Leah Marie Kocian

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ACADEMICS

Texas A&M University, College Station, TX *Ph.D. (Pursuing), BAEN Program*
- Characterizing Contaminant Transport in Urban Gardens *August 2019 – Present | GPA: 4.0*
Committee: Dr. Binayak P. Mohanty (Chair), Dr. Salvatore Calabrese (TAMU), Dr. Hongbin Zhan (TAMU)

Texas A&M University, College Station, TX BE, Biological & Agricultural Engineering (BAEN)
Advisor: Dr. Binayak P. Mohanty *August 2015 – May 2019 | GPA: 3.25*

LEADERSHIP, MENTORSHIP, & TEACHING

- **(2021-Present) President | Chair of the Board:** TAMU Graduate Consulting Club
  - Built a driven, adaptive, and diverse leadership team of 9 students from 4 colleges and engaged 150+club members by adding case-interview prep, 6+ pro-bono projects, and 10+ case workshops
  - Organized the first consulting case competition at Texas A&M University hosting 100+ participants and various industry professionals from McKinsey, Bain, LEK, Deloitte, PwC, Google, TAMU, Duke Energy, and LAM Research
  - Multiplied club endowment by 5.7x in 3 years through company sponsorships, proposal, and membership dues
  - OGAPS proposal accepted **$2,000**
  - EOG Resources inc. funding proposal accepted **$2,000**
  - Good Bull Fund proposal accepted **$4,250**
- **(2021) Team Lead for Pro-Bono Consulting Opportunities**
  - Led a team of 4 to conduct a market entry analysis for a medical device startup synthesizing a highly customized, actionable set of recommendations resulting in a follow-up project for the next year
- **(2021) Co-developed a College Course**: Biological and Agricultural Engineering, TAMU
  - Collaborated with faculty to develop assignments designed to guide students in the application of concepts learned in class to enhance comprehension and proficiency of the course material
- **(2019-2021) Graduate Teaching Assistant**: Biological and Agricultural Engineering, TAMU
  - Oversaw the coordination and presentation of student capstone projects, providing comprehensive guidance on project inquiries and evaluating project submissions to ensure student success within the course

WORK EXPERIENCE

- **(2021-Present) Graduate Assistant Researcher:** Biological and Agricultural Engineering, TAMU
  - Explore innovative methodologies for characterizing the transport of contaminants of concern within complex and dynamic urban environments to improve land and water resource quality management and practices
  - Communicate synthesized results bi-weekly to CEO and legal team through slide-deck presentations
  - Reduced experimental processing time by 30% through mentorship and training of undergraduate students
- **(2021-Present) Laboratory Supervisor:** Soil & Water Quality Laboratories at Texas A&M University
  - Oversee operations and maintenance of a $300k+ lab and train 10+ students on precision instrument handling
  - Cut cleanup costs by 55% through efficient resource allocation and judicious 3rd party contract negotiation
  - Developed procedures and protocols across 4 labs to improve efficiency, communication, and optimization
- **(2022) NSF I-Corps Program:** Texas A&M University
  - Conducted a research survey over a 6-week period, engaging with 30+ community members to investigate local challenges, and successfully secured funding to advance the development of solutions based on the findings **$5,000**
- **(2019) Environmental Engineer & Scientist Intern**: Austin Watershed Protection Department
  - Led 20+ field campaigns to study the relationship between geographical location and bacteria count in Austin lakes
  - Directed City of Austin's attention to key issues on water protection in a synthesized report of my research findings
- **(2019) Redesigned a Wastewater Treatment System in Ecuador**: Senior capstone project, TAMU
  - Enhanced the effectiveness of a rural village wastewater treatment system within the allocated time frame and budget constraints of the municipality by conducting site visits, administering local surveys, and applying engineering expertise
- **(2018-2020) STEM/Coding, Writing, and Microsoft Suite Tutor**: Chegg Tutoring Services
- **(2017-2019) Graduate Microbiology Lab Technician**: Soil & Crop Sciences, TAMU
- **(2017-2018) Researcher for Antibiotic Resistant Bacteria Along the Maumee River**: Soil & Crop Sciences, TAMU
- **(2017-2018) FEMA Well Water Quality Research**: AgriLife Extension Services, TAMU
- **(2017) Research on Effectiveness of Various Septic System Models for Improved Water Quality**: TAMU
- **(2015) Designed a Water Well Construction Manual**: Just4Water, TAMU

SERVICE & COMMUNITY ENGAGEMENT

- **(2024) Moderator**: *Regional Middle School Science Bowl*
- **(2020-Present) Workshops Organized**: *Geospatial Analysis & Visualization in R*
  - Collaborated with colleagues to develop a hands-on workshop to train 120+ attendees on geospatial analysis and visualization using R coding language for implementation into their research and publications
- **(2015-Present) Volunteer:** Star of Hope Mission in Houston, Texas
  - Coordinate gift-organizing and wrapping logistics, and direct 50+ volunteers for the annual holiday gifting events
  - Streamlined resident checkout times by 50% by overhauling the front desk book-keeping system
- **(2016, '17) Volunteer**: Big Event in College Station, TX

SCHOLARSHIPS & AWARDS

- **(2023) Reactive Transport Modeling Course at The Colorado School of Mines Travel Award** — **$700**
- **(2022 & '23) George & Mary Lewis Merit Endowed Scholarship** — **$1,500**
- **(2021, '22 & '23) BAEN Departmental Scholarship – GPEF** — **$3,000**
- **(2020-2023) BAEN GSA Travel Award for AGU Fall Meetings** — **$4,000**
- **(2021) Grad Merit – BAEN Lump** — **$1,500**
- **(2019, '20 '23, '24) Kate & Tony Sutherland End Scholarship** — **$2,000**
- **(2019 & '23) CLAG BAEN DT Scholarship** — **$2,625**
- **(2019) Travel award to study abroad in Mexico** — **$350**
- **(2019) Ben T & Mattie B Little scholarship fund** — **$500**
- **(2019) COADC Calvin & Peggy Parnell** — **$500**
- **(2017) Water Quality Research Fellowship** — **$5,000**
- **(2017) LSAMP scholarship** — **$5,000**

PUBLICATIONS, ARTICLES & PRESENTATIONS

[1] **Kocian, L.**, Mohanty, B.P. "Characterizing contaminants of concern across urban gardens in Texas driven by hydraulic processes". In: *Texas A&M Water Day*. 2024

[2] **Kocian, L.**, Mohanty, B.P. "Characterizing large-scale preferential flow across Continental United States". In: *AI in Agriculture and Natural Resources Conference.* 2024.

[3] **Kocian, L.**, & Mohanty, B. P. (2024). Characterizing large-scale preferential flow across Continental United States. *Vadose Zone Journal*, e20316.

[4] Laura Almendra-Martin, Debasish Mishra, Deep Shah, **Leah Kocian**, Vinit Sehgal, Hatim Geli, Andrew Feldman, Huilin Gao, and Jasmeet Judge. Zooming in from space: finer spatial resolution products for hydrological monitoring. (2024, March). *March 2024 AGU Hydrology Section Newsletter*. pp. 5.

[5] **Kocian, L.**, Mohanty, B.P. **AGU Fall Meeting Oral Presentation:** "Analyzing Organic Contaminant Concentrations in Urban Gardens in Texas and Associated Human Health Risks". In: *AGU Fall Meeting Abstracts H22A-03.* 2023.

[6] Sehgal, V., Shubham Jain, **Leah Kocian**, and Debasish Mishra. "Large-Scale Geospatial Data Analysis and Visualization in R". In: *AGU Fall Meeting*. AGU. 2023.

[7] **Kocian, L.**, Mohanty, B.P. **"**Evaluating the Presence of Preferential Flow Using Remote Sensing, Inverse Modeling, and Machine Learning Algorithms". In: *AGU Fall Meeting Abstracts H25Q-1309*. 2022.

[8] Sehgal, V., Shubham Jain, **Leah Kocian**, and Debasish Mishra. "Large-Scale Geospatial Data Analysis and Visualization in R". In: *AGU Fall Meeting*. AGU. 2022.

[9] Sehgal, V., Shubham Jain, and **Leah Kocian**. "Large-Scale Geospatial Data Analysis and Visualization in R". In: *AGU Fall Meeting*. AGU. 2021.

[10] Mukherjee, M.; **Marie, L.**; Liles, C.; Mustafa, N.; Bullerjahn, G.; Gentry, T.J.; Brooks, J.P. (2021). Elevated Incidences of Antimicrobial Resistance and Multidrug Resistance in the Maumee River (Ohio, USA), a Major Tributary of Lake Erie. *Microorganisms* 2021, 9, 911.

[11] Mukherjee, M; **Kocian, L**; Liles, C. "Patterns of antimicrobial and multidrug resistance in the Maumee River basin of Lake Erie". In: *Texas Branch American Society for Microbiology Fall Meeting*. 2017.

MISCELLANEOUS

Technical Skills: Project management, R, data analytics, statistics, probability, machine learning, and optimization
Professional Memberships: American Geophysical Union (2019-Present) and Alpha Epsilon (2017-Present)
Languages: English (native) and Spanish (limited working proficiency)
Non-academic achievements: Earned a black belt in Taekwondo under Master Amani, former trainer of the Olympic gold medalist, Steven Lopez
Hobbies: Escape rooms, traveling, chess, LEGO puzzles, and weightlifting