

Anticipated Active Awards in FY21

Undergraduate (annual awards):

Robert and Karla Baltzell Student Innovation Award: **Katie Bathke**, advised by **Gary Yuen**, Professor, Department of Plant Pathology, for the project: *The Development of Bacillus subtilis as a Biological Control Agent for Bacterial Leaf Streak*

Platte Basin Timelapse Project: **Mikaela Deptula, Lena Nelson, Sidney Parks, Meg Rice, Favian Mendez Rodriguez, Elsie Stormberg, Trinity Thompson**, advised by **Michael Forsberg**, Assistant Professor of Practice, and Producer/Project Manager, **Mariah Lundgren**, UNL Agricultural Leadership, Education & Communication (ALEC). While DWFI funds support three interns, the PBT project is leveraging this support in FY21 to support seven interns. Now retired, **Michael Farrell** continues to advise and teach students as a Coordinator within UNL ALEC.

Graduate Students Round Seven (first awarded in 2020):

- **Katie Anania**, Assistant Professor, UNL Art, Art History & Design, for the project: *Visualizing Food and Water Supplies in the U.S. and Latin America through Artists' Projects* Student: **Hunter (Jack) Young**, for a M.A. in Art History
- **Shannon Bartelt-Hunt**, Professor and Dept. Chair, UNL Civil and Environmental Engineering, for the project: *The fate of microplastics in terrestrial systems: understudied sources and citizen science* Student: **Nasrin Naderi Beni**, for a Ph.D. in Civil Engineering with specialization in Environmental Engineering
- **Andrea Basche**, Assistant Professor, UNL Agronomy & Horticulture, for the project: *Assessing site-specific impacts of cover crops on water cycling using high-resolution imagery and ground based data* Student: **Fernanda Souza Krupek**, for a Ph.D. in Agronomy
- **Mark Burbach**, Geo-scientist, UNL School of Natural Resources, for the project: *An Investigation of the Individual, Collective, Institutional, and Environmental Changes that Occur as a Consequence of Stakeholder Engagement* Student: **Jodi Delozier**, for a Ph.D. in Human Dimensions, SNR
- **Jessica Corman**, Assistant Professor, UNL Agronomy & Horticulture, for the project: *Looking to the past to understand the future of freshwater in the Sandhills* Student: **Daniel Gschwentner**, for a Ph.D. Natural Resource Sciences with specialization in Applied Ecology, SNR
- **Bruce Dvorak**, Professor, UNL Civil Engineering & Biological Systems Engineering, for the project: *Environmental sustainability assessment of small Nebraska water resource recovery facilities: water reuse opportunities* Student: **Matt Thompson**, for a Ph.D. in Civil Engineering (Year 2) with specialization in Environmental Engineering
- **Cory Forbes**, Associate Professor, UNL School of Natural Resources, for the project: *Supporting Undergraduate Teaching and Learning about Socio-Hydrological Challenges through Data-Driven Modeling in the FANH Sciences* Student: **Jessica Mostacedo Marasovic**, for a Ph.D. Natural Resource Sciences, SNR

- **Rezaul Mahmood**, Professor, UNL School of Natural Resources, for the project: *Improved Water Management through Better Understanding of Irrigation Impacts on Precipitation in the Northern Great Plains* Student: **Kierstin Blomberg**, for a Ph.D. Natural Resource Sciences, SNR (Year 2)
- **Yi Qi**, Assistant Professor, UNL School of Natural Resources, for the project: *Develop scalable methods for identifying Water Use Gap of Farmlands in Midwestern States* Student: **Wenqi Ou**, for a Ph.D. Natural Resource Sciences, SNR (Year 2)
- **Daran Rudnick**, Assistant Professor, and **Derek Heeren**, Associate Professor, UNL Biological Systems Engineering, (co-major advisors) for the project: *Development of Research and Demonstration Sites in the BGMA for Groundwater Nitrate Reduction* Student: **Jiaming (Jamie) Duan**, Ph.D. student in the UNL Biological Systems Engineering Department
- **Zhenghong Tang**, Professor, UNL College of Architecture, for the project: *Using small Unmanned Aircraft System (UAS) to promote precision conservation and sustainable agricultural practices in the Rainwater Basin, Nebraska* Student: **Qiao Hu**, for a Ph.D. Natural Resource Sciences, SNR
- **Elizabeth Van Wormer**, Assistant Professor, UNL School of Natural Resources, for the project: *Linking child stunting, microbiome, livestock health and water quality: a One Health study in Rwanda* Student: **Ben Ndayambaje**, for a Ph.D. Natural Resource Sciences, SNR
- **Haishun Yang**, Associate Professor, UNL Agronomy & Horticulture, for the project: *WaterSmart: A cyberinfrastructure-based integrated agro-geoinformatic decision-support web service system to facilitate informed irrigation decision-making* Student: **Anthony Amori**, for a Ph.D. in Agronomy

Graduate Students Round Six (first awarded in 2019):

- **Jesse Bell**, Professor, UNMC College of Public Health, for the project: *Improving the Knowledge of Drought and Health in the United States* Student: **Jagadeesh Puvvula**, for a Ph.D. in Environmental Health
- **Carrick Detweiler**, Assistant Professor, UNL Computer Science and Engineering, for the project: *Advancing long-term persistent monitoring of crop and water systems with UASs* Student: **Daniel Anthony Rico**, for a M.S. in Computer Science and Engineering with a specialization in Computer Engineering (expected graduation: December 2020)
- **Troy Gilmore**, Assistant Professor of Groundwater Hydrology, UNL School of Natural Resources, for the project: *Influence of recharge patterns on the sustenance of groundwater-fed streams* Student: **Caner Zeyrek**, for a Ph.D. in Natural Resource Sciences, SNR
- **Jesse Korus**, Assistant Professor, UNL School of Natural Resources, for the project: *Integrating Hydrologic Modeling and Geophysical Characterization to Improve Water Management Tools* Student: **Nafyad Kawo**, for a Ph.D. in Natural Resource Sciences, Specialization: Hydrological Sciences
- **Joe Luck**, Associate Professor, UNL Biological Systems Engineering, for the project: *SENSE Nitrogen Management 2.0: Promoting Adoption of Sensor-based Nitrogen Fertilization of Corn through the NE On-Farm Research Network* Student: **Jackson Stansell**, for a M.S. in Agricultural & Biological Systems Engineering
- **Tiffany Messer**, Assistant Professor, UNL Biological Systems Engineering, for the project: *Treating Non-Point Source Cocktails: Pesticide Removal Utilizing In-stream Best Management Practices* Student: **Josephus Borsuah**, for a Ph.D. in Natural Resource Sciences, SNR

- **Eleanor Rogan**, Professor, UNMC College of Public Health Department of Environmental, Agricultural & Occupational Health, for the project: *Possible Effects of Nitrate Contaminants in Nebraska Waterways on Human Health* Student: **Balkissa Ouattara**, for a Ph.D. in Public Health
- **Mehmet C. Vuran**, Professor, UNL Computer Science and Engineering, for the project: *UG-LoRaWAN: Long Range Underground Wide Area Networks for Rural Connectivity in Agricultural Fields* Student: **Venkat Sai Suman Lamba Karanam**, for a Ph.D. in Computer Engineering
- **Harkamal Walia**, Associate Professor, UNL Agronomy & Horticulture, for the project: *Phenomic and genomic analysis of drought-responsive traits in wheat* Student: **Henry Doku**, for a Ph.D. in Agronomy & Horticulture, Specialization: Plant Breeding & Genetics
- **Derek Heeren**, Associate Professor, UNL Biological Systems Engineering, for the project: *High-Frequency Unmanned Aircraft Flights for Crop Canopy Imaging During Moisture-Stress and Subsequent Irrigation* Student: **Suresh Pradhyun Kashyap**, for a M.S. in Biological Systems Engineering
- **Vitaly Zlotnik**, Professor, UNL Earth & Atmospheric Sciences, for the project: *Estimating Groundwater Recharge in Mongolia by Vadose Zone Modeling* Student: **Khulan Batsukh**, for a M.S. in Earth Sciences, Specialization: Hydrogeology

Graduate Students Round Five (first awarded in 2018):

- **Roger Elmore**, Emeritus Professor, UNL Agronomy & Horticulture, and **Justin McMechan**, Assistant Professor, UNL Entomology, for the project: *Isolating Primary Factors for Corn Ear Formation Issues* Student: **Osler Antonio Ortez-Amador**, for a Ph.D. in Agronomy
- **Siamak Nejati**, Assistant Professor, UNL Chemical & Biomolecular Engineering, for the project: *Synthesis and Development of the Task-specific Nitrate Adsorbents* Student: **Elham Tavakoli**, for a Ph.D. in Chemical & Biomolecular Engineering
- **John Kalu Osiri**, Associate Professor of Practice, UNL Department of Management, College of Business, and **Michael Hayes**, Professor, UNL School of Natural Resources, for the project: *Exploring Opportunities to Incorporate Climate Information into Stakeholder Decision Making in Sub-Saharan Africa* Student: **Azariah Ovie Lawal**, for a M.S. in Natural Resource Sciences, Applied Climate & Spatial Science Specialization, also Graduate Assistant within the UNL International Business Program
- **Bing Wang**, Assistant Professor, UNL Food Science & Technology, for the project: *Treatments for Water Used at Pre-harvest Stage to Mitigate Human Exposure to Microbial Hazards through Consumption of Frozen and Fresh Raspberry in Chile* Student: **Constanza Avello**, for a M.S. in Food Science

Graduate Students Round Four (first awarded in 2017):

- **Yufeng Ge**, Associate Professor, UNL Biological Systems Engineering, for the project: *Using Stationary Sensor Nodes to Capture Growth and Stress in Maize and Soybean Using Infrared Thermometers and Soil Moisture Sensors* Student: **Jasreman Singh**, for a Ph.D. in Biological Systems Engineering (Soil and Water Resources Engineering Emphasis)
- **Yusong Li**, Associate Professor, UNL Civil Engineering, for the project: *Influence of Climate and Agricultural Clustering on Groundwater Contamination by Trace Organics* Student: **Chuyang Liu**, for a Ph.D. in Civil Engineering

Graduate Students Round Three (first awarded in 2016):

Graduate research matching support was awarded to Aaron Mittelstet, who was awarded funding from the Nebraska Department of Natural Resources Water Sustainability Fund, which requires 40% match.

- **Aaron Mittelstet**, Assistant Professor, UNL Biological Systems Engineering, for the project: *UNL Quantifying the Impact of Eastern Redcedar Encroachment on Recharge in the Nebraska Sandhills*
Student: **Nawaraj Shrestha**, for a Ph.D. in Natural Resource Sciences