

Somsubhra Chattopadhyay, Ph.D.
College of Natural Resources, University of Wisconsin – Stevens Point
Email: schattop@uwsp.edu
Phone: +1 7154969747

Professional Experience:

February 2024 – Present: Assistant Professor of Fisheries and Water Resources, University of Wisconsin – Stevens Point, WI, USA

January 2020 – November 2023: Postdoctoral Research Associate, Warsaw University of Life Sciences, Poland

August 2018 – December 2019: Assistant Professor of Civil Engineering, Mahindra Ecole Centrale, Hyderabad, India

July 2017 – July 2018: Postdoctoral Research Associate, Ashoka Trust for Research in Ecology and Environment (ATREE), Bangalore, India

Education:

August 2014 – June 2017: Ph.D. in Biosystems and Agricultural Engineering
University of Kentucky, Lexington, KY, USA

Advisor: Dwayne Edwards, Ph.D.

Dissertation title: Impact of climate change on extreme hydrological events in the Kentucky River Basin

August 2011 – December 2012: M.S in Civil and Environmental Engineering
North Carolina Agricultural and Technical State University, Greensboro, NC, USA

Advisor: Manoj K Jha, Ph.D.

Thesis title: Quantifying hydrological response for predicted Mid-Century climate variability and extremes in Haw River Watershed, North Carolina

August 2005 – July 2009: B.Tech in Agricultural Engineering

North Bengal Agricultural University, Coochbehar, West Bengal, India

Thesis title: Delineation of Teesta and Torsa River Basins from remotely sensed digital elevation data

Research Interests:

- Surface and subsurface hydrology
- Freshwater ecology
- Impact assessment of climate and land use change
- Changes in extreme hydrological events
- Aquatic biodiversity
- Isotope hydrology

Research Grant Awarded:

Chattopadhyay, S. (P.I), Singh, P. (Co-PI) 2018. Extreme weather event impacts on nutrient and sediment fluxes in the Godavari River Basin. Mahindra Ecole Centrale. Internal R&D Funding. Rs 3,18,000 INR

Edwards, DR. (P.I), **Chattopadhyay, S.** (Co-PI) 2015. Impact of climate change on extreme hydrological events in the Kentucky River Basin. KWRI- Kentucky Water Resources Institute. \$5000 for one year 03/2016- 04/2017

Research Grant Submitted:

Chattopadhyay, S (P.I), Masarik, KC. (Co-PI) 2024. Advancing our knowledge of groundwater nitrate and chloride export to surface waters and establishment of flow-ecology relationships for headwater streams. \$ 139K . Submitted to Wisconsin Water Resources Institute, November 2024.

Publications:

Refereed Journal Articles:

1. Grygoruk, M., **Chattopadhyay, S.**, Osuch, P., Trandziuk, P., Fabiszewski, M., Szewczyk, P., Korniluk, M. (2025) What makes the great snipe stay? Searching for hydrological drivers of *Gallinago media* displaying male abundance in selected breeding sites in eastern Poland. *Journal for Nature Conservation* 86, (<https://doi.org/10.1016/j.jnc.2025.126947>)
2. **Chattopadhyay, S.**, Szalkiewicz, E., Marcinkowski, P., Mirosław-Świątek, D., Piniewski, M. (2024) Assessment of climate change effect on environmental flows for macroinvertebrates using an integrated hydrological- hydraulic-habitat modelling. *Journal of Hydrology Regional Studies* (56, 10982, <https://doi.org/10.1016/j.ejrh.2024.101982>)
3. **Chattopadhyay, S.**, Szalkiewicz, E., Dytkiewicz, M., Marcinkowski, P., Mirosław-Świątek, D., Oglęcki, P., Piniewski, M. (2024) Development of an integrated modelling framework to evaluate impacts of pressures on habitat conditions and riverine biota. *Ecohydrology* (<https://doi.org/10.1002/eco.2585>)
4. Grygoruk, M., Nara, SN., **Chattopadhyay, S.**, Osuch, P., Trandziuk, P., Zawadzka, J., Bartoszek, H., Okruszko, T. Long-term analysis of groundwater levels in peatlands of the Biebrza Valley, Poland – trends, patterns and ecohydrological implications. *Ecohydrology and Hydrobiology (In review)*
5. Keller, A., Cherrat, C., Księżniak, M., **Chattopadhyay, S.**, Piniewski, M. What evidence exists on the impacts of flow variability on fish and macroinvertebrates of temperate floodplain rivers in Central and Western Europe? A systematic map. *Environmental Evidence (In review)*
6. Halecki, W., Łyszczarz, S., Lasota, J., Błońska, E., **Chattopadhyay, S.** (2023) Quantifying the soil water storage capacity of flysh catchments surrounded by mixed forests in Outer Carpathians. *Environmental Processes* 10:28 <https://doi.org/10.1007/s40710-023-00641-y>
7. Brauns, B., **Chattopadhyay, S.**, Lapworth, DJ., Loveless, SE., MacDonald, AM., McKenzie, AA., Muddu, S., Nara, SNV., Srinivasan, V. (2022) Assessing the role of groundwater recharge from tanks in crystalline bedrock aquifers in Karnataka, India, using hydrochemical tracers. *Journal of Hydrology X* 100121, 15
8. Baldan, D., **Chattopadhyay, S.**, Prus, P., Funk, A., Keller, A., Piniewski, M. (2022) Regionalization strategy affects the determinants of fish community structure. *Ecohydrology* <https://doi.org/10.1002/eco.2425>
9. Piniewski, M., Eini, M., **Chattopadhyay, S.**, Okruszko, T., Kundzewicz, ZW. (2022) Is there a coherence between observed and projected indices of low river flows and hydrological droughts in Central Europe? *Earth Science Reviews* (2022) <https://doi.org/10.1016/j.earscirev.2022.104187>
10. Lapworth, DJ., Brauns, B., **Chattopadhyay, S.**, Gooddy, DC., Loveless, SE., MacDonald, AM., McKenzie, AA., Muddu, S., Nara, SNV. (2021) Elevated uranium in basement aquifers of Southern India. *Applied Geochemistry*, 133, 105092

11. Keller, A., **Chattopadhyay, S.**, Piniewski, M. (2021) What evidence exists on the impacts of flow variability on fish and macroinvertebrates of temperate floodplain rivers in Central and Western Europe? A systematic map protocol. *Environmental Evidence*, 10:10
12. **Chattopadhyay, S.**, Ogłęcki, P., Keller, A., Kardel, I., Mirosław-Świątek, D., Piniewski, M. (2021) Effect of a summer flood on benthic macroinvertebrates in a medium-sized, temperate, lowland river. *Water*, 13, 885 DOI: 10.3390/w13070885
13. Piniewski, M., Szcześniak, M., Kardel, I., **Chattopadhyay, S.**, Berezowski, T. (2021) G2DC-PL+ A gridded 2 km daily climate dataset for the union of the Polish territory and the Vistula and Odra basins. *Earth System Science Data*, 13, 1273–1288, <https://doi.org/10.5194/essd-13-1273-2021>, 2021
14. Collins, SL., Loveless, SE., Muddu, S., Buvareshwari, S., Palamakumbura, R., Krabbendum, M., Lapworth, DJ., Jackson, CR., Gooddy, DC., Nara, SNV, **Chattopadhyay, S.**, MacDonald, AM. (2020) Groundwater connectivity of a sheared gneiss aquifer in the Cauvery River basin, India. *Hydrogeology Journal* 28, pages1371–1388, June 2020
15. **Chattopadhyay, S.**, Edwards, DR., Yu, Y., Hamidisepehr, A. (2017) An assessment of climate change impacts on future water availability and droughts in the Kentucky River Basin. *Environmental Processes*, DOI: 10.1007/s40710-017-0259-2, August 2017
16. **Chattopadhyay, S.**, Edwards, DR., Yu, Y. (2017) Contemporary and future characteristics of precipitation indices in the Kentucky River Basin. *Water*, 9, 109 DOI: 10.3390/w9020109
17. **Chattopadhyay, S.**, Edwards, DR. (2016). Long term trend analysis of precipitation and air temperature for Kentucky, United States. *Climate*, 4(10) DOI: 10.3390/cli4010010
18. **Chattopadhyay, S.**, Jha, MK. (2016). Hydrological response due to projected climate variability in Haw River Watershed, North Carolina, USA. *Hydrological Sciences* DOI: 10.1080/02626667.2014.934823
19. **Chattopadhyay, S.**, Jha, MK. (2014) Climate change impact assessment on watershed hydrology: a comparison of three approaches. *American Journal of Engineering and Applied Sciences*, Vol 7 Issue 1 (122-128), DOI: 10.3844/ajeassp.2014.122.128
20. **Chattopadhyay, S.**, Jha, MK. (2012) Watershed modeling of Haw River Basin for hydrology, water quality and climate change study. Paper No: 121337896, *Proceeding of the ASABE Annual International Meeting*, 2012

Manuscripts under preparation (Tentative titles):

1. Piniewski, M., **Chattopadhyay, S.**, Modala, NR., Bower, L., Keller, A., Baldan, D. Flow-ecology relationships under present and future climate scenarios for the fish community: a country -wide analysis from Poland. To be submitted to *Ecohydrology*

Workshops/Symposium attended:

1. Upscaling Catchment Processes for Sustainable Water Management (UPSCAPE) Annual India – UK review meeting, April 18-19, 2018, Bangalore, India
2. Workshop on “Hydrological Outlook” organized by Interdisciplinary Centre for Water Research (ICWAR), Indian Institute of Science, Bangalore, June 4-5, 2018
3. Symposium on “Challenges in flow and transport in porous media”, Department of Civil Engineering, IIT Hyderabad, March 11, 2019
4. Workshop on “Fuzzy logic and applications in Civil Engineering” organized by Centre of Excellence in Water Resources Management, Civil Engineering Department, BITS Hyderabad, March 15-16, 2019
5. Two day workshop on Computer Aided Simulation Model for Instream Flow and Riparia (CaSIMIR), Stuttgart, Germany, July 15-16, 2020

Conference/Meeting Presentations:

➤ *Oral*

- **Chattopadhyay, S.**, Ogłęcki, P., Keller, A., Kardel, I., Mirosław-Świątek, D., Piniewski, M. Impact of a summer flood on ecological status of a temperate, lowland river. June 7-10, 2022. 18th Biennial Conference of the Euromediterranean Network of Experimental and Representative Basins (ERB 2022), Elba Island Italy
- **Chattopadhyay, S.**, Dytkeiwicz, M., Marcinkowski, P., Mirosław-Świątek, D., Szalkiewicz Piniewski, M. Model-based linking of catchment-scale drivers, hydraulic conditions and macroinvertebrate habitat preferences - case study for the Jeziorka, June 19-23, 2022. XXIV International Conference on Computational Methods in Water Resources, Gdansk, Poland
- **Chattopadhyay, S.**, Baldan, D., Prus, P., Keller, A. & Piniewski, M. Impacts of regionalization strategy on the fish community structure in Polish rivers. August 3-6, 2021. 4th International Conference on the Status and Future of the World's Large Rivers, Moscow, Russia
- Piniewski, M., Eini, M., **Chattopadhyay, S.**, Okruszko, T., Kundzewicz, ZW. Is there a discrepancy between historical trends and future projections of low flows in Poland and neighboring countries? International Association for Hydro-Environment Engineering and Research, 2021 Annual Congress, Warsaw, Poland
- **Chattopadhyay, S.**, Edwards, DR. Assessing climate change impacts on future water availability and droughts in the Kentucky River Basin. March 20, 2017. Annual Water Resource Symposium, Kentucky Water Resources Institute. Lexington, KY, USA
- **Chattopadhyay, S.**, Jha, MK. Assessment of climate change impact on watershed hydrology. September 17-19, 2013, National Conference on Advancement of Environmental Science and Technology, Greensboro, NC, USA
- **Chattopadhyay, S.**, Jha, MK. Watershed Modeling of Haw River Basin using SWAT for Hydrology, Water Quality and Climate Change Study. July 29 –August 1, 2012, American Society of Agricultural and Biological Engineers, Annual International Meeting, Dallas, Texas, USA
- **Chattopadhyay, S.**, Jha, MK. Watershed Modeling of Haw River Basin using SWAT for Hydrology, Water Quality and Climate Change Study. July 16 -20, 2012, International SWAT conference, New Delhi, India
- **Chattopadhyay, S.**, Jha, MK. Effects of climate variability and change on water availability in the Haw River Basin, North Carolina. March 24 – 25, 2012, Water Resource Research Institute (WRRI) Annual Conference, NC State University, Raleigh, NC, USA

Invited Talks:

Sustainable water resources management and ecosystem biodiversity under changing climate. Presented in Wisconsin Initiative on Climate Change Impacts (WICCI) group meeting April 24, 2024, and on Natural Resources Institute, UW Madison (NRI) Coffee break on May 1, 2024

➤ *Poster*

- **Chattopadhyay, S.**, Edwards, DR. Spatiotemporal variability of historical extreme precipitation events in the Kentucky River Basin. July 17- 20, 2016, American Society of Agricultural and Biological Engineers, Annual International Meeting, Orlando, FL, USA
- **Chattopadhyay, S.**, Jha, MK. Watershed modeling of Haw River Basin using SWAT for hydrology, water quality and climate change study. April 24, 2012, Graduate Research Symposium, College of Engineering, NC A&T State University, Greensboro, NC, USA
- **Chattopadhyay, S.**, Jha, MK. Hydrological response due to predicted climatic variability in Haw River Watershed, North Carolina. November 15, 2012, 3rd Annual International Conference in Green and Sustainable Technology, Greensboro, NC, USA

Extension Publications:

1. **Chattopadhyay, S.**, Agouridis, C., Fox, J. (2016) Sediment fingerprinting. Cooperative Extension Service, University of Kentucky, College of Agriculture, Food and Environment
2. **Chattopadhyay, S.**, Agouridis, C., Warner, R. (2016) Modelling Best Management Practices. Cooperative Extension Service, University of Kentucky, College of Agriculture, Food and Environment

Teaching Experience:

University of Wisconsin-Stevens Point, College of Natural Resources, Stevens Point, WI

Advanced Hydrologic Analysis, WATR 493

Spring 2025

- 3 Credit, Lecture and lab (Instructor)
Modelling, prediction and simulation of hydrologic events and impact assessment using GIS and hydrologic statistical tools

GIS Applications in Natural Resources, WATR 391

Fall 2024

- 3 Credit, Lab instructor

Mahindra University, Hyderabad, India

Irrigation and Drainage Engineering, CIEN 488

Fall 2019

- 3 Credit, Lecture (Instructor)
Analysis and quantification of evapotranspiration, soil moisture and water movement as it pertains to irrigation and drainage systems; design of irrigation and drainage system components

Remote Sensing and GIS for Environmental Engineering, CIEN 485

Spring 2019

- 3 Credit, Lecture (Instructor)
Concepts of remote sensing, digital image processing, GIS system, applications to rainfall-runoff modelling, watershed management, introduction to Microwave remote sensing

Earth and Environmental Sciences, ES 103

Fall 2018

- 2 Credit, Lecture (Instructor)
Discussion of scientific principles, concepts, and methodologies required to decipher the existing interrelationships in the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems

Environmental Engineering, CE 419

Fall 2018

- 3 Credit, Lecture (Instructor)
Application of environmental concepts as it relates to: water resource management, water and wastewater treatment, air pollution control, solid waste management, environmental impact assessment, and environmental ethics.

Ashoka Trust for Research in Ecology and Environment, Bangalore, India

Quantitative Methods

Spring 2018

- 4 Credit, Lecture (Co-Instructor)

Teaching Assistant Experience

- BAE 103 Energy in Biological Systems
 - Spring 2016: University of Kentucky, Aided the instructor in grading and labs

- CAAE 362 Fluid Mechanics
 - Fall 2012, 2013: North Carolina A&T State University, Instructed lab sessions
- CIEN 560 Water Resources Engineering
 - Fall 2011: North Carolina A&T State University, Aided the instructor in grading and labs
- BAE 371 Land Resources Environmental Engineering
 - Fall 2010: North Carolina State University, Aided the instructor in grading and labs

Student Guidance (Undergraduate Research Projects)

- 1) Detection of landuse and landcover change in the Godavari Basin using remote sensing data
- 2) Groundwater prediction in the Cauvery Basin using multiple regression models
- 3) Identification of critical locations for enhancing groundwater recharge in the Godavari Basin

Scholarships, Awards and Achievements:

- Rectors award for outstanding research activity, Warsaw University of Life Sciences, Poland, October 2022
- ASABE Blue Ribbon Award for best publication in short paper category, ASABE annual international meeting, Spokane, Washington, 2017
- 1st position in the poster competition at 3rd Annual International Conference in Green and Sustainable Technology, 2012
- Junior Research Fellowship exam (JRF) PG 2009 conducted by Indian Council of Agricultural Research (ICAR) with all India rank 77
- Regular recipient of University Merit Scholarship (2005-2009)
- Certificate of Academic Achievement, 2005

Professional Affiliations:

- Life Member, Indian Water Resources Society (IWRS)
- Life Member, Indian Association of Soil and Water Conservationists (IASWC)
- Member, International Association of Hydrological Sciences (IAHS)
- Member, American Society of Agricultural and Biological Engineering (ASABE)

Review Assignments:

- Journal of Hydrology
- Hydrological Processes
- Water
- Climate
- Cogent Environmental Sciences
- Cogent Food and Agriculture
- Environmental Processes
- Meteorological Applications
- Theoretical and Applied Climatology
- Groundwater for Sustainable Development

Responsibilities:

- Vice President, Alpha Epsilon of University of Kentucky, April 2016- April 2017
- Treasurer, Alpha Epsilon of University of Kentucky, April 2015- April 2016

Professional Service and Committees:

- College of Natural Resources Europe Summer Experience: Member 2025-Present

Search and Screen Committee:

- Director for Center of Land Use, University of Wisconsin – Stevens Point 2025

References:

- Dr. Dwayne Edwards
Professor, Biological Systems Engineering
Virginia Tech, Blacksburg, USA
dredwards@vt.edu
- Dr. Manoj K Jha
Professor, Civil Engineering
North Carolina A&T State University, Greensboro, USA
mkjha@ncat.edu
- Dr. Mikolaj Piniewski
Associate Professor, Civil Engineering
Warsaw University of Life Sciences, Poland
mikolaj_piniewski@sggw.edu.pl
- Dr Mateusz Grygoruk
Associate Professor, Civil Engineering
Warsaw University of Life Sciences, Poland
mateusz_grygoruk@sggw.edu.pl

