonster/2011/07/reading-la-charles-jencks-on-frank-gehry-thom-mayne-before-they-were-stars.html</u>

McCown, K., Photographer, "Point of Astonishment," web exhibition in <u>Places</u> journal, online edition, Nancy Levinson, editor. (posted 6.30.11)

McCown, K., Photographer, "Patterns," web exhibition in <u>Places</u> journal, online edition, Nancy Levinson, editor. (*posted* 12.28.10)

McCown, K., Photographer, "American Collegiate Schools of Architecture 2011 Conference: Where You Stand," theme image, used on all publications: posters, websites and brochures.

McCown, K., Photographer, *"Found Landscapes,"* web exhibition in <u>Places</u> journal, online edition, Nancy Levinson, editor. (*posted 03.05.10*)

McCown, K., Photographer, "Designed Landscapes," web exhibition in <u>Places</u> journal, online edition, Nancy Levinson, editor. (*posted 10.18.09*)

McCown, K., "Villa D'Este," Metropolitan of Museum of Art in New York City, brochure for summer program in Italy, 2009.

McCown, K., Photograph of Woodland Cemetery, in *"Saved: The Religious Imagination in Modern and Contemporary Architecture,"* edited by Renata Hejduk and Jim Williamson, Routledge, New York and London, 2011, p. 100. (article by Caroline Constant)

McCown, K., Photograph of Oklahoma City Memorial, page 373, in *"The National Parks: America's Best Idea,"* written by Dayton Duncan and Ken Burns, produced by Alfred A. Knopf, New York, 2009.

McCown, K., Photograph of Oklahoma City Memorial, in *"The National Parks: America's Best Idea (episode 6),"* a documentary directed by Ken Burns, produced by Florentine Films, 2009.

*"LA Cathedral,"* <u>Photo of the Day, May 28, 2008</u> website exhibition, Chicago Center for Literature and Photography, Chicago, IL, May 28, 2008-present.

"Fitzpatrick Shower," in Education and Sustainability Magazine: Water, Vol. 3, April 2008, p. 25.

"Singing Sand Dunes," Singing Sand Dunes, <u>Moment of Science</u>, <u>Indiana Public Media</u>, March 12, 2008. <u>http://indianapublicmedia.org/amomentofscience/singing-sand-dunes/</u>

McCown, K., Photography of Richard Neutra, VDL Research House, CA, in "*Imagining Modernity: The Architecture of Valentine Gunasekara*," by Anoma Pieris, co-published by Stamford Lake (Pvt) Ltd., Lake House Printers and Publishers Ltd., Sri Lanka, p. 45, 2007.

"Chinatown Gate Panama" and "A Hole in Barrio Chino," <u>Chinatowns</u> exhibition, Storefront for Art and Architecture, New York, NY, December 1-22, 2007.

*"Ananas comosus,"* <u>Botany Photo of the Day, March 20, 2006</u> website exhibition, University of British Columbia Botanical Garden and Centre for Plant Research, Vancouver, British Columbia, March 20, 2006-present.

"Sequoiadendron giganteum," <u>Botany Photo of the Day, September 10, 2006</u> website exhibition, University of British Columbia Botanical Garden and Centre for Plant Research, Vancouver, British Columbia, September 10, 2006-present.

*"Tropaeolum majus,"* <u>Botany Photo of the Day, October 30, 2005</u> website exhibition, University of British Columbia Botanical Garden and Centre for Plant Research, Vancouver, British Columbia, October 30, 2005-present.

*"Musa velutina,"* <u>Botany Photo of the Day, September 26, 2005</u> website exhibition, University of British Columbia Botanical Garden and Centre for Plant Research, Vancouver, British Columbia, September 26, 2005-present.

McCown, K., Photography of Richard and Dion Neutra VDL Research House II, Silverlake, Los Angeles, California, <u>The Richard and Dion Neutra VDL Research House II Exhibition</u>, A+D Museum, Hollywood, CA, August 7-September 9, 2004. (<u>web exhibition at http://aplusd.org/v3/content/view/45/48/</u>)

Kmith Micapa

# CURRICULUM VITAE Victor L. Roland II

January 2023

# MAILING ADDRESS:

640 Grassmere Park, Suite 100 U.S. Geological Survey Nashville, TN 37211 **PHONE(Personal):** (708) 308-8428 **CELL(Work):** (615) 663-2890 **E-Mail:** <u>victor.roland@proton.me</u>, alt. <u>vroland@usgs.gov</u> (work)

## **EDUCATION**

University of Arkansas Ph.D. 08/16, Environmental Dynamics/Hydrogeology/Water-quality Tennessee State University M.E. 08/12, Environmental Engineering Tennessee State University B.S. 05/10, Civil Engineering

### AWARDS AND HONORS

2014 John Van Brahana Award of Excellence
2013 Southern Regional Education Board Doctoral Scholar Fellowship
2012 Helen Barrett Award for top graduate researcher at Tennessee State University
2012 Tennessee State University Research Symposium 2nd Place Poster Presentation

## **TEACHING EXPERIENCE**

Adjunct Professor, Tennessee State University College of Engineering - Civil Engineering, Statics, Fluid Mechanics, Hydrology, Soil Mechanics Laboratory Graduate Teaching Assistant, University of Arkansas Fulbright College - Physical Geology Laboratory, Environmental Geology NSF Research Experience for Undergraduates - Ecology Student Mentor, Statics Teaching Assistant, Certified Adult Literacy Tutor

## **RESEARCH AND WORK EXPERIENCE**

2016-present Hydrologist, U.S. Geological Survey, Nashville, TN
2012-2016: Hydrologist in Training, U.S. Geological Survey, Fayetteville, AR
2012-2016: Geology Teaching Assistant, University of Arkansas, Fayetteville, AR
2010-2012: Graduate Research Assistant, Tennessee State University, Nashville, TN
Su. 2011: Hydrologic Technician, U.S. Geological Survey, Nashville, TN
Su. 2010: Nano-sciences and Biotechnology Research Program Student Fellow, Tennessee State
University, Nashville, TN
Spr. - Su. 2010: Undergraduate Researcher, Department of Energy, Tennessee State University, Nashville, TN
Summer 2009: Biogeochemistry Research Experience for Undergraduates (REU), Towson University, Towson, MD

2008-2009: Statics Teacher Assistant (TLSAMP), Tennessee State University, Nashville, TN

GRANTS

Hydrogeology and Biogeochemical Evolution of groundwater in Big Creek and Buffalo River Basins and Implications for Concentrated Animal-Feeding Operations. USGS 104b 2013 \$5,207 V.L. Roland II, V.L., Hays, P.D., Brahana, J.V., Pollock, E.D., Davis, R.K.

## **RESEARCH INTEREST**

Water resources, surface-water hydrology, watershed modeling, water quality modeling, nutrient and contaminant transport, hydrologic alteration, water use, machine learning, climate change

# PUBLICATIONS (PEER REVIEWED)

Mollenhauer, R., Mouser, J.B., Roland II, V.L., and Brewer, S.K., 2022, Increased landscape disturbance and streamflow variability threaten fish biodiversity in the Red River catchment, USA. *Diversity and Distributions*, *28*(9), pp.1934-1950.

Roland II, V.L., Garcia, A.M., Saad, D.A., Ator, S.W., Robertson, D. and Schwarz, G., 2022, Quantifying regional effects of best management practices on nutrient losses from agricultural lands. *Journal of Soil and Water Conservation*, 77(1), pp.15-29.

Roland II, V.L., Garcia, A.M., Saad, D.A., Ator, S.W., Robertson, D.M., and Schwarz, G.E., 2021, Nutrient Load Data used to Quantify Regional Effects of Agricultural Best Management Practices: An application of the 2012 SPARROW models for the Midwest, Northeast, and Southeast United States: U.S. Geological Survey data release, <u>https://doi.org/10.5066/P9H2NDWU</u>.

Saad, D.A., Robertson, D.M., <u>Roland II, V.L</u>., Garcia, A.M., Ator, S.W., and Schwarz, G.E., 2021, SPARROW cover crop model coefficients, summary statistics, inputs and simulated total phosphorus loads in streams of the Midwest United States, 2012 Base Year: U.S. Geological Survey data release, https://doi.org/10.5066/P9CLA42C.

Rodgers, K., Roland II, V.L., Hoos, A., Crowley-Ornelas, E. and Knight, R., 2020, An analysis of streamflow trends in the southern and southeastern US from 1950–2015. *Water*, *12*(12), p.3345.

Roland II, V.L., and Hoos, A.B., 2020, SPARROW model inputs and simulated streamflow, nutrient and suspended-sediment loads in streams of the Southeastern United States, 2012 Base Year: U.S. Geological Survey data release, https://doi.org/10.5066/P9A682GW.

Hoos, A.B., and Roland II, V.L., 2019, Spatially referenced models of streamflow and nitrogen, phosphorus, and suspended-sediment loads in the Southeastern United States: U.S. Geological Survey Scientific Investigations Report 2019–5135, 91 p., https://doi.org/10.3133/sir20195135.

Rodgers, K.D., Hoos, A.B., Roland II, V.L., and Knight, R.R., 2018, Trend analysis results for sites used in RESTORE Streamflow alteration assessments (ver. 1.1, November 2019): U.S. Geological Survey data release, https://doi.org/10.5066/P9YSE754.

Roland II, V.L., 2019. Data used in the creation of total phosphorus and total nitrogen SPARROW models for the state of Tennessee (ver. 1.1, February 2020): U.S. Geological Survey data release, https://doi.org/10.5066/P96RWGU0.

Brahana, J.V., Nix, J., Bitting, C., Bitting, C., Quick, R., Murdoch, J., Roland II, V., Wets, A., Robertson, S., Scardale, G. and North, V., 2014, CAFOs on karst—meaningful data collection to adequately define environmental risk, with a specific application from the Southern Ozarks of Northern Arkansas. U.S. Geological Survey Scientific Investigations Report 2014-*5035*, pp.97-102.

Knierim, K.J., Wagner, D.M., Roland II, V.L., and Nottmeier, A.M., 2015, Ozark Plateaus seepage run dataset, southern Missouri and northern Arkansas, 1982-2006: U.S. Geological Survey data release, http://dx.doi.org/10.5066/F7W9577Q.

Embry, I., Roland II, V.L., Agbaje, O., Watson, V., Martin, M., Painter, R., & Sharpe, L. (2013). Derivation of a Multi-parameter Gamma Model for Analyzing the Residence-Time Distribution Function for Non-ideal Flow Systems as an Alternative to the Advection-Dispersion Equation. ISRN Chemical Engineering, 2013.

### In preparation:

Roland II, V.L. and Crowley-Ornelas, E., **in review**, Investigating hydrologic alteration in the Pearl and Pascagoula river basins using rule-based model trees. Environmental Modelling and Software.

Roland II, V.L., **in review**, Streamflow Model for the Red River Basin: Arkansas, Louisiana, Oklahoma, Texas, 1980 - 2016: U.S. Geological Survey Scientific Investigations Report.

## PUBLISHED ACADEMIC DISSERTATION

Roland II, V.L., 2016, The role of organic matter in the fate and transport of antibiotic resistance, metals, and nutrients in the karst of northwest Arkansas, University of Arkansas published Ph.D. dissertation, 101 p. Advisor – Hays

### **UNPUBLISHED ACADEMIC THESIS**

Roland II, V.L., 2012, Carbon Tetrachloride Dechlorination Using Novel In-Situ nZVI Synthesis Method and Related Effects on Microbial Communities in Contaminated Groundwater in Hardeman County, TN, Tennessee State University unpublished M.E. thesis, 73 p. Advisor – Byl

# **PROFESSIONAL SOCIETIES:**

National Association of Black Geoscientists (NABG) American Water Resources Association (AWRA) Geological Society of America (GSA)