**Appendix 8:**

**DataFEWSion Annual Student Progress Report Guidelines**

Please use the Smartsheet link to complete your progress report
https://app.smartsheet.com/b/form/6005371dca5a4200afde0562cef21e11

**Spell out all acronyms!**

**Professional Development**

- For workshops or other professional development programs attended, provide details including dates, person/organization who ran it, location or if you attended online.
- List organization affiliations and activities – if you had a term appointment, please provide the dates.
- If you taught or provided input to a project, include details of the level of students (summer interns, high school, undergrads), department or professor they are associated with, and what area of science.

Examples

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- Preparing Future Faculty (PFF) -GRST 585 &586 -As part of this program I gained both faculty mentorship (2) and teaching experience. I designed and taught units for: Theory of the Planning Process (CRP 383, Fall2020), Socioeconomic Global Resource Systems (GLOBE 305, Spring 2021), and I guest lectured for Sustainable and Environmental Horticulture Systems (HORT 424/524).
- Big Data Summer School (Summer 2021) I participated in the summer school and the Data Science for Social Good track.
- I participated in the Environmental Science Symposium 3MT (2020 & 2021).
- I served as Vice President for the Environmental Science Program GSO, and Faculty Liaison and Editor for the Natural Resource Ecology and Management GSO

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Another example in paragraph form:

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My professional development activities during this reporting period include attendance of the GeneralR Workshop(June 2–4,2021; virtual event ran by Dr. Patrick Schloss), submission of an abstract for the 2021 Tri Societies ASA, CSSA, SSSA (American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America) Conference (in November 2021), participation in ABEGO (ABE Graduate Organization), ASABE (American Society of Agricultural and Biological Engineers), third place in the ABE Graduate Seminar 3MT competition, participation in ABE Teaching Assistant training, in-class presentations, attendance of DataFEWSion workshops, and poster/video presentation at the DataFEWSion symposium

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## Research Activities

Activities are not the same as products. Instead of a product, describe the activities you performed to create the product. Include project title, funding agency or sponsor, principal & other investigators. Describe your duties in detail that would allow someone outside your field to understand.

- I participated in two research teams within the Iowa UrbanFEWS NSF funded project. The first is under the biophysical modeling objective (team of 6) and I am on the life cycle assessment (LCA) team (team of 3). I am also part of the human systems objective (team of 7).
- In the past year, I ran the models and analyzed data for the first article of my dissertation - a vegetable life cycle analyses (LCA) (manuscript in preparation, with plans to submit to a Journal by the end of next month).
- I have developed a baseline model of the food system LCA for the Des Moines Metropolitan Statistical Area. We are currently developing the localized scenario using both propriety and open source models. The proprietary model will be used as the second chapter of my dissertation and I plan to produce this manuscript in 2021, the open source model will be incorporated into the Iowa UrbanFEWS project which will provide a co-simulation framework combining many models for FEWS at the metropolitan scale.
- My work with the human systems team included developing scripts for focus groups, coding and analyzing this data collaboratively using an affinity diagramming process and writing two surveys – one for producers and one for consumers in our study area. We expect results from the producer survey by next week, the consumer survey is going through a final round of reviews before we being administering it. I will use the survey data to support more accurate GIS visualizations of local production in our study area due to social driver which were assessed using the theory of planned behavior based on "willingness to increase production of human food for local markets".

- Published manuscript related to the FEWS nexus as a result of the ABE 699 course.
- Data collection from ISU Uthe Dual Chamber Bioreactor (nitrate, total organic carbon, methane, carbon dioxide samples; measurements of dissolved oxygen, temperature, flowrate, and water level in the bioreactor) and preliminary data analysis.
- In progress data analysis of ISU Nashua bioreactor, Causer bioreactor, ISU NWRF bioreactor, and Underwood bioreactor sites.
- Manuscript under review related to a techno-economic analysis of woodchip bioreactors.
- Manuscript in progress to be submitted to be reviewed (literature review paper on woodchip bioreactors).

| Project Title | Sponsors | Principal Investigator(s) | Duties |
|---|---|---|---|
| GR-021338-00001 Rehmann-In-Situ Performance Evaluation of Bioretention Intake Systems | City of Johnston, IA Iowa Department of Agriculture | Chris Rehmann, Kaoru Ikuma | Oversaw field work, data collection, and sample collection |
| GR-020481-00001 Rehmann-Field Evaluation of the Unified Sizing Criteria for Post-Construction Stormwater Management Practices | City of Clive, IA | Chris Rehmann, Kaoru Ikuma | Oversaw field work and data collection |
| GR-012825-00001 Rehmann-Groundwater System Impacts on the US 63 Railway Underpass Near Waterloo, Iowa | Iowa Department of Transportation | Chris Rehmann | Oversaw field work and data collection |

## Presentations

Possible products: prelim examination, teaching, professional organizations, or departmental presentations. Please send PowerPoints or other visuals used for presentations if available. Include full data as you would on your cv.

Example:

> Stone, T. F., Thompson, J. R., Nair, A., Rosentrater, K. A. "Climate-Smart Vegetable Production: The Environmental Attributes of Vegetables Produced in Conventional, Local, and Home Garden Food Systems in the Midwest US," American Center for Life Cycle Assessment (ACLCA) Annual Conference, September 22 – 24, 2020, Virtual Poster.
>
> Neher, T., Stone, T. National Science Foundation Research Traineeship (NRT) Annual Meeting. "DataFEWSion: Data-Driven Solutions to Rural and Urban Issues in Midwest Agriculture" National Science Foundation Research Traineeship (NRT) Annual Meeting, January 28-29, 2021, Virtual Poster and Presentation.
>
> Paudel, M., Stone, T., Williams, E. "Engaging Youth in Design and Decision-making to Promote Justice and Equity", Mayors' Institute on City Design, December 14, 2020, Virtual Workshop.

## ePortfolio Contributions

Example:

> Artifact 1: <Malta's Water Scarcity Challenges: Past, Present, and Future Mitigation Strategies for Sustainable Water Supplies>, <expanded from ABE 690 final project>
>
> Artifact 2: <Coal Consumption Comparison between USA and India (2005-2015)>, <ME510>
>
> Artifact 3: <STAT 571 Graduate Student Project: Preliminary Statistical Analysis of the Uthe ual Chamber Bioreactor>, <STAT 571>
>
> Artifact 4: <Techno-economic Analysis of Constant Flow Woodchip Bioreactors>, <expanded from ABE 580 graduate student project>
>
> Artifact 5: <Hartfiel DataFEWSion Symposium 3-minute video>, <DataFEWSion Symposium>
>
> Artifact 6: <Hartfiel, Neher Podcast>, <GR ST 566>

## Collaborations

Briefly describe topic, collaborators, funding, activities, and timeframe, note publications if listed above.

Example:

> - I wrote a grant collaboratively with a fellow trainee (Loulou Dickey), Bridging the Divide, "Developing a co-production approach to integrate equity in urban food, energy and water systems research" 2021
> - I am working collaboratively with Loulou Dickey and Haleigh Summers to complete the IE 690 core course for DataFEWSion 2021 (in-progress).

## Awards

Please provide details –who awarded it, date, etc.

Examples:

> - ISU Teaching Excellence Award, from ISU Graduate College, Spring 2021
> - Fulbright Finalist, 2021

> - J.N. "Ding" Darling Scholarship, Iowa Natural Heritage Foundation ($1,000 competitive award),  2020.
> - 50 CFANS Hunger Fighters, College of Food, Agricultural and Natural Resource Sciences (CFANS), University of Minnesota, May 17, 2021.
> - Second place in the poster competition for the ACLCA Conference (see presentations above for reference).

## Other Products

Possible things to include

- Data sets
- Web applications
- Podcasts
- Magazine articles
- Blog posts
- Professional/personal website