BIBEK ACHARYA

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SUMMARY

Passionate researcher in the field of agricultural engineering. Primary focus on water management employing a multi-disciplinary approach of field research, process-based modeling, remote sensing, and machine learning techniques.

EDUCATION

University of Florida, College of Agriculture and Life Sciences August 2020–May 2024
Degree: ***Doctor of Philosophy***, Major: Agricultural and Biological Engineering

PROFESSIONAL EXPERIENCE

University of Florida Gainesville, Florida
Graduate Assistant August 2020 May 2024

- Executed crop growth and hydrological models such as DSSAT, HYDRUS and SWAT as well as machine learning models through python programming to solve water quality issues in North-Florida.
- Coordinated in installation of irrigation system, soil moisture sensor, lysimeter and performed lysimeter sampling, soil sampling, plant tissue sampling, soil moisture monitoring and plant canopy monitoring as part of precision water and nutrient management under the supervision of Dr. Vivek Sharma.
- Trained visiting scholars at the University of Florida and students from the Punjab Agricultural University in India on quantifying crop evapotranspiration using Landsat images.

University of Wyoming Powell, Wyoming
Graduate Assistant July 2018–August 2020

- Executed remote sensing-based evapotranspiration models such as METRIC, SEBAL, SEBS, and S-SEBI through ERDAS Imagine and ArcGIS to quantify regional to field level crop evapotranspiration in Big Horn Basin, Wyoming.
- Coordinated in various extension programs, interacted with, and worked alongside growers, extension specialists, and educators hosted at Powell and Lingle, Wyoming.

SKILLS

Python, ERDAS IMAGINE, ENVI, ArcGIS, QGIS, DSSAT, HYDRUS, SWAT, WAVE, GitHub, R, JMP Pro, and SPSS

SELECTED AWARDS

- 2023 Florida Stormwater Association **Educational Foundation Scholarship**
- 2023 American Water Resources Association **Sanford N. Young Scholarship**
- 2023 American Society of Agriculture and Biological Engineers **Blue Ribbon award**
- 2023 University of Florida **McNair Bostick Scholarship**
- 2023 University of Florida **Water Institute Travel Award**
- 2023 University of Florida **Graduate Student Council Travel Award**

- 2023 University of Florida Agricultural and Biological Engineering **top-up fellowship**
- 2023 University of Florida **Provost top-up funding**
- 2020 University of Florida **Grinter Fellowship**
- 2018 University of Wyoming **Y Cross Ranch Graduate Scholarship**
- 2018 Irrigation Association **E3 learner Education and Travel Award**

SELECTED PUBLICATIONS

- 2022: Methods to Quantify in-field Nutrient Leaching. https://doi.org/10.32473/edis-ae581-2022
- 2021: Comparison of Satellite Driven Surface Energy Balance Models in Estimating Crop Evapotranspiration in Semi-Arid to Arid Inter-Mountain Region. https://doi.org/10.3390/rs13091822
- 2020: Quantification and Mapping of Satellite Driven Surface Energy Balance Fluxes in Semi-Arid to Arid Inter-Mountain Region. https://doi.org/10.3390/rs12244019
- 2018: Nitrogen level and irrigation interval on mitigating Stemphylium blight and downy mildew in onion. https://doi.org/10.3126/ijasbt.v6i1.18795

SELECTED CONFERENCE TALKS

- 2023: Simulating Nitrogen and Water Dynamics in a Rotational Production System. A poster presentation at the Agronomy, Crop Science and Soil Science Society of America-International annual meeting (ASA, CSSA, SSSA).
- 2023: Rotational Production for Agricultural Best Management Practice (BMP). An oral presentation at the American Society of Agriculture and Biological Engineers - Annual international meeting (ASABE - AIM).
- 2022: Simulating Nitrogen and Water Dynamics in a Rotational Production System. A poster presentation at American Society of Civil Engineers- Environmental and Water Resource Institute (ASCE-EWRI).
- 2020: Comparison of Different Satellite-based Image Processing Models on Estimating Surface Energy Balance Fluxes in Semi-arid to Arid Region of Wyoming. An oral presentation at American Society of Agricultural and Biological engineers (ASABE), Virtual and On Demand.
- 2019: Quantification of Actual Crop Evapotranspiration using Satellite Remote Sensing in Southeast Wyoming and Nebraska Panhandle. A poster presentation at Sustainable Agricultural Research and Extension Center (SAREC), Lingle, WY.
- 2017: Nitrogen level and irrigation interval on mitigating Stemphylium blight and downy mildew in onion. An oral presentation at International Conference on Mountains in the Changing World (MoChWo) in Kathmandu, Nepal.

PROJECTS

- Assessing Nitrogen Transport in a Rotational Production System: Monitoring and Modeling for Water Quality Management: PhD. Dissertation
- Quantification and Mapping of Crop Evapotranspiration using Remote Sensing-based Surface Energy Balance Models: M.S. Thesis