

Marcia R. Silva, Ph.D., M.B.A., CRA

Senior research development leader with over 20 years of experience advancing institution-wide research strategy, large-scale proposal development, and interdisciplinary team science across the University of Wisconsin and University of Illinois systems. Proven track record of aligning institutional priorities with federal funding landscapes to strengthen research capacity and competitiveness at R1 universities.

Currently serves as Associate Director for R&D and Partnerships at the AI.Health4All Center at the University of Illinois Chicago, providing strategic leadership for research development initiatives spanning artificial intelligence, quantum-adjacent research, biomedical and clinical sciences, health equity, and emerging computational technologies. In parallel, supports strategic research initiatives within UIC's College of Medicine under the Dean's Office, advising faculty and research leadership on portfolio strategy, proposal positioning, and multi-unit collaboration.

Previously served as Associate Director of Research & Development at the Discovery Partners Institute across the University of Illinois System, leading enterprise-level research development operations supporting three universities. Coordinated and supported more than 100 interdisciplinary proposals annually, contributing to over \$100M in externally funded awards across NSF, NIH, DOE, DoD, EDA, BARDA, state agencies, foundations, and industry partners, including multiple large-scale, multi-institutional initiatives.

Earlier leadership roles at the University of Wisconsin–Milwaukee included serving as Director of the Water Technology Accelerator and the Nanofabrication and Microscopy Facility, where responsibilities spanned research infrastructure leadership, faculty engagement, team supervision, and coordination with central research administration on pre- and post-award activities. This experience provided deep familiarity with the UW System research environment, shared governance culture, and institutional research capacity building.

Brings extensive experience building and leading research development teams and infrastructures, including development of standardized proposal workflows, performance metrics and KPIs, sponsor intelligence functions, and staff mentoring frameworks. Recognized as a collaborative, data-informed leader with a strong commitment to inclusive excellence, cross-disciplinary engagement, and advancing university-wide research strategy.

EDUCATION & PROFESSIONAL CREDENTIALS

Doctor of Philosophy, University of Wisconsin-Milwaukee, Milwaukee, WI, USA

Civil Engineering – Environmental Concentration

Graduation Date: Spring 2013

- Dissertation: An integrative investigation of sources, fate, and transport of bacteria in Milwaukee.

Master of Science, University of Wisconsin-Milwaukee, Milwaukee, WI, USA

Civil Engineering – Environmental Concentration

Graduation Date: December 2006

- Thesis: Removal of green fluorescent labeled *Escherichia coli* using bench-scale drinking water biofilters: a comparison of biofilm developed under different conditions.

Bachelor of Science in Engineering, University of the Sinos Valley, RS, Brazil

Food Engineering

Graduation Date: July 2004

- Thesis: Comparison of two male-specific (F+) / Somatic coliphage and evaluation of their usefulness for testing stormwater coastal beaches.

Master of Business Administration (M.B.A.), University of Wisconsin-Milwaukee, Milwaukee, WI, USA

UWM Lubar School of Business

Graduation Date: May 2019

- Dr. Silva pursued her M.B.A. degree to better align technical progress with business strategy and deep her understanding of business and customer needs, stakeholders' perspectives, and financial levers and operations.

Certified Research Administrator (CRA), University of Illinois Urbana Champaign, IL, USA

UIUC Sponsored Programs and Research Compliance (SPaRC)

Graduation Date: April 2025

- Series of courses cover various aspects of the sponsored project lifecycle, including proposal development, pre and post award processes, and projects closeout.

Professional Certificates (Non-degree), Quantum Computing

Massachusetts Institute of Technology (MIT) xPRO

Expected completion: June 2026

- Introduction to Quantum Computing (Apr–May 2026)
- Quantum Algorithms for Cybersecurity, Chemistry, and Optimization (May–Jun 2026)

SENIOR RESEARCH & ADMINISTRATIVE EXPERIENCE

Associate Director R&D and Partnerships, AI.Health4All Center and Strategic Research Initiative Support, Department of Medicine (COM), UIC

University of Illinois Chicago

Chicago, IL

Oct. 2025 – Present

(Initially appointed through inter-unit strategic research buyout from DPI)

Leadership & Strategic Oversight

- Provide institution wide leadership for research development and partnership strategy at UIC's AI.Health4All Center, advancing interdisciplinary initiatives at the intersection of AI, health equity, biomedical innovation, quantum technologies, and digital infrastructure.
- Drive development and execution of high-value, multi-institutional proposals—including \$100M-scale philanthropic and federal submissions—supporting programs in AI-enhanced healthcare delivery, data-driven diagnostics, cognitive aging, digital endpoints, and next-generation sensing technologies.
- Offer strategic guidance on internal research program design, intramural coordination, and prioritization of emerging scientific domains, ensuring alignment with UIC's mission in AI, computing, engineering, public health, and clinical innovation.
- Apply PhD-level methodological rigor to strengthen scientific narratives, reduce execution risk, and elevate competitiveness of institutional initiatives.

Program Development & Interdisciplinary Coordination

- Build and coordinate multi-college, multi-institute collaborations supporting early-stage concept development, methodological planning, and translational pathways for emerging technologies across neuroscience, digital health, compliance, environmental systems, clinical innovation, and AI.
- Integrate AI/ML, computational modeling, and quantum-adjacent methods into intramural research programs, enhancing UIC's position in convergent health innovation.
- Lead structured ideation, scientific integration, and operational planning for complex cross-hub programs (e.g., NIH UG3/UH3, PAR-25170), including development of shared calendars, harmonized terminology, and unified scientific voice.

Research Development, Proposal Strategy & Partnerships

- Oversee development of complex research proposals across AI, computational health, biomedical engineering, public health forecasting, and neuroscience—ensuring clarity of aims, feasibility, milestones, and multi-team coordination.
- Partner with UIC leadership, Advancement, and system-wide research offices to identify institutional priorities, shape strategic roadmaps, and position UIC for competitive federal, foundation, and philanthropic investment.
- Cultivate partnerships with national laboratories, industry (e.g., GE Healthcare), state agencies, and community organizations, leading compliance planning and readiness across IRB, OTM, OSP, privacy, and data governance to de-risk collaborations and accelerate execution.
- Demonstrate agility navigating diverse stakeholder environments—clinicians, engineers, AI scientists, administrators, policymakers, and industry partners—translating complex domains into actionable strategy.

Research Infrastructure, Performance Management & Scholarly Visibility

- Developed a five domain KPI framework (under leadership review) to strengthen performance tracking, strategic decisionmaking, and revenue growth for AI.Health4All.
- Streamlined proposal development workflows via digital platforms (e.g., Notion), reducing coordination bottlenecks, improving transparency, and accelerating multi-team document integration.
- Contribute scholarly expertise to manuscripts on digital wastewater resilience and ML-driven public health forecasting, leveraging environmental engineering background to elevate UIC's digital health profile.

Quantum Health

- Chair and lead UIC's Quantum Health Working Group, convening faculty across engineering, computer science, medicine, public health, and physics to define emerging research directions and build institution-wide strategy for quantum-enabled analytics and modeling.
- Integrate interdisciplinary expertise to articulate conceptual frameworks for quantum-informed applications in imaging, biosensing, population-health risk modeling, and environmental-health analytics.
- Mentor trainees and early-career researchers in developing cross-disciplinary competencies at the intersection of quantum science, data analytics, biomedical innovation, and environmental modeling.
- Delivered invited talk, "Quantum Computing in Medicine: Why It Matters, Where AI Struggles, and Opportunities in Retinal Imaging & Radiology" (Mar 16, 2026), framing institutional readiness for next-generation computational approaches.

Visiting Research Assistant Professor, Department of Anatomy and Cell Biology, College of Medicine

University of Illinois Chicago

Chicago, IL

Apr. 2026 – Present

Affiliate Faculty Appointment, Department of Biomedical Engineering. College of Engineering and College of Medicine

University of Illinois Chicago

Chicago, IL

Oct. 2025 – Present

Associate Director R &D, Discovery Partners Institute (DPI)

University of Illinois-System

Chicago, IL

Oct. 2022 – Oct. 2025

Leadership & Strategic Oversight

- Serves as a strategist, leading enterprise-level research development initiatives, overseeing proposal development and pre-award financial management efforts, including all associated administrative processes and documentation, along with selected post-award activities.
- Developed and implemented key performance indicators (KPIs) to monitor and enhance research development outcomes, proposal success rates, and strategic alignment across DPI.
- Manages all DPI research proposal submissions and contract processes with federal and state agencies, foundations, and corporate partners.
- Provides strategic oversight of research compliance operations, including human and animal subjects protections, biosafety, chemical safety, and pre-award financial management, ensuring alignment with federal regulations and institutional policies.
- Leads 32 Science Teams across the University of Illinois System (UIUC, UIC, UIS), managing a \$4M seed grant portfolio that has contributed to fuel innovation, support interdisciplinary collaboration, and empower researchers across the System at a critical stage in their work, and helping to secure over \$100M in external funding across the system since 2020.
- Serves as DPI's primary point of contact for research initiatives related to water and sustainability.
- Leads the DPI Webinar Series since 2022, fostering knowledge exchange and community engagement across research and innovation topics.

Research Development & Funding Impact

- Leads efforts that more than doubled the number of grant submissions in her first year at DPI and nearly quadrupled them in the second. This growth was driven by fostering cross-functional collaboration, streamlining proposal processes, and implementing strategic planning frameworks—resulting in over 110 proposals annually and totaling \$100 million in annual submissions.
- Played a key role in securing major strategic funding, including:
 - \$10M NSF-UKRI award for the Global Center for Clean Energy and Equitable Transportation Solutions (CLEETS) – Led all pre-award coordination and documentation efforts, facilitating collaboration between U.S. and U.K. teams.
 - \$7M State contract for the Cannabis Research Institute (CRI) – facilitated the contract process.
 - Renewed contracts for the Wastewater-Based Epidemiology (WBE) team with CDPH and IDPH – supported contract facilitation.
- Manages grants such as a \$3M Economic Development Administration (EDA) award for deep-tech science teams, serving as Director of Business Development for the initiative.

Collaboration & Innovation

- Identifies and cultivates opportunities for multidisciplinary collaboration across the University of Illinois System.
- Enhances internal collaboration across DPI's R&D applied, R&D Industry, Workforce Development, and Ventures teams.
- Expands partnerships with national labs (Argonne and Fermilab), government agencies, corporations, startups, and international partners through joint research proposal initiatives.
- Works closely with central offices at UIUC, UIC, and UIS to align research strategies and operations.

Training, Innovation Tools & Infrastructure

- Provides training to researchers on compliance (chemical, biosafety, human/animal subjects), proposal writing, budget preparation, and intellectual property (IP) awareness.
- Key contributor and founding team member of the DPI IMPACT tool—a search engine that connects researchers with grant and industry opportunities.

- Helped establish DPI's first wet lab and collaborated with the Climate team on environmental justice initiatives.

Advanced Computing, Cloud Infrastructure & Compliance

- Collaborated with DPI science and software teams to secure cloud resources to support collaboration aligning infrastructure needs with strategic goals.
- Helped to secure funding to enable Azure SCE access for an ARL project with sensitive research information and coordinated with secure systems to ensure compliance with NIST 800-171 guidelines; advised on internal funding strategies to support sustained cloud-based infrastructure.
- Supported the Climate team's HPC expansion efforts—including asset-level weather forecasting, LLM integration, and air quality modeling—by contributing to funding strategy development and outreach, though additional funding was not secured.
- Supported software teams to obtain clouds credits to support AI-driven tools such as the IMPACT platform, IWSS Dashboard, and AerisIQ, wastewater epidemiology, privacy-preserving AI, and environmental risk modeling.

Synchrotron Radiation Science & National Lab Collaborations

- Led DPI Science Teams program supporting collaborative research with Argonne and Fermilab, enabling integration of synchrotron-based techniques and advanced imaging into environmental and biomedical applications.
- Supported Argonne's Applied Materials Division in a project focused on electrocatalytic nitrate remediation, where synchrotron radiation was used for catalyst characterization and performance optimization.
- Facilitated AI-driven environmental modeling efforts using Argonne's Waggle edge computing and Sage sensor networks, contributing to hyperlocal pollution prediction and digital infrastructure strategy.
- Enabled Fermilab collaborations on distributed machine learning for accelerator optimization and explainable AI for neutrino experiments, advancing data-intensive science through robust computing and imaging workflows.
- Advised on funding strategies and compliance coordination for projects involving high-fidelity data, imaging systems, and photon science tools, aligning with DOE and institutional priorities.

Professional Engagement

- Active member of the National Organization of Research Development Professionals (NORDP).
- Active member of the NSF Great Lakes Water RENEW Engine All Hands Meetings participating in monthly meetings.
- Active member of the Illinois Quantum and Microelectronics Park (IQMP) Briefing & Status updates monthly meetings.

Innovations in Water Quality, Digital Public Health and Infrastructure Resilience

Led and contributed to multidisciplinary research initiatives under DPI's health hub, focused on advancing water quality, public health, and infrastructure resilience. Projects included applying machine learning to optimize pollutant removal in Chicago's wastewater treatment plants, analyzing the spatial distribution of PFAS across Illinois water systems, enhancing digital resilience in water and wastewater infrastructure, modeling bacterial contamination at Chicago beaches, developing water technologies to reduce biofilm in data center cooling systems, and investigating environmental drivers of microbial water quality to inform predictive beach management strategies.

Applied AI in Research and Innovation

Led interdisciplinary science teams applying artificial intelligence across healthcare, agriculture, chemistry, construction, transportation, privacy, and public safety. Directed initiatives involving predictive modeling, autonomous systems, generative AI, privacy-preserving analytics, and explainable machine learning. Oversaw the integration of AI into real-world solutions such as wearable diagnostics, misinformation detection, multimodal brain data analysis, smart infrastructure, and decision support tools—demonstrating a deep understanding of AI's transformative potential across sectors.

Wastewater Surveillance scalability: Led strategic efforts to expand wastewater-based epidemiology initiatives, including the development of a comprehensive business plan to support scalability. The plan evaluated potential collaborations with public health agencies, academic institutions, and technology providers, and addressed operational models, funding strategies, and integration of surveillance data into public health decision-making frameworks.

DPI Biofoundry Initiative: Participated in the DPI–UIUC Biofoundry initiative focused on developing scalable biofoundry capabilities in Chicago. Contributed to strategic planning and collaborative discussions aimed at advancing regional infrastructure for synthetic biology and translational research.

International collaboration:

Community-Led Circular Bioeconomy Hubs for Climate Resilience and Food-Water-Energy Security in Kenya- Collaborative initiative with Dr. David Sterling (Research Professor, Institute of Public Policy and Governance, Strathmore University, Nairobi, Kenya), Annie Thomson (Creative Conservationist, Studio Ngong, Germany), and Dr. Marcia Silva. From February 2024 to August 2025, the team engaged in monthly strategic discussions to co-design community-based circular bioeconomy models aimed at enhancing climate resilience and integrated resource security. Dr. Silva contributed to conceptual development, stakeholder engagement strategies, and applied research planning.

Innovations in Cooling Systems and Data Center Water Management

Dr. Silva has led collaborative efforts with startups to develop and scale technologies aimed at reducing biofilm formation in water cooling systems, a critical challenge for data center efficiency and reliability. Her work includes co-developing non-invasive sensors and filtration materials, securing patents and licensing agreements, and writing joint proposals to advance these innovations. She completed specialized training in AI and Data Centers: Innovations and Opportunities and Calculating Total Cooling Requirements through Schneider Electric Data Centre University, enhancing her understanding of infrastructure needs and thermal management. She is scheduled to deliver an invited talk in October 2025 titled “Requirements of Water Quality for Data Centers: History and Future” as part of the DPI Webinar Series, further demonstrating her leadership at the intersection of environmental engineering and digital infrastructure.

Advisory Member, ECOSOC Subcommittee on Sustainable Water Governance *WaterRising Institute | 2025–Present*

- Provide strategic guidance on water governance, infrastructure, and sustainability aligned with UN SDG 6 (Clean Water and Sanitation).
- Engage with cross-sector stakeholders including municipal leaders, utility directors, and youth representatives to advance equitable and resilient water systems.
- Contribute to program evaluations, policy recommendations, and development of best practice resources.
- Participate in quarterly meetings and collaborate on major initiatives and reports.

- Support advocacy efforts and represent the subcommittee at forums and community events.

Member, AI2030

AI2030 Responsible Artificial Intelligence - <https://ai2030.org/> | 2025–Present

AI 2030 is a global initiative committed to mainstreaming Responsible AI by the year 2030. It promotes ethical, inclusive, and sustainable AI development through six core pillars: transparency, fairness, accountability, privacy, sustainability, and security. The initiative empowers professionals, fosters global collaboration, and supports innovation.

Assoc. Scientist and Director – Water Technology Accelerator (WaTA) and Nanofabrication and Microscopy Facility (NMF)

University of Wisconsin-Milwaukee

Milwaukee, WI

February 2020 – Oct. 2022

Assoc. Scientist and Director – Water Technology Accelerator (WaTA) - Global Water Center

University of Wisconsin-Milwaukee

Milwaukee, WI

July 2018 – Oct. 2022

Strategic Leadership & Facility Oversight

- Served as a strategist, leading the scientific and operational activities of the Water Technology Accelerator (WaTA) and Nanofabrication and Microscopy Facility (NMF).
- Directed all aspects of facility operations, including leadership of technical and financial teams, oversight of environmental health and safety, quality assurance, and regulatory compliance—ensuring alignment with institutional policies and federal research standards.
- Developed and implemented cleanroom fabrication and characterization protocols.
- Managed equipment acquisition, installation, maintenance, and lab-based training.
- Evaluated space requests and arranged agreements with internal and external collaborators.
- Developed and implemented policies for shared equipment usage in consultation with university leadership.
- Oversaw use of shared equipment including training, usage tracking, and billing.

Research Administration & Team Development

- Led research and business development efforts, collaborating with the Office of Research on pre-award and post-award activities.
- Supervised and supported faculty, researchers, and students across WaTA and NMF.
- Coordinated development of multidisciplinary teams to pursue new research initiatives.
- Advised researchers and students on research administration and institutional policies.
- Managed and reported on annual performance metrics for both facilities.
- Developed and managed annual operating budgets.

Stakeholder Engagement & Innovation Promotion

- Cultivated a strong academic-industry environment, connecting WaTA to over 100 companies.
- Conducted ongoing engagement with stakeholders through meetings, strategy sessions, and formal presentations.
- Delivered presentations to industry, universities, agencies, and professional associations.
- Developed and promoted business cases to attract new research opportunities.
- Represented WaTA at water-related meetings and served on relevant committees.
- Established credibility as a thought leader in materials characterization, innovation, and sustainability.

Collaboration & Global Partnerships

- Connected WaTA researchers to collaboration opportunities locally, nationally, and internationally.
- Built partnerships with international water hubs in Israel, The Netherlands, China, Brazil, Singapore, France, Mexico, Australia, Japan, and South Korea.
- Liaised with startups, industries, agencies, and the Water Council and the Water Equipment and the Policy Industry–University Cooperative Research Center (WEP IUCRC) to strengthen strategic relationships.

Fundraising:

- Collaborated with a team led by the Dean of the School of Freshwater Sciences at UWM to help secure over \$1.2 M in state funding for the Water Technology Accelerator (WaTA), supporting both equipment acquisition and seed funding for new research initiatives.
- Facilitated strategic partnerships for WaTA researchers, connecting them to collaboration opportunities at the local, national, and international levels, including with industry, government agencies, WEP IUCRC Center and global water hubs.

PREVIOUS APPOINTMENTS

Asst. Scientist and WaTA Facility Manager – Water Technology Accelerator (WaTA) - Global Water Center

University of Wisconsin-Milwaukee

Milwaukee, WI

July 2017 – June 2018

- Responsible for research administration (lead research and business development, collaborated with office of research on pre-award and post award activities),
- Liaised with the Water Council, Water Equipment and Policy WEP/IUCRC Center, Freshwater Collaborative and other water community representatives to connect local and global water industries, universities, and startups to UWM researchers, strengthening relationships and interactions with our current and potential strategic regional and global partners.
- Managed all aspects of the WaTA, which was focused on the development of novel water technologies. WaTA is a shared facility with six scientists, about 70 students/staff, startups conducting projects in collaboration with scientists on site, and three shared laboratories.
- Assisted in assembling and leading multidisciplinary teams to address new water opportunities.
- Managed funds for nine Water Catalyst Grants and WaTA shared equipment, all totaling \$3M, funded by the University of Wisconsin-System.
- Responsible for managing and reporting the Facility's annual performance metrics.
- Represented WaTA at water related meetings and on relevant committees.
- Taught UWM classes.
- Advised undergraduate and graduate students.
- Worked on externally funded research projects.

Research Associate and WaTA Facility Manager – Water Technology Accelerator (WaTA) - Global Water Center

University of Wisconsin-Milwaukee

Milwaukee, WI

Aug. 2013 – June 2017

- Conducted research on the interface of Materials Science and Environmental Engineering

- Managed all aspects of the UWM Water Technology Accelerator, including research administration.
- Liaised with the Water Council to connect water industries and startups to UWM Researchers
- Mentored over 50 students.

Dissertator Fellow in the Department of Civil Engineering

*University of Wisconsin-Milwaukee Milwaukee, WI Dr. Hector Bravo and Dr. Sandra McLellan
2011-2012*

- Developed a novel optical-based method for laboratory scale assessment of model organisms (GFPuv *E. coli*) in aqueous system.
- Applied this novel technique on the assessment of attachment of bacteria to particles at a sheared fluid simulating beach environmental condition.

- Research Assistant in Civil Engineering and School of Freshwater Sciences

*University of Wisconsin- Milwaukee Milwaukee, WI Dr. Hector Bravo and Dr. Sandra McLellan
2007-2012*

- Studied the hydrological and geophysical factors on formation of standing water and fecal indicator bacteria reservoirs at Bradford Beach, including groundwater-lake water interactions
- Applied molecular biology techniques to study the sources of bacteria at Milwaukee coastal beaches.
- Investigated bacteria loading at two Milwaukee beaches through statistical model and time series
- Reported findings in journals, conferences, and talks

*University of Wisconsin- Milwaukee Milwaukee, WI Dr. Jin Li and Dr. Sandra McLellan
2004-2006*

- Applied and improved molecular biology techniques for detection and quantification of GFPuv *Escherichia coli* in biofilms
- Assessed the removal of microbial contaminants in bench-scale biofilters using different microbial communities.

- Undergraduate Research Internship

University of Wisconsin-Milwaukee Milwaukee, WI Dr. Tarun Naik 2004

- Conducted literature search about overview of composting – fundamentals and processes
- Proposed composting of the biodegradable part of the municipal solid waste (BSW) with by-products, such as wastewater sludge, wood ash, coal ash, and/or lime-kiln dust
- Performed calculation for the proposed composting model with real data from the city of Milwaukee, WI

- Research & Development - Technical Consultant

Autonomous Brazil 1999-2003

Managed all functions of a single-person enterprise, including business development, service delivery, financial management, and client relations. The consultancy focused on:

- Development of new products and defined inspection criteria for ingredients, packing, and products at different stages of manufacturing process.
- Providing technical and safety training for employees.

- Research & Development - Team Lead

Omedeto Food Industry

Brazil

1998-1999

- Managed the development of new products and wastewater treatment plant.
- Trained technicians and defined quality inspection criteria.
- Collaborated with Industrial Engineer on the design and improvement of industrial processes.
- Recruited new staff.

- Chemistry Technician

Glorinha Food Industry, JMacedo Food Industry, Omedeto Food Industry

Brazil

1993-1998

- Assisted the Project Engineer on the development and testing of new products on the pilot scale and industrial scale and on the development of a prediction model on the performance of flour in bakery products.
- Performed quality control (chemical, physical, and microbiological analysis) of dairy, flour, and bakery products from the selection of ingredients, intermediate stages of manufacturing, as well as final product and shelf life
- Performed physical analysis of water collected at different stages of the wastewater treatment plant.

TEACHING EXPERIENCE

- Primary Advisor for MS students – UWM CEAS Civil and Environmental Engineering

University of Wisconsin-Milwaukee

Milwaukee, WI

May 2019 -2020

- Promotes close and mutually beneficial collaboration with the scientists and faculty at the school.

- Adjunct Assistant Professor – UWM School of Freshwater Sciences

University of Wisconsin-Milwaukee

Milwaukee, WI

Feb 2017 – June 2023

- Promotes close and mutually beneficial collaboration with the scientists and faculty at the school.

- Adjunct Assistant Professor – UWM CEAS Electrical Engineering and Computer Science

University of Wisconsin-Milwaukee

Milwaukee, WI

Jan 2017 – July 2023

- Assist in building collaborations with the faculty and students in the College of Engineering and Applied Sciences

- Adjunct Assistant Professor – UWM CEAS Industrial Manufacturing and Engineering

University of Wisconsin-Milwaukee

Milwaukee, WI

Jan 2017 – 2018

- Assist in building collaborations with the faculty and students in the College of Engineering and Applied Sciences

- Adjunct Assistant Professor – UWM CEAS Materials Science and Engineering

University of Wisconsin-Milwaukee Milwaukee, WI

Dec 2016 – Dec 2018

- Assist in building collaborations with the faculty and students in the College of Engineering and Applied Sciences

- Teaching Assistant for Engineering Principles of Water Resources Design (CIV ENG - 411)

University of Wisconsin-Milwaukee Milwaukee, WI Dr. Qian Liao and Dr. Hector Bravo 2010-2011, 2013

- Updated laboratory course curriculum appropriate for graduate and undergraduate students
- Taught laboratory classes at the environmental hydraulics lab and/or at the computer lab for demonstration of principles of hydraulics; steady and non-steady flow in closed conduits and open channels, and hydraulic models.

- Teaching Assistant for Water Quality Assessment (CIV ENG - 521)

University of Wisconsin-Milwaukee Milwaukee, WI

Dr. Jin Li

2004

- Updated laboratory course curriculum appropriate for graduate and undergraduate students
- Taught laboratory techniques for detecting and measuring physical, chemical, and biological characteristics of water and wastewater

- Instructor of Engineering Courses

Dom Feliciano Technical School

Brazil

2002-2003

- ***Developed and administered curriculum*** for the following courses:
 - Industrial Processes
 - Unit Operations
 - Physical Chemistry
 - Corrosion
- ***Developed and implemented partnership*** between the technical school and the industrial park for exchanging knowledge and providing specialized human resources

ADDITIONAL TEACHING EXPERIENCE:

- SPRING 2022 - FRESHWATER SCIENCES 101 – Invited by Dr. Michael Carvan to teach Week 4 class. Topic: Drinking Water Systems.
- SPRING 2022 – ELECENG-998 Doctoral Thesis – Cred: 8.0. Topic: Non-invasive device for detection of thin biofilms inside of pipes. Student: Sachin Davis.
- FALL 2021 – ELECENG-998 Doctoral Thesis – Cred: 3.0. Topic: Non-invasive device for detection of thin biofilms inside of pipes. Student: Sachin Davis.
- SPRING 2021 – ELECENG-998 Doctoral Thesis – Cred: 3.0. Topic: Non-invasive device for detection of thin biofilms inside of pipes. Student: Sachin Davis.

- FALL 2020 – ELECENG-998 Doctoral Thesis – Cred: 1.0. Topic: Non-invasive device for detection of thin biofilms inside of pipes. Student: Sachin Davis.
- SPRING 2020 – ELECENG-998 Doctoral Thesis – Cred: 1.0. Topic: Non-invasive device for detection of thin biofilms inside of pipes. Student: Sachin Davis.
- FALL 2019 - ELECENG-990 Master's Thesis – Cred: 3.0. Topic: Filtration technology for removal of phosphorus from water. Student: Kiana Modaresahmadi.
- FALL 2019 – CES-699 – Independent Study - Cred: 3.0. Topic: Phosphorus recovery from saturated filtration material. Student: Isabelle Villafuerte.
- SPRING 2019 - ELECENG-990 Master's Thesis – Cred: 3.0. Topic: Non-invasive device for detection of thin biofilms inside of pipes. Student: Sachin Davis.
- FALL 2018 - ELECENG-990 Master's Thesis – Cred: 3.0. Topic: Non-invasive device for detection of thin biofilms inside of pipes. Student: Sachin Davis.
- FALL 2017: Topics in Freshwater Sciences (FRSHWTR 190-101): Experimental Methods in Materials Science applied to Water Technology – Cred: 3.0
Dr. Marcia Silva is an invited Instructor for this class, which is being offered for the first time at UWM and is a creation of Dr. Silva to teach students basic skills to work with water technologies.
- FALL 2017, SPRING 2018 AND SUMMER 2018: BIO SCI 695-001 (14430) (Independent Study in Freshwater Sciences for Biological Sciences Students)– Cred: 4.0 – Student: Hayley Ruch
- SPRING 2017: L&S NS 296-008 UROP Apprenticeship – Cred: 2.0
Topic: Porous Material for removal of bacteria from water; Student: Lada Avrunina

THESIS EXAMINATION COMMITTEE AND INTERNSHIP ADVISOR

Joshua Swigart- Ph.D. Thesis – School of Freshwater Sciences, UWM, Milwaukee, WI. “Produced Water”. Dr. Laodong Guo (advisor). *In Progress*.

Sachin Davis – Ph.D. Thesis – Electrical Engineering, UWM, Milwaukee, WI. “Novel Non-Invasive detection of thin film biofilm and classification of deposits using machine learning.”
Advisor: Dr. Marcia Silva (Advisor). *June 2023*.

Adam Jeschke- PSM program – School of Freshwater Sciences, UWM, Milwaukee, WI. “Phytoremediation efficacy of Cannabis sativa on heavy metals in freshwater aquaculture”. Dr. Michael Carvan (Academic advisor)/ Silva (Internship advisor). *May 2022*.

Katarina Schulz- MS Thesis- School of Freshwater Sciences, UWM, Milwaukee, WI. “Health Goals for Perfluorinated Alkyl Substances (PFAS): A review of branched isomers, the role of industrial sources, and the implications of PFAS in biosolids on end-of-life disposal methods “. Dr. Rebecca Klaper (advisor). *May 2021*.

Aman Raizada – MS Thesis- Department of Mechanical Engineering, UWM, Milwaukee, WI. “Modelling of porous media “. Dr. Krisha Pillai (advisor). *June 2021*.

Synthia Parveen Mallick – Doctoral Thesis – Environmental Engineering, Marquette University, Milwaukee, WI. Advisor: “Transformation of recalcitrant nutrient species to improve removal and recovery from wastewater”. Dr. Brook Mayer (advisor). *In Progress*.

Faten Hussein – Doctoral Thesis – Environmental Engineering, Marquette University, Milwaukee, WI. Advisor: Dr. Brook Mayer (advisor). *Fall 2022*.

Dominic Maar – PSM Student- School of Freshwater Sciences, UWM. “Bacteria sensor” Internship advisor: Dr. Marcia Silva. Academic advisor: Harvey Bootsma. *Spring 2022*.

Zahra Saeed – PSM Student- School of Freshwater Sciences, UWM. “Microplastics” Internship advisor: Dr. Marcia Silva. Academic Advisor: Melissa Scanlan. *Fall 2022*.

Brooke Hanson – PSM Student – School of Freshwater Sciences, UWM. “Performance of Functionalized Zeolite Filtration Material in High Turbidity Field Setting for Capture of Phosphorus”. Internship advisor: Dr. Marcia Silva. *May 2021*.

Kiana Modaresahmadi – M.S degree (non-thesis) – Environmental Engineering, UWM, Milwaukee, WI. Advisor: Dr. Marcia Silva. *May 2020*.

Sachin Davis – Master’s Thesis – Electrical Engineering, UWM, Milwaukee, WI. “Non-invasive Ultrasonic Detection of sub- λ Biofilm using Acoustic Waveguide Amplification: From Concept to Prototype”. Advisor: Dr. Marcia Silva (Advisor). *May 2019*.

Behnam Gohari – Doctoral Thesis – UWM, Milwaukee, WI. “PES nano-composite membranes for water filtration”. Advisor: Dr. Nidal Abu-Zahra. *May 2019*.

Yan Zhang – Doctoral Thesis – Materials Engineering, UWM, Milwaukee, WI. “Novel Porous Material for the removal of Persistent Organic Pollutants”. Advisor: Dr. Abu-Zahra (advisor) and Dr. Marcia Silva (Co-advisor). *December 2018*.

Mohsen Manjili – Doctoral Thesis – Materials Engineering, UWM, Milwaukee, WI. “Engineered Porous Material for the Removal of Lead and Mercury from Water”. Advisor: Dr. Abu-Zahra (advisor) and Dr. Marcia Silva (Co-advisor). *December 2018*.

Yiran Tong – Doctoral Thesis – Marquette University, Milwaukee, WI. “A Study on Incorporating a Sustainable Adsorbent and Ion Exchangers to Remove Micropollutants and Recover Nutrients from Wastewater”. Advisors: Patrick McNamara and Brook Meyer. *April 2018*.

Donald Boehm – PSM Student- School of Freshwater Sciences, UWM. “Removal of Emerging Persistent Organic Pollutants (Em-POPs) Model Compounds from Water Using a Natural Macroporous Material Functionalized with Graphene-Based Products” Internship advisor: Dr. Marcia Silva. *May 2017*.

Damien McCarthy - Master of Research (MRes) Thesis - Macquarie University, Sydney, Australia.
"Immobilized cells and enzymes to decontaminate mercury polluted soil". Advisor: Dr. Anwar Sunna. October 2015.

RESEARCH FUNDING

Awarded Research Proposals, but not funded

1. Sponsor: NSF \$15 M (\$208,741 to DPI) Silva (DPI appointed leader)
06/01/24 – 05/31/26 [*DPI funding withdrawn by sponsor due to cuts in budget*]
Title: NSF Engines Great Lakes ReNew
PI: Alaina Harkness, Current

Pending Research Proposals:

Completed Research Grants

1. Sponsor: Economic Development Administration (EDA), Department of Commerce \$3 M Silva
(Business Development Director, Senior Personnel) - 10/01/2021– 9/30/2024
Title: Economic Development through Deep-Tech Science Teams: From Research Labs to Commercial Ventures
PI: Venkat Venkatakrishnan, DPI
2. Sponsor: Funding for Lake Michigan \$124,104 Silva (PI) 05/01/21 – 09/30/22
Title: Enhanced Treatment Technologies for Removal of P from Agricultural Runoff Treatment Systems (ARTS)
Co-PI: Kevin Fermanich and Michael Holly – University of Wisconsin Green Bay; Joseph Stanford – University of Wisconsin – Platteville; Jeremy Freund – Outagamie County; Paul Reneau – USGS; Mark Kieser and Michael Foster – K&A.
3. Sponsor: ZAPL gift US\$75,000 Silva (PI) 07/01/19-6/30/22
Title: Remediation of pollutants from water
Aim: Advancements in remediation technology
Role: PI
4. Sponsor: Kinneret Academic College, Israel \$ 1,500 Silva (PI) 4/1/21 – 2/28/22
Title: Modeling of micropollutants in WWTP- A literature review
5. Sponsor: Milwaukee I-corps Program \$ 1,000 Silva (Co-PI) Summer 2022
Title: UWM SFS Biofilter
PI: Osvaldo Sepulveda

6. Sponsor: Bradley Catalyst \$40,000 Silva (Co-PI) 07/01/20 – 2/1/22
 Title: Evaluation of a novel water treatment solution for RAS (recirculating aquaculture system)
 PI: Sepulveda Villet, UWM

7. Sponsor: Water Quality Research Foundation (WQRF) \$ 15,000 Silva (PI) 10/01/20 - 8/31/21
 Title: Emerging Contaminants Consumer Study
 Co-PI: Sakib Mahmud, University of Wisconsin-Superior

8. Sponsor: Freshwater Collaborative of Wisconsin \$ 5,000 Silva (Co-PI) 01/01/21 –12 /31/21
 Title: Track 4 FREU: Leachability and plant-availability of phosphorus sorbed to agricultural runoff filter media.
 PI: Michael Holly – UW Green Bay

9. Sponsor: Connected Systems Institute (CSI) \$50,000 Silva (Co-PI) 06/01/20 – 8/21/21
 Title: AI and Machine Learning Time-to-Failure Prediction for Utility Meters.
 PI: Dr. Jun Zhang, CEAS

10. Sponsor: NSF I/UCRC - US\$83,000 Silva (Co-PI) 01/01/20-12/31/20
 Title: Health Goals for Perfluorinated Alkyl Substances (PFAS) - Phase II: an investigation of PFAS presence in municipal biosolids and the implications on end-of-life disposal approaches.
 PI: Rebecca Klaper, SFS

11. Sponsor: Milwaukee I-corps Program \$ 1,000 Silva (Co-PI) 10/19/20 – 01/31/21
 Title: WR Tech

12. Sponsor: NSF I/UCRC - US\$50,000 Silva (Co-PI) 01/01/19-12/31/19
 Title: Perfluorinated Chemicals (PFCs) – Phase I: literature review, survey, screening, and analysis of PFCs in industrial and commercial products and literature review of water technologies for removal and detection of PFCs in drinking water.
 PI: Rebecca Klaper, SFS

13. Sponsor: NSF I/UCRC AAB9342 - US\$75,000 Silva (PI) 01/01/18-12/31/19
 Title: Engineered Porous Material for the Removal of mercury and lead from Water.
 Role: PI

14. Sponsor: Kieser & Associates under the umbrella of a Great Lakes Protection Fund (GLPF) - US\$1,140,000 (US\$450,000 to UWM) 01/01/17-12/31/19
 Role: PI (**Year 1:** PI: David Garman; Co-PI: Marcia Silva; **Year 2 and 3:** PI: Marcia Silva)
 Title: Systematic and Fundamental Changes in Agricultural Water Resources Management.

15. Sponsor: NSF I/UCRC AAB9345 - US\$50,000 Silva (PI) 01/01/18-12/31/19
 Title: Non-invasive Ultrasonic Detection of sub- λ Biofilm using Acoustic Waveguide Amplification: From Concept to Prototype.
 Role: PI

16. Sponsor: Odyssee Environment - US\$15,312 Silva (PI) 07/15/17-10/01/17
Title: Corrosion coupon test and biodegradability of ODYREF A90.
Role: PI
17. . Sponsor: NSF I/UCRC AAB8368 -US\$ 50,000 Silva (PI) 01/01/17-12/31/17
Title: Engineered Macroporous Material for the Removal of Emerging Persistent Organic Pollutants (POPs) from Water.
Role: PI
18. Sponsor: NSF I/UCRC AAB8367 - US\$50,000 Silva (PI) 01/01/17-12/31/17
Title: Engineered Macroporous Material for the Removal of mercury and lead from Water.
Role: PI
19. Sponsor: Stonehouse Technology LLC – US\$500 Silva (PI) 10/01/16-12/31/16
Title: Fabrication of a prototype of a bacteria-like detector.
Role: PI
20. . Sponsor: NSF I/UCRC AAA7425 – US\$50,000 Silva (PI) 01/01/16-12/31/16
Title: Engineered Macroporous Material for the Removal of Emerging Persistent Organic Pollutants (POPs) from Water.
Role: PI
21. Sponsor: University of Wisconsin Milwaukee Research Grants Initiative – US\$175,000 (US\$23,000 for my lab) Carvan (PI) 07/01/15-06/30/16
Title: Epigenetic Transgenerational Impacts of Great Lakes Chemicals of Concern.
Role: Co-Investigator
22. Sponsor: Sage Water - US\$17,930 Garman (PI) 06/01/16-8/31/16
Title: Cross-correlation of REX Dissolved Metals Analysis Instrument and ICP-MS and software adjustment of REX.
Role: Co-PI
22. Sponsor: Pilot Deployment Program - The Water Council - US\$10,641 Silva (PI) 05/01/16-12/31/16
Title: Solar PECO Pilot Test.
Role: PI
23. Sponsor: UWM Water Catalyst Grant PRJ81GP - \$50,000 Silva (PI) 04/01/14-06/30/15
Title: Novel Macroporous Material for In Situ Water Cleaning – phosphorus removal from recirculating aquaculture systems.
Role: PI
24. Sponsor: UWM Water Catalyst Grant PRJ81GP - US\$50,000 Silva (PI) 04/01/14-06/30/15
Title: Novel Macroporous Material for In Situ Water Cleaning.
Role: PI

Recent Research Proposals Not Funded:

1. 1. Sponsor: Army Research Lab \$150,000 Silva (Key Personnel) 08/01/25 – 7/31/26
Title: ARL Regional Engagement Support
PI: Karl Putz
2. Prime Sponsor: NSF / DMRI (Sponsor) \$ 500,0000 Silva (PI) 09/01/25 – 8/31/26
Title: Biofilm Negation Technology (BNT)
3. Prime Sponsor: Illinois Department of Commerce and Economic Opportunity / Sponsor: Amglo/Kemlite Laboratories Inc. \$75,0000 Silva (PI) 11/01/25 – 07/31/26
Title: AOP for PFAS removal using high light intensity pulsed light.
4. Sponsor: U of I System/ FAPESP \$40,000 Silva (PI) 07/01/25 - 06/30/26
Title: PFAS in surface water in USA and Brazil: environmental risks and development of removal technologies
Co-PI: Andre Rosa, Sao Paulo State University (UNESP)
5. Sponsor: USDA \$2M Silva (Co-PI) 08/01/25 – 07/31/28
Title: Predictive Modeling for H5N1 Risk in Poultry and Turkey Farms in Illinois
PI: Anuj Tiwari, DPI; Co-PI Igor Paprotny, UIC
6. Sponsor: Spencer Foundation \$75,000 Silva (Co-PI) 11/01/25-10/31/26
Title: Exploring the impact of a co-learning model of teacher professional development with data science intensives.
PI: Rukmini Avadhanam, DPI
7. Sponsor: NOAA \$79,546 Silva (Co-PI)
Title: Chronicles for a Sustainable Future: Developing Climate Literacy through Data Storytelling in Native Elementary School Children
PI: Rukmini Avadhanam, DPI
8. Sponsor: NSF \$23.9 M Silva (Co-PI)
Title: Biofoundry: Engineering and Biosurveillance in the Era of Global Climate Change through Adaptive Technobiology Nexus (ENSURE)
PI: Igor Paprotny, UIC
9. Sponsor: EPA \$1 M Silva (PI)
Title: Future-Ready Workforce Development for Leadership in Water and Wastewater Utilities (FRWD Leadership)
PI: Marcia Silva, DPI
10. Sponsor: Department of Energy (DOE) \$1.5 M (\$220,829 to DPI) Silva (Co-PI)
Title: Oilfield Produced Water Recycling and Advanced Lithium Recovery
PI: Laodong Guo, SFS, UWM. Co-Pi: Junjie Niu, CEAS, UWM

11. Sponsor: Environmental Protection Agency (EPA) \$50M Silva (Senior Personnel)
Title: Environmental Justice Thriving Communities Grantmaking Program Region 5 (EJ TCGM Region 5)
PI: Ashish Sharma, DPI
12. Sponsor: NSF \$676,612 Silva (PI)
Title: NSF Convergence Accelerator Track K: Addressing the peril of American water supplies from stormwater discharge
13. Sponsor: USDA \$ 124,908.28 Silva (Co-PI)
Title: Removal of off-flavor in recirculating aquaculture using High-Intensity Pulsed Light (HIPL) driven Advanced Oxidative Processes (AOP)
PI: George Hutchinson, Amglo
14. Sponsor: National Science Foundation \$6M Silva (Co-PI)
Title: ART: SMART: Science team Mentoring for Accelerating Research Translation.
PI: Venkat Venkatakrishnan, DPI
5. Sponsor: National Science Foundation \$15 M Silva (Senior Personnel)
Title: NSF Engines: Type-2: D2D Engine: The Design to Delivery Engine catalyzing the Manufacturing of the Future
PI: Venkat Venkatakrishnan, DPI
6. Sponsor: Binational Agricultural Research and Development Fund (BARD) \$ 310,000 Silva (PI)
07/01/21 – 6/30/2024
Title: Operational Predictive Modelling of Biological Wastewater Treatment Process: PFAS as a Case Study
Co-PI: Yair Farber – Kinneret College, Israel
7. Sponsor: UWM Discovery and Innovation (DIG) Grant \$124,999 Silva (PI) 07/01/2022 – 6/30/2023
Title: Effect of atmospheric pressure plasma treatment condition on surface modification of microplastics in liquid environment for wastewater treatment applications.
Co-PIs: Mark Haabe and Sorin Manolache, Pellucid Water
8. Sponsor: Freshwater Collaborative of Wisconsin \$ 61,100 Silva (PI) 09/01/20 – 8/31/22
Title: Track 2: Precision Farming and Smart Agriculture for Phosphorous Recovery Efforts in the State of Wisconsin: An Evidence-based Analysis
Co-PI: Sakib Mahmud – UW Superior
9. Sponsor: Water Equipment and Policy (WEP) \$ 75,400 Silva (PI) 01/01/21 – 12/31/21
Title: A non-invasive sensor for detection biofilm in closed wall systems with embedded machine learning algorithm – Phase II
Co-PI: Jun Zhang, UWM
10. Sponsor: Water Equipment and Policy (WEP) \$ 50,000 Silva (Co-PI) 01/01/21 – 12/31/21

Title: Novel sensor for detection of phosphate in agricultural runoff

PI: Woojin Chang, UWM

11. Sponsor: Water Equipment and Policy (WEP) \$ 100,000 Silva (PI) 01/01/21 – 12/31/21

Title: Health Goals for Perfluorinated Alkyl Substances (PFAS)- Phase III: Assessment of PFAS in municipal biosolids, implications on end-of-life disposal approaches, and investigations of remediation approaches

Co-PI: Rebecca Klaper, UWM, Patrick McNamara, Marquette University

12. Sponsor: Biomedical Advanced Research and Development Authority (BARDA) \$ 718,289 Silva (PI) 01/01/21– 12/31/21

Title: Deep learning-based image-biotechnology sensor for rapid diagnostic test of SARS-CoV-2 in oral fluids for health care providers

Co-PI: Thomas Hansen and Chiang-Ching Huang (UWM), Andrew Dentino (MU), Sanjib Bhattacharyya and Trivikram Dasu (City of Milwaukee Health Department)

13. Sponsor: National Science Foundation \$ 296,943 Silva (Co-PI) 09/01/20 - 08/31/23

Title: MRI: Acquisition of a Deep Reactive Ion Etching (DRIE) System to enhance device fabrication education and improve advanced microsystem research.

PI: Ronald Coutu, Marquette University

14. Sponsor: Argosy Foundation \$ 797,947 Silva (PI) 01/01/21 – 12/31/22

Title: Sustainably Reducing Phosphorus Losses from Vermont Agricultural Tile Drainage in the Face of Climate Change and Water Quality Expectations.

Co-PI: Mark Kieser - Kieser and Associates and Diana Frederick - Winooski Natural Resources Conservation District (WNRCD)

15. Sponsor: National Institute of Biomedical Imaging and Bioengineering (NIBIB) \$ 465,949 Silva (Co-PI) 8/01/20 - 12/30/20

Title: Direct Detection of SARS-CoV-2 Using Machine Learning Approach

PI: Rajeev Kumar, Advocate Aurora Health Research Institute

16. Sponsor: Fast Grants by Emergent Ventures \$139,586 Silva (PI) 05/01/20- 11/30/20

Title: Novel deep learning-based image-bio-nanotechnology sensor for rapid diagnostic test of SARS-CoV-2 in saliva.

Co-PI: Thomas Hansen, SFS

17. Sponsor: US Department of Defense \$ 499,616 Silva (Co-PI) 10/01/20 - 09/30/21

Title: A Combinatorial Approach of Machine Learning and Proton Measurement for Estimating SARS-CoV-2 in Body Fluid and Air Supply

PI: Rajeev Kumar, Advocate Aurora Health Research Institute

18. Sponsor: National Science Foundation - \$150,000 Silva (PI) 05/01/20-04/30/21

Title: Preparing the landscape for a digitalized water in Southeastern Wisconsin

19. Sponsor: ARC \$12,500 Silva (PI) 07/1/20– 06/30/21
Title: Non-invasive device for in-situ biofilm growth
20. Sponsor: CSI - \$50,000 Silva (PI) 03/01/20 – 2/28/21
Title: Smart data analytics for CSI testbed

PUBLICATIONS

Peer- Reviewed Journal Publications (*indicates corresponding author; students and postdocs under my supervision are underlined)

Resilience in Environmental and Health Systems

1. Gjomemo, Rigel (DPI), Yair Farber (Kinneret College, Israel), Terron Williams (Xylem), Upadrashta, Radhika (Xylem), Kenneth Crowther (Xylem). **Marcia R. Silva**. Enhancing Resilience in Wastewater Treatment Systems through Digital Technology: Case Studies Demonstrate Cost-Effective Investments. 2026. *In Preparation*.

Machine Learning Methods Applied to Utilities and Environmental Studies:

1. Carlos I. Jerez, Jun Zhang, **Marcia R. Silva***. On equivalence of anomaly detection algorithms. ACM Transactions on Knowledge Discovery from Data. May 2022. <https://doi.org/10.1145/3536428>.
2. Hasan, Syam, Nunez, Alma, Nosonovski, Michael*, **Marcia R. Silva***. 2023. A study of the effect of physiochemical and wetting properties of beach sand on bacterial contamination using machine learning models. Surface Innovations. DOI:[10.1680/jsuin.22.01087](https://doi.org/10.1680/jsuin.22.01087).
3. Tailor, Vatsal, Tiwari, Anuj, **Marcia R. Silva***. Daily Prediction Model for Harmful Algae Blooms (HABs) using geospatial satellite data. MDPI Water. August 2025. *Accepted for publication*.
4. Okonkwo, Zikora, **Marcia R. Silva***. Harnessing Machine Learning for Enhanced Pollutant Removal and Efficiency in Chicago's Wastewater Treatment Plants. 2025. *In preparation*.
5. Tchoffa, Kevin, **Marcia R. Silva***. Spatial Distribution and Occurrence of PFAS in Groundwater, Drinking Water, and Wastewater Systems Across Illinois. 2025. *In Preparation*.
6. Ferron, Lucy, Abhilasha Shresth, **Marcia R. Silva***. Water-Driven Resuspension as the Dominant Environmental Predictor of Enterococci at Chicago Beaches. 2026. Environmental Monitoring and Assessment. *Under Review*.

Nano-enabled Water Technologies

1. **Silva, M. R.***, A. Lecus, M. Gajdardziska-Josifovska, M. Schofield, M. Virnoche, J. Chang, J. Chen and D. Garman. 2020. "Graphene-oxide loading on natural zeolite particles for enhancement of adsorption properties". *RSC Advances*, 10, 4589-4597.
2. Manjili, Mohsen, **Silva, Marcia***, Garman, David, Zhang, Hai-Feng. 2020. Graphene oxide and thiol functionalization zeolite for the removal of lead from water. *IWA Water Supply* ws2020156.
3. Boehm, Donald, Lecus, Alice, Zhang, Hai-Feng, Garman, David, **Silva, Marcia***. 2020. Removal of emerging persistent organic pollutants (Em-POPs) model compounds from water using a

natural porous material functionalized with graphene-based product. *IWA H2Open Journal* 3(1)416-427.

4. **Silva, Marcia***, Alice Lecus, Yuting Lin, Joseph Corrao. 2019. Tailoring natural zeolites by acid treatments. *Journal of Materials Science and Chemical Engineering (MSCE)*, 7(02): 26-37.
5. Holly, Michael*, Sanford, Joseph, Lakich, Daniel, Silva, Marcia R. 2022. Common buckthorn engineered biochar (*Rhamnus cathartica*), calcined quagga mussel shells (*Dreissena rostriformis*), pickled steel, and steel slag as filter media for the treatment of agricultural runoff. *Conservation*, 2(4), 726-738; <https://doi.org/10.3390/conservation2040047>.

Real-time sensors for biofilm, biological and chemical molecules

1. Davis, S.; Salowitz, N.; Beversdorf, L.; **Silva, M.R***. The Effect of Various Parameters on a Portable Sensor for the Detection of Thin Biofilms in Water Pipes. *Sensors* 2021, 21, 4421. <https://doi.org/10.3390/s21134421>.
2. Davis, Sachin, **Silva, Marcia***. A Proof-of-Concept Study on Utilizing a Novel Non-invasive Sensor for Detection of Thin Biofilm in Simulated Water Pipes. 2021. *Sensing and Imaging*, 22, 21 (2021). <https://doi.org/10.1007/s11220-021-00343-5>.
3. Thompson, Andrew, Hable, Basil, Young, Kyana, Hansen, Thomas, Strickler, J. R. **Silva, M. R.*** 2020. "Optically-Based Bacteria Hand-Held Sensor for Visualization and Quantification of *Cryptosporidium Parvum*". *Sensing and Imaging* 21(1) 1-14.
4. Thompson, Andrew, Hable, Basil, Honts, Adam, Strickler, J. R., Hansen, Thomas, **Silva, M. R.*** 2020. "Optically Based Bacteria Hand-Held Sensor: From Fundamentals to Proof of Concept. *Sensing and Imaging* 21(41). <https://doi.org/10.1007/s11220-020-00306-2>.
5. **Silva, M. R.***, Z. Gohari. 2017. An overview of rapid detection methods and Point of Care (POC) in Resource-limited settings for detection of zika virus: current state and future trends. *EC Microbiology* 11(4),143-149.

Intervention, Removal, and Remediation Technologies for Environmental Emerging Contaminants

1. Schulz, Katarina, **Silva, Marcia R.**, Klaper, Rebecca*. 2020. Distribution and effects of branched versus linear isomers of PFOA, PFOS, and PFHxS: A review of recent literature. *Science of the Total Environment*. Volume 733. 1 September 2020, 139186.
2. **Silva, Marcia R.***, Lecus, Alice, Haehle, Chad, Garman, David, Brunner, Shelby. 2021. Assessment of changes in distribution of total mercury and polychlorinated biphenyls in Green Bay, Wisconsin, USA. *Environ Sci Pollut Res Int*. 2021 Sep 29. doi: 10.1007/s11356-021-16417-6. Epub ahead of print. PMID: 34590227.

Engineered Porous Materials for Other Applications

1. Morgan, Andrew, Joseph Corrao, **Silva, Marcia***. 2022. Deposition of carbon particulates on zeolite surfaces by electron-beam evaporation of graphite. *Materials Sciences and Applications*. Feb. 2022, Vol. 13(2).

Alternative Energy Sources:

1. **Silva, Marcia R.***, Yiming Wang, Kwendo Mwaniki. 2022. Energy-nutrient-water-nexus by microbial fuel cell: a potential smart water solution for wastewater treatment plants. *Sustainable Bioenergy Systems*. Mar 2022. Vol. 12(1).

Water Technology and Policy:

1. **Silva, Marcia***, Mahmud, Sakib, Cao, Selena, Webb, Dennis. 2026. Evaluating the Gap between Water Technology and Policymaking– Case Study: Technologies for Detection of Heavy Metals. *Environmental Management*. **In preparation**.

Engineering Educational Methods:

1. Sarah M. Zahorodny, Webb, Dennis, **Silva, Marcia R***. 2022. Evaluation of a Water System Model for Educational Research. *Creative Education*. February 2022. Vol. 13 (2).

Environmental Biological Contaminants:

1. **Silva, M. R.**, H. R. Bravo, D. Cherkauer, J. V. Klump, W. Kean, and S. L. McLellan*. 2014. "Effect of the hydrological and geophysical factors on formation of standing water and fecal indicator bacteria reservoirs at a Lake Michigan beach". *Journal of the Great Lakes Research*. 40(3), 778-789.
2. **Silva, M. R.** and S.L. McLellan*. 2010. "Environmental and social impact of stormwater outfalls at Lake Michigan beaches. "*International Journal of Social Ecology and Sustainable Development*, 1(3), 34-48.
3. **Silva, M. R.***, F. Schlenker, S. Bingham, J. Chepp, and D. Cox. 2009. "Application of an automatic event-controlled sampler for biological analysis and monitoring: studies on plume tracking in Milwaukee Harbor, Milwaukee, Wisconsin." Proceedings of the MTS/IEEE Oceans 2009 Conference, Biloxi, MS, Oct. 26-29, 2009. ISBN: 978-1-4244-4960-6.
4. **Silva, M. R.**, McLellan S. L., and Li, J*. 2006. The removal of green fluorescent labeled *Escherichia coli* by pilot scale drinking water biofilters, Recent Progress in Slow Sand and Alternative Biofiltration Processes. Edited by Rolf Gimbel et al., IWA Publishing. ISBN: 9781843391203.

Reuse of By-Products:

1. **Silva, M.R.*** & T.R. Naik. 2010. "Sustainable use of resources – recycling of sewage treatment plant water in concrete." Second International Conference on Sustainable Construction Materials and Technologies (SCMT). Edited by J. Zachar, P. Claisse, T. R. Naik, and E. Ganjian, Ancona, Italy. ISBN: 978-1-4507-1490-7.
2. **Silva, M.R.*** & T.R. Naik. 2007. Review of composting and anaerobic digestion of municipal solid waste and a methodological proposal for a mid-size city, Sustainable Construction Materials and Technologies. Edited by Y. M. Chun, P. Claisse, T. R. Naik & Ganjian, Taylor & Francis, Coventry, U.K. ISBN:9780415446891.

Manuscripts In-Preparation (*indicates corresponding author; students and postdocs under my supervision are underlined)

1. Farber, Yair, Isabelle Reeson, Brooke Hanson, **Marcia R. Silva***. 2026. Modeling micropollutants removal at wastewater treatment plants by data-driven models: the gap between the promising potential and the reality. *Science of the Total Environment*. ***In preparation***.
2. Sepulveda, Osvaldo, Chapman, Louis, Sonya, Ponzi, Hutchinson, George, **Silva, Marcia R. *** 2026. Comparison of disinfection efficacy in turbid and clear water between a High Intensity Pulsed Light lamp and a UV mercury lamp. *Aquaculture Engineering*. ***In preparation***.

Produced Water Characterization and Management

1. Joshua Sigart, Shima Kteeba, Charles Paradis, Marcia Silva, Laodong Guo. Chemical and Isotopic Characterization of Produced Water from the Permian Basin: Environmental Implications and Lithium Recovery Potential. *Environmental Advances*. ***Accepted***.

INTELLECTUAL PROPERTY (Invention Disclosures and Patents)

Sensors and Devices:

1. **Marcia Silva** and Thomas Hansen. Novel Deep-learning-based image-bio-nanotechnology sensor for rapid diagnostic test of virus in saliva. Invention Disclosure IP-1711. Submitted to UWMRF on 04/06/20. IP-1711.
2. **Marcia Silva**, Yasaman Adibi, Sachin Davis. Non-invasive Ultrasonic Detection of sub- λ Biofilm using Acoustic Waveguide Amplification. Invention Disclosure submitted to UWMRF on 8/11/18. Provisional Patent app filed Feb 2020. Technology licensed by Wattswater in Feb 2020. IP-1623.
3. Dave Rice, **Marcia R. Silva**, David Garman. Novel sensor for detection of suspended solids and/or moisture content", Invention Disclosure submitted to UWMRF on 03/19/15. Patent filed in May 2017. IP-1445.
4. **Marcia R. Silva**, Thomas Hansen, Rudi Strickler and David Garman. "Development of a portable device for characterization, identification, and quantification of bacteria in aqueous systems as well as differentiation from particles and other bacteria using digital holography", Invention Disclosure submitted to UWMRF on 03/21/13. IP-1353.
5. Qian Liao, **Marcia R. Silva**, Sandra L. McLellan, Hector R. Bravo and Jin Li. "Novel optical-based method for assessment of green fluorescent protein (GFPuv)-labeled bacteria in modeled aqueous systems", Invention Disclosure submitted to UWMRF on 02/18/13. IP-1348.

Filtration Materials:

1. **Marcia Silva**. Functionalization of bentonite for removal of PFAS from water. Invention Disclosure IP-0011. Submitted to UWMRF on 3/3/22.
2. **Marcia Silva**. Engineered filtration material for the removal of ammonia from water. Invention Disclosure IP-1700. Submitted to UWMRF on 02/27/20. IP-1700.
3. **Marcia Silva**, David Garman, and Mohsen Manjili. Novel functionalized zeolite for the removal of lead and mercury from water. Invention Disclosure submitted to UWMRF on 8/30/17. Provisional

Patent app filed Jan 2020. Technology licensed to Wattswater in Feb 2020 (combined with adsorbent for POPs). IP-1576.

4. **Marcia R. Silva**, David Garman, Yan Zhang, Junhong Chen “Engineered Porous Material for water cleaning”, Invention Disclosure submitted to UWMRF on 03/21/13. Provisional Patent app filed in Jan 2020. Technology licensed by Wattswater (combined adsorbent of POPs and heavy metals) in Feb 2020. IP-1354.
5. **Marcia Silva**. Development of engineered porous material coated with (3-Aminopropyl) tetraethoxysilane (APTES) for water cleaning. Submitted to UWMRF on 9/6/17. IP-0009.
6. David Garman, **Marcia R. Silva**. Porous Decontamination Removal Composition. Provisional patent filed on 7/6/2017. Patent publication WO/2017/214530 on 12/14/2017. Patent publication AU2017278084A1 on 12/20/2018. IP-1467.
7. David Garman, Ying Li, **Marcia Silva**. Novel Zeolite/TiO₂-Fe₂O₃ Sandwich-Structured Membranes for Improved Adsorption and Photodegradation of Multi-Pollutants from Water. Submitted to UWMRF on 3/8/16. IP-1499.

Other technologies:

1. Sepulveda, Osvaldo, **Silva, Marcia R.**, Hutchinson, George, Perkowski, Jerry. Use of High Intensity Pulsed Light (HIPL) lamp for disinfection in aquaculture". Invention disclosure submitted to UWMRF on 5/5/25. IP-1790; Provisional patent filed 3/18/24.
2. **Silva, Marcia**. Carbon functionalized zeolite by electron-beam evaporation of graphite. Invention disclosure submitted to UWMRF on 5/8/20. IP-0027.
3. **Silva, Marcia**. Zeolite-agricultural byproducts-based drug delivery system (DDS). Invention disclosure submitted to UWMRF on 5/8/20. IP-0024.
4. Rani Hajjar and **Marcia Silva**. Plasma Treated Cellulose NF Films, Invention Disclosure submitted to UWMRF on 12/23/17. IP-1529.
5. **Marcia Silva** and David Garman. Multilayered geotextile pouches. Invention Disclosure submitted to UWMRF on 3/3/17. IP-1548. Technology licensed to Zeolite Australia Pty Ltd based in Australia.

CONFERENCE PAPERS AND POSTERS

1. Menon, Manav, Lecus, Alice, **Silva, Marcia R.** 2022. Developing a Programmable Microfluidics Lab-on-a-Chip (LOC) Platform. 14th UWM Undergraduate Research Symposium, Milwaukee, WI, March 29th, 2022. Poster Presentation.
2. Hicks, Kevin, **Silva, Marcia R.** 2021. Phosphate Sensor. 14th UWM Undergraduate Research Symposium, Milwaukee, WI, March 29th, 2022. Poster Presentation.
3. Sovitsky, Nathanael, Mahmud, Sakib, **Silva, Marcia R.** Understanding National Public Awareness of Emerging Pollutants. 14th UWM Undergraduate Research Symposium, Milwaukee, WI, March 29th, 2022. Poster Presentation.
4. Cao, Selena, Webb, Dennis, Mahmud, Sakib, **Silva, Marcia R.** A Review of Heavy Metals Water Detection Technologies and Global Policies. 14th UWM Undergraduate Research Symposium, Milwaukee, WI, March 29th, 2022. Poster Presentation.

5. Sovitsky, Nathanael, Mahmud, Sakib, **Silva, Marcia R.** Understanding National Public Awareness of Emerging Pollutants. 14th UWM Undergraduate Research Symposium, Milwaukee, WI, March 29th, 2022. Poster Presentation.
6. Reeson, Isabelle, Hanson, Brooke, Nir, Oksana, Farber, Yair, **Silva, Marcia R.** Modelling Micropollutants Removal as Wastewater Treatment Plants by Data-Driven Models: The Gap Between the Promising Potential and the Reality. 14th UWM Undergraduate Research Symposium, Milwaukee, WI, March 29th, 2022. Poster Presentation.
7. Menon, Manav, Lecus, Alice, **Silva, Marcia R.** 2022. Developing a Programmable Microfluidics Lab-on-a-Chip (LOC) Platform. CEAS Student Research Poster Competition. Milwaukee, WI, April 30th, 2022. Poster Presentation.
8. Hicks, Kevin, **Silva, Marcia R.** 2021. Phosphate Sensor. CEAS Student Research Poster Competition. Milwaukee, WI, April 30th, 2022. Poster Presentation.
9. Elsharef, Rajab, Saeed, Zahra, **Silva, Marcia R.** Detection and Filtration of Microplastics. CEAS Student Research Poster Competition. Milwaukee, WI, April 30th, 2022. Poster Presentation.
10. Hasan, Md Syam, Nunez, Alma, Nosonovsky, Michael, Silva, **Marcia R.** Prediction of *E. coli* Concentration in Beach Sand from Physiochemical and Wetting Properties of Sand using Machine Learning Methods. CEAS Student Research Poster Competition. Milwaukee, WI, April 30th, 2022. Poster Presentation.
11. Cao, Selena, Webb, Dennis, Mahmud, Sakib, **Silva, Marcia R.** A Review of Heavy Metals Water Detection Technologies and Global Policies. CEAS Student Research Poster Competition. Milwaukee, WI, April 30th, 2022. Poster Presentation.
12. Sovitsky, Nathanael, Mahmud, Sakib, **Silva, Marcia R.** Understanding National Public Awareness of Emerging Pollutants. CEAS Student Research Poster Competition. Milwaukee, WI, April 30th, 2022. Poster Presentation.
13. Vences, James B., Marr, Dominic M., **Silva, Marcia R.** A Bacteria Sensor for Determining Water Quality. CEAS Student Research Poster Competition. Milwaukee, WI, April 30th, 2022. Poster Presentation.
14. Khandge, Rahul, Marr, Dominic M., **Silva, Marcia R.** Investigation of Porous Media Using 3-D X-Ray Micro-CT. CEAS Student Research Poster Competition. Milwaukee, WI, April 30th, 2022. Poster Presentation.
15. Reeson, Isabelle, Hanson, Brooke, Nir, Oksana, Farber, Yair, **Silva, Marcia R.** Modelling Micropollutants Removal as Wastewater Treatment Plants by Data-Driven Models: The Gap Between the Promising Potential and the Reality. CEAS Student Research Poster Competition. Milwaukee, WI, April 30th, 2022. Poster Presentation.
16. Davis, Sachin, **Silva, Marcia R.** 2021. Identifying the Hidden Enemy. CEAS Student Research Poster Competition. Milwaukee, WI, May 10th, 2021. Poster Presentation.
17. Chapman, Louis, **Silva, Marcia R.** 2021. Modified Material for Removal of Ammonia from Water. CEAS Student Research Poster Competition. Milwaukee, WI, May 10th, 2021. Poster Presentation.
18. Menon, Manav, Lecus, Alice, **Silva, Marcia R.** 2021. Microfabrication of LOC Device Utilizing Micro Pump and Micro Valve Flow Mechanisms. CEAS Student Research Poster Competition. Milwaukee, WI, May 10th, 2021. Poster Presentation.
19. Cao, Selena, **Silva, Marcia R.** 2021. Removal of Ciprofloxacin from Water Using Modified Natural Porous Material. CEAS Student Research Poster Competition. Milwaukee, WI, May 10th, 2021. Poster Presentation.

20. Sovitsky, Nathanael, **Silva, Marcia R.** 2021. Regeneration of Engineered Filtration Material and Recovery of Phosphorus from Agricultural Runoff. CEAS Student Research Poster Competition. Milwaukee, WI, May 10th, 2021. Poster Presentation.
21. Hicks, Kevin, **Silva, Marcia R.** 2021. Electrochemical Sensor for Detection of Phosphorus in Stormwater. CEAS Student Research Poster Competition. Milwaukee, WI, May 10th, 2021. Poster Presentation.
22. Chapman, Louis, **Silva, Marcia R.** 2021. Modified Material for Removal of Ammonia from Water. 20th Annual Virtual UW Symposium. Milwaukee, WI, April 16th, 2021. Poster Presentation.
23. Menon, Manav, Lecus, Alice, **Silva, Marcia R.** 2021. Microfabrication of LOC Device Utilizing Micro Pump and Micro Valve Flow Mechanisms. 20th Annual Virtual UW Symposium. Milwaukee, WI, April 16th, 2021. Poster Presentation.
24. Cao, Selena, **Silva, Marcia R.** 2021. Removal of Ciprofloxacin from Water Using Modified Natural Porous Material. 20th Annual Virtual UW Symposium. Milwaukee, WI, April 16th, 2021. Poster Presentation.
25. Sovitsky, Nathanael, **Silva, Marcia R.** 2021. Regeneration of Engineered Filtration Material and Recovery of Phosphorus from Agricultural Runoff. 20th Annual Virtual UW Symposium. Milwaukee, WI, April 16th, 2021. Poster Presentation.
26. Hicks, Kevin, **Silva, Marcia R.** 2021. Electrochemical Sensor for Detection of Phosphorus in Stormwater. 20th Annual Virtual UW Symposium. Milwaukee, WI, April 16th, 2021. Poster Presentation.
27. Noffsinger, Gianna, Cao, Selena, Silva, Marcia R. Engineered Materials for Removal of Persistent Organic Pollutants from Water. 20th Annual Virtual UW Symposium. Milwaukee, WI, April 16th, 2021. Poster Presentation.
28. Modarehsamadi, Kiana, **Silva, Marcia R.** Air & Waste Management Association 113th Annual Conference. June 30 until July 2, 2020. Virtual Conference.
29. Hable, Basil, Thompson, Andrew, Hansen, Thomas, **Silva, Marcia R.** Particle sensor technology for the potential detection of pollution intrusion in harbor. Oceans 2020. October 5-14, Singapore. Virtual Conference. Poster Presentation.
30. Schulz, Katarina*, **Silva, Marcia** and Klaper, Rebecca. Health goals for perfluorinated alkyl substances (PFAS) – Phase II. Water Equipment and Policy (WEP) I/UCRC IAB Project Update Meeting. Virtual Meeting. May 6-7, 2020. * Presenter. **Plaque for Best Student Presentation.** Oral Presentation.
31. Modarehsamadi, Kiana, Hicks, Kevin, Chapman, Louis, **Silva, Marcia R.** In situ treatment of phosphorus in agricultural runoff with a novel green removal structure. 12th CEAS Poster Competition. Milwaukee, WI, May 11, 2020. Poster Presentation.
32. Davis, Sachin, Karanam, Ramprasad, **Silva, Marcia R.** The future of biofilm detection. 12th CEAS Poster Competition. Milwaukee, WI, May 11, 2020. Poster Presentation.
33. Hable, Basil, Thompson, Andrew, Leonard, Shane, Hansen, Thomas, **Silva, Marcia R.** Monitoring Canal Water: A Case Study. 12th CEAS Poster Competition. Milwaukee, WI, May 11, 2020. Poster Presentation. **Departmental Award – Electrical Engineering.**
34. Hable, Basil, Thompson, Andrew, Leonard, Shane, Hansen, Thomas, **Silva, Marcia R.** Monitoring Canal Water: A Case Study. 19th Annual Virtual UW Symposium. Milwaukee, WI, May 1, 2020. Poster Presentation.
35. Thompson, Andrew, Hable, Basil, Honts, Adam, Strickler, Rudi, Hansen, Thomas, **Silva, Marcia R.** Clean Water in Port Report: Dockside Particle Detector Environmental Analysis. 12th CEAS Poster Competition. Milwaukee, WI, May 11, 2020. Poster Presentation. **Honorable Mention.**

36. Thompson, Andrew, Hable, Basil, Honts, Adam, Strickler, Rudi, Hansen, Thomas, Silva, **Marcia R.** Clean Water in Port Report: Dockside Particle Detector Environmental Analysis. 19th Annual Virtual UW Symposium. Milwaukee, WI, May 1, 2020. Poster Presentation.
37. Cao, Selena, Lecus, Alice, **Silva, Marcia R.** 2020. Novel Porous Material for the Removal of Lead from Water. 12th CEAS Poster Competition. Milwaukee, WI, May 11, 2020. Poster Presentation. *Nominee for **Honorable Mention**.*
38. Cao, Selena, Lecus, Alice, **Silva, Marcia R.** 2020. Novel Porous Material for the Removal of Lead from Water. 19th Annual Virtual UW Symposium. Milwaukee, WI, May 1, 2020. Poster Presentation.
39. Karanam, Ramprasad, Davis, Sachin, **Silva, Marcia R.** 2020. Detection of Biofilm in Various Environments. 12th CEAS Poster Competition. Milwaukee, WI, May 11, 2020. Poster Presentation.
40. Karanam, Ramprasad, Davis, Sachin, **Silva, Marcia R.** 2020. Detection of Biofilm in Various Environments. 19th Annual Virtual UW Symposium. Milwaukee, WI, May 1, 2020. Poster Presentation.
41. Hicks, Kevin, Chang, Woo Jin, **Silva, Marcia R.** 2020. Electrochemical Sensor for Detection of Phosphorus in Stormwater. 19th Annual Virtual UW Symposium. Milwaukee, WI, May 1, 2020. Poster Presentation.
42. Hicks, Kevin, Chang, Woo Jin, **Silva, Marcia R.** 2020. Electrochemical Sensor for Detection of Phosphorus in Stormwater. 12th CEAS Poster Competition. Milwaukee, WI, May 11, 2020. Poster Presentation.
43. Chapman, Louis. O'Hagan Kennedy, Danielle, **Silva, Marcia R.** 2020. Engineered Material for Removal of Ammonia from Water. 19th Annual Virtual UW Symposium. Milwaukee, WI, May 1, 2020. Poster Presentation.
44. Chapman, Louis. O'Hagan Kennedy, Danielle, **Silva, Marcia R.** 2020. Engineered Material for Removal of Ammonia from Water. 12th CEAS Poster Competition. Milwaukee, WI, May 11, 2020. Poster Presentation. **Departmental Award – Civil & Environmental Engineering.**
45. K. Schulz, **M. Silva**, T. Boyer, R. Klaper. An Investigation of Industrial PFAS Use: Site Investigation and Company Survey. AIPG- 2020 PFAS: Beyond the Theoretical and What's Working, Madison, WI. Feb. 27, 2020. Poster Presentation.
46. K. Schulz, T. Boyer, **M. Silva**, R. Klaper. An Investigation of Industrial PFAS Use: Site Identification and Company Survey, SETAC North America Annual Meeting, Toronto, Nov.3, 2019. Poster Presentation.
47. K. Schulz*, **M. Silva**, R. Klaper. PFAS: An Introduction and Overview, Water Quality Association of Wisconsin Annual Convention, Wisconsin Dells, Sep 9, 2019. Oral Presentation. *Presenter
48. **Silva, Marcia**, Manjili, Mohsen, Lin, Yuting, Zhang, Yan. Smart Technology Platform with Engineered Natural Materials. 2019. Leading Edge Conference on Water and Wastewater Technologies. IWA Publishing, Edinburgh, Scotland, June 10-14, 2019. Poster Presentation.
49. Schulz, Katarina, Klaper, Rebecca, **Silva, Marcia R.** 2019. Health Goals for Perfluorinated Chemicals: phase I. PFAS: Life Cycle, Regulations & Solutions. Pewaukee, WI, May 23, 2019. Poster Presentation.
50. Mwaniki, Kwendo, Yang, Yiming, **Silva, Marcia R.** 2019. Energy-nutrient-water Nexus by Microbial Fuel Cell: A Smart Water Solution for Wastewater Treatment Plants. 11th CEAS Poster Competition. Milwaukee, WI, April 27, 2019. Poster Presentation.
51. Lin, Yuting, Zhang, Yan, **Silva, Marcia R.** 2019. Dopamine-modified Graphene-based Filtration Adsorbent and Antibiotics Removal. 11th CEAS Poster Competition. Milwaukee, WI, April 27, 2019. Poster Presentation.

52. Hicks, Kevin, Mohammad, Rizwen, Chang, Woojin, **Silva, Marcia R.** 2019. Electrochemical Sensor for Detection of Phosphorus in Stormwater. 11th CEAS Poster Competition. Milwaukee, WI, April 27, 2019. Poster Presentation.
53. Thompson, Andrew, Hable, Basil, Honts, Adam, Strickler, J.R., Hansen, Thomas, **Silva, Marcia R.** 2019. Digital Inline Holographic Microscopy Sensor for Bacteria Detection. 11th CEAS Poster Competition. Milwaukee, WI, April 27, 2019. Poster Presentation. **2nd Place Undergraduate Category and Mike Krauski Award Nominee.**
54. Thompson, Andrew, Hable, Basil, Honts, Adam, Hansen, Thomas, Strickler, Rudi, Young, Kyana, Mayer, Brooke, **Silva, Marcia R.** 2019. Digital Inline Holographic Microscopy Sensor for Pathogen Detection. 11th CEAS Poster Competition. Milwaukee, WI, April 27, 2019. Oral Presentation. **2nd Place Undergraduate Category and Mike Krauski Award Nominee.**
55. Zastrow, Patrick, Hicks, Kevin, Manjili, Mohsen, **Silva, Marcia R.** 2019. Regeneration and Reuse of Natural Porous Filter Material Following the Capture and Recovery of Phosphate Ions. 11th CEAS Poster Competition. Milwaukee, WI, April 27, 2019. Poster and Oral Presentation. **Honorary Mention - Undergraduate Category.**
56. Rush, Olivia, Remingway, Loren, Gohari, Zahra, Manjili, Mohsen, **Silva, Marcia R.** 2019. Novel Porous Material for the Removal of Heavy Metals from Water. 11th CEAS Poster Competition. Milwaukee, WI, April 27, 2019. Poster and Oral Presentation. **Department Award-Undergraduate Category.**
57. Karanam, Ramprasad, Davis, Sachin, **Silva, Marcia R.** 2019. Non-Invasive Detection of Thin Biofilm. 11th CEAS Poster Competition. Milwaukee, WI, April 27, 2019. Poster Presentation.
58. Kudatla, Chris, Manjili, Mohsen, **Silva, Marcia R.** 2019. Phosphorus Removal and Recovery through Novel Adsorption Technology. 11th CEAS Poster Competition. Milwaukee, WI, April 27, 2019. Poster Presentation.
59. Davis, Sachin, **Marcia R. Silva.** 2019. Novel Method for the Detection of Biofilm. 11th CEAS Poster Competition. Milwaukee, WI, April 27, 2019. Poster Presentation.
60. Karanam, Ramprasad, Davis, Sachin, **Silva, Marcia R.** 2019. Non-Invasive Detection of Thin Biofilm. 18th Annual UW System Symposium, Green Bay, WI, April 26, 2019. Poster Presentation.
61. Zastrow, Patrick, Hicks, Kevin, Manjili, Mohsen, **Silva, Marcia R.** 2019. Regeneration and Reuse of Natural Porous Filter Material Following the Capture and Recovery of Phosphate Ions. 18th Annual UW System Symposium, Green Bay, WI, April 26, 2019. Poster Presentation.
62. Thompson, Andrew, Hable, Basil, Honts, Adam, Strickler, J.R., Hansen, Thomas, **Silva, Marcia R.** 2019 Digital Inline Holographic Microscopy Sensor for Bacteria Detection. 18th Annual UW System Symposium, Green Bay, WI, April 26, 2019. Poster Presentation.
63. Thompson, Andrew, Hable, Basil, Honts, Adam, Hansen, Thomas, Strickler, Rudi, Young, Kyana, Mayer, Brooke, **Silva, Marcia R.** 2019. Digital Inline Holographic Microscopy Sensor for Pathogen Detection. 18th Annual UW System Symposium, Green Bay, WI, April 26, 2019. Oral Presentation.
64. Mwaniki, Kwendo, Yang, Yiming, **Silva, Marcia R.** 2019. Energy-nutrient-water Nexus by Microbial Fuel Cell: A Smart Water Solution for Wastewater Treatment Plants. 18th Annual UW System Symposium, Green Bay, WI, April 26, 2019. Poster Presentation.
65. Lin, Yuting, Zhang, Yan, **Silva, Marcia R.** 2019. Dopamine-modified Graphene-based Filtration Adsorbent and Antibiotics Removal. 18th Annual UW System Symposium, Green Bay, WI, April 26, 2019. Poster Presentation.
66. Lecus, Alice, Behrouzinia, Maryam, **Silva, Marcia R.** 2019. Novel Porous Material for the Remediation of PCBs and Mercury from Green Bay Lake Sediments. 18th Annual UW System Symposium, Green Bay, WI, April 26, 2019. Poster Presentation.

67. Thompson, Andrew, Hable, Basil, Honts, Adam, Strickler, J.R., Hansen, Thomas, **Silva, Marcia R.** 2019. Digital Inline Holographic Microscopy Sensor for Bacteria Detection. NCUR, Georgia, Atlanta, April 10-13, 2019. Poster Presentation.
68. Thompson, Andrew, Hable, Basil, Honts, Adam, Hansen, Thomas, Strickler, J.R., Young, Kyana, Mayer, Brooke, **Silva, Marcia R.** 2019. Digital Inline Holographic Microscopy Sensor for Pathogen Detection. NCUR, Georgia, Atlanta, April 10-13, 2019. Oral Presentation.
69. Karanam, Ramprasad, Davis, Sachin, **Silva, Marcia R.** 2019. Non-Invasive Detection of Thin Biofilm. NCUR, Georgia, Atlanta, April 10-13, 2019. Poster Presentation
70. Chapman, Louis, O'Hagan-Kennedy, Danielle, **Silva, Marcia R.** 2019. Engineered Material for Removal of Ammonia from Water. NCUR, Georgia, Atlanta, April 10-13, 2019. Poster Presentation
71. Kudatla, Chris, Manjili, Mohsen, **Silva, Marcia R.** 2019. Phosphorus Removal and Recovery through Novel Adsorption Technology. NCUR, Georgia, Atlanta, April 10-13, 2019. Poster Presentation
72. Mwaniki, Kwendo, Yang, Yiming, **Silva, Marcia R.** 2019. Energy-nutrient-water Nexus by Microbial Fuel Cell: A Smart Water Solution for Wastewater Treatment Plants. NCUR, Georgia, Atlanta, April 10-13, 2019. Poster Presentation
73. Lin, Yuting, Zhang, Yan, **Silva, Marcia R.** 2019. Dopamine-modified Graphene-based Filtration Adsorbent and Antibiotics Removal. NCUR, Georgia, Atlanta, April 10-13, 2019. Poster Presentation.
74. Hicks, Kevin, Zastrow, Patrick, Manjili, Mohsen, **Silva, Marcia R.** 2019. Regeneration and Reuse of Natural Porous Filter Material Following the Capture and Recovery of Phosphate Ions. NCUR, Georgia, Atlanta, April 10-13, 2019. Poster Presentation.
75. Lecus, Alice, Behrouzinia, Maryam, **Silva, Marcia R.** 2019. Novel Porous Material for the Remediation of PCBs and Mercury from Green Bay Lake Sediments. NCUR, Georgia, Atlanta, April 10-13, 2019. Poster Presentation.
76. Hicks, Kevin, Zastrow, Patrick, Manjili, Mohsen, **Silva, Marcia R.** 2019. Regeneration and Reuse of Natural Porous Filter Material Following the Capture and Recovery of Phosphate Ions. NCUR, Georgia, Atlanta, April 10-13, 2019. Poster Presentation.
77. Schulz, Katarina, Klaper, Rebecca, **Silva, Marcia R.** 2019. Health Goals for Perfluorinated Chemicals: phase I. WEP IAB Meeting, Marquette University, Milwaukee, WI, April 9, 2019. Poster Presentation.
78. Hicks, Kevin, Mohammad, Rizwen, Chang, Woojin, **Silva, Marcia R.** 2019. Electrochemical Sensor for Detection of Phosphorus in Stormwater. 11th UWM Undergraduate Research Symposium, Milwaukee, WI, April 5, 2019. Poster Presentation.
79. Lecus, Alice, Behrouzinia, Maryam, **Silva, Marcia R.** 2019. Novel Porous Material for the Remediation of PCBs and Mercury from Green Bay Lake Sediments. 11th UWM Undergraduate Research Symposium, Milwaukee, WI, April 5, 2019. Poster Presentation.
80. Karanam, Ramprasad, Davis, Sachin, **Silva, Marcia R.** 2019. Non-Invasive Detection of Thin Biofilm. 11th UWM Undergraduate Research Symposium, Milwaukee, WI, April 5, 2019. Poster Presentation.
81. Mwaniki, Kwendo, Yang, Yiming, **Silva, Marcia R.** 2019. Energy-nutrient-water Nexus by Microbial Fuel Cell: A Smart Water Solution for Wastewater Treatment Plants. 11th UWM Undergraduate Research Symposium, Milwaukee, WI, April 5, 2019. Poster Presentation.
82. Rush, Olivia, Hemingway, Loren, Gohari, Zahra, Manjili, Mohsen, **Silva, Marcia R.** 2019. Novel Porous Material for the Removal of Heavy Metals from Water. 11th UWM Undergraduate Research Symposium, Milwaukee, WI, April 5, 2019. Poster Presentation.

83. Lin, Yuting, Zhang, Yan, **Silva, Marcia R.** 2019. Dopamine-modified Graphene-based Filtration Adsorbent and Antibiotics Removal. 11th UWM Undergraduate Research Symposium, Milwaukee, WI, April 5, 2019. Poster Presentation.
84. Zastrow, Patrick, Hicks, Kevin, Manjili, Mohsen, **Silva, Marcia R.** 2019. Regeneration and Reuse of Natural Porous Filter Material Following the Capture and Recovery of Phosphate Ions. 11th UWM Undergraduate Research Symposium, Milwaukee, WI, April 5, 2019. Poster Presentation.
85. Chapman, Louis, O'Hagan-Kennedy, Danielle, **Silva, Marcia R.** 2019. Engineered Material for Removal of Ammonia from Water. 11th UWM Undergraduate Research Symposium, Milwaukee, WI, April 5, 2019. Poster Presentation.
86. Kudatla, Chris, Manjili, Mohsen, **Silva, Marcia R.** 2019. Phosphorus Removal and Recovery through Novel Adsorption Technology. 11th UWM Undergraduate Research Symposium, Milwaukee, WI, April 5, 2019. Poster Presentation.
87. Thompson, Andrew, Hable, Basil, Honts, Adam, Hansen, Thomas, Strickler, J.R., Young, Kyana, Mayer, Brooke, **Silva, Marcia R.** 2019. Digital Inline Holographic Microscopy Sensor for Pathogen Detection. 11th UWM Undergraduate Research Symposium, Milwaukee, WI, April 5, 2019. Oral Presentation. **Ribbon recipient for Outstanding Presentation.**
88. Thompson, Andrew, Hable, Basil, Honts, Adam, Strickler, J.R., Hansen, Thomas, **Silva, Marcia R.** 2019. Digital Inline Holographic Microscopy Sensor for Bacteria Detection. 11th UWM Undergraduate Research Symposium, Milwaukee, WI, April 5, 2019. Poster Presentation.
89. Manjili, Mohsen, Lin, Yuting, **Silva, Marcia.** Novel Porous Material for the Removal of Heavy metals from Water. 2018. MERC 2019 – 2019 Milwaukee Engineering Research Conference: Connected Engineering. Milwaukee, WI, Feb 28-Mar 1, 2019. Poster Presentation.
90. O'Hagan, Danielle, **Marcia R. Silva.** 2019. Novel Porous Material for Removal of Ammonia from Water MERC 2019 – 2019 Milwaukee Engineering Research Conference: Connected Engineering. Milwaukee, WI, Feb 28-Mar 1, 2019. Poster Presentation.
91. Davis, Sachin, Karanam, Ramprasad, **Marcia R. Silva.** 2019. Identifying the Hidden Enemy - Biofilm. MERC 2019 – 2019 Milwaukee Engineering Research Conference: Connected Engineering. Milwaukee, WI, Feb 28-Mar 1, 2019. Poster Presentation.
92. Manjili, Mohsen, Lin, Yuting, **Silva, Marcia.** Novel Porous Material for the Removal of Heavy metals from Water. 2018. SusTech 2018 - IEEE Conference on Technologies for Sustainability. Los Angeles, California, November 11-13, 2018. Oral Presentation.
93. Kordijazi, Amir, Edwards, Byron, Freres, Eileen, Lecus, Alice and **Silva, Marcia.** Advancing Systematic and Fundamental Changes in Agricultural Water Resources Management. SusTech 2018- IEEE Conference on Technologies for Sustainability. Los Angeles, California, November 11-13, 2018. Oral Presentation.
94. Thompson, Andrew, Hable, Basil, Honts, Adam, Strickler, J.R., Hansen, Thomas, **Silva, Marcia R.** 2018. Digital Inline Microscopy Software for Bacteria Detection. OCEANS 2018 Conference, Charleston, NC, October 25-28, 2018. Poster Presentation.
95. Farrell, Conrad, Kwendo Mwaniki, Yiming Yang, **Marcia R. Silva.** 2018. How does a modified and unmodified anode differ in a dual-celled microbial fuel cell. UR@UWM Poster Session, University of Wisconsin-Milwaukee, Milwaukee. August 3, 2018. Poster presentation.
96. Honts, Adam, Basil Hable, **Marcia R. Silva,** Thomas Hansen, Rudi Strickler. 2018. Digital Inline Holographic Microscopy (DIHM) software for bacteria detection. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 27, 2018. Poster presentation.
97. Edwards, Byron, Eileen Freres, Alice Lecus, Amir Kordijazi, **Marcia R. Silva.** 2018. Novel Porous Material for Removal of Phosphorus from Stormwater. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 27, 2018. Poster presentation.

98. Freres, Eileen, **Marcia R. Silva**. 2018. Ceramic Membrane for Water Filtration. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 27, 2018. Poster presentation.
99. Mwaniki, Kwendo, **Marcia R. Silva**. 2018. Microbial Fuel Cell. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 27, 2018. Poster presentation.
100. Gohari, Zahra, **Marcia R. Silva**. 2018. Novel Porous Material for Removal of Legionella. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 27, 2018. Poster presentation.
101. O'Hagan, Danielle, **Marcia R. Silva**. 2018. Novel Porous Material for Removal of Ammonia from Water Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 27, 2018. Poster presentation.
102. Kordijazi, Amir, Eileen Freres, Alice Lecus, Byron Edwards, **Marcia R. Silva**, 2018. Advancing Systematic and Fundamental Changes in Agricultural, Water Resources Management. College of Engineering and Applied Sciences Poster Competition 2018. University of Wisconsin-Milwaukee, Milwaukee. April 21, 2018. Poster presentation.
103. Honts, Adam, Basil Hable, **Marcia R. Silva**, Thomas Hansen, Rudi Strickler. 2018. Digital Inline Holographic Microscopy (DIHM) software for bacteria detection. College of Engineering and Applied Sciences Poster Competition 2018. University of Wisconsin-Milwaukee, Milwaukee. April 21, 2018. Poster presentation.
104. O'Hagan, Danielle, **Marcia R. Silva**. 2018. Novel Porous Material for Removal of Ammonia from Water College of Engineering and Applied Sciences Poster Competition 2018. University of Wisconsin-Milwaukee, Milwaukee. April 21, 2018. Poster presentation. **Honorable Mention- Undergraduate category.**
105. Manjili, Mohsen, Yuting Lin, **Marcia R. Silva**. 2018. Novel Porous Material for Removal of Heavy Metals from Water. College of Engineering and Applied Sciences Poster Competition 2018. University of Wisconsin-Milwaukee, Milwaukee. April 21, 2018. Poster presentation. **Third Place- graduate category.**
106. Freres, Eileen, **Marcia R. Silva**. 2018. Ceramic Membrane for Water Filtration. College of Engineering and Applied Sciences Poster Competition 2018. University of Wisconsin-Milwaukee, Milwaukee. April 21, 2018. Poster presentation.
107. Mwaniki, Kwendo, **Marcia R. Silva**. 2018. Microbial Fuel Cell. College of Engineering and Applied Sciences Poster Competition 2018. University of Wisconsin-Milwaukee, Milwaukee. April 21, 2018. Poster presentation.
108. Lin, Yuting, Alice Lecus, Joseph Corrao, **Marcia R. Silva**. 2018. Tailoring Zeolites by Acid Treatments. College of Engineering and Applied Sciences Poster Competition 2018. University of Wisconsin-Milwaukee, Milwaukee. April 21, 2018. Poster presentation.
109. Zhang, Yan, Yuting Li, **Marcia R. Silva**, Donald Boehm, David Garman. 2018. Novel porous material for the removal of persistent organic pollutants. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 21, 2018. Poster presentation
110. Davis, Sachin, **Marcia R. Silva**. 2018. Novel Method for the Detection of Biofilm. College of Engineering and Applied Sciences Poster Competition 2018. University of Wisconsin-Milwaukee, Milwaukee. April 21, 2018. Poster presentation.
111. **Silva, Marcia**, Yuting Lin, Alice Lecus, Joseph Corrao. 2018. Tailoring Zeolites by Acid Treatments. 15th IWA Leading Edge Conference on Water and Wastewater Technologies. Nanjing, China. May 27-May 31, 2018. Poster presentation.

112. Davis, Sachin, **Marcia R. Silva**. 2018. Novel Method for the Detection of Biofilm. IEEE Larry House Poster Competition 2018. University of Wisconsin-Milwaukee, Milwaukee. May 3, 2018. Poster presentation. **Third Place- Graduate category.**
113. Haehle, Chad, **Silva, Marcia R.**, Lecus, Alice, Garman, David. 2017. Partitioning and distribution of total mercury in the lower Green Bay. Navigating the Future of Water Conference, Milwaukee, October 18-20. Poster Presentation.
114. Mwaniki, Kwendo, **Silva, Marcia R.**, Rice, David, Garman, David. 2017. Bacteria Detector Water Sensing. Navigating the Future of Water Conference, Milwaukee, October 18-20. Poster Presentation.
115. Manjili, Mohsen, **Silva, Marcia R.**, Garman, David; Kolarik, Jayme, Li, William; Garthwait, Brennon, Zhang, Haifeng. 2017. Novel Porous Materials for the Removal of Heavy Metals. Navigating the Future of Water Conference, Milwaukee, October 18-20. Poster Presentation.
116. O'Neil, Jaime, **Silva, Marcia R.**, Dennis, Webb. 2017. Continuous heavy metal detection using X-ray fluorescence. Navigating the Future of Water Conference, Milwaukee, October 18-20. Poster Presentation.
117. Zhang, Yan, **Silva, Marcia R.**, Li, Yuting, Garman, David; Zhang, Haifeng; Wang, Jinwen; Garthwait, Brennon; Kolarik, Jayme. 2017. Novel Porous Materials for the Removal of Persistent Organic Pollutants. Navigating the Future of Water Conference, Milwaukee, October 18-20. Poster Presentation.
118. **Silva, Marcia**, Joseph Corrao, Donald Boehm, David Garman. 2017. Tailoring silica cage frameworks of natural porous materials. 14th IWA Leading Edge Conference on Water and Wastewater Technologies. Florianopolis, Brazil. May 29-June 2, 2017. Poster presentation.
119. **Silva, Marcia**, Donald Boehm*, Rani Hajjar, Chiu Law, Ronald Sabo, David Garman. 2017. Fabrication of Hydrophobic Cellulose Nanofibrils (CNF) transparent film via plasma etching. 2017 Advancements in Fiber-Polymer Composites. Madison, WI. May 16-18, 2017. Poster and Oral presentation. *Presenter
120. Avrunina, Lada, Anne Barlas, **Marcia R. Silva**, David Garman. 2017. A comparison study of natural and engineered porous material ability for bacteria removal from water. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 28, 2017. Poster presentation.
121. Edwards, Byron, Anne Barlas, **Marcia R. Silva**, David Garman. 2017. Influence of deposition of a zeolite layer on mechanical properties of Reverse Osmosis (RO) membrane by using a tissue tester. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 28, 2017. Oral presentation.
122. Gohari, Zahra, Abigail Shepard, **Marcia R. Silva**, David Garman. 2017. A review of technologies for detection of zika virus. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 28, 2017. Poster presentation.
123. Barlas, Anne, **Marcia R. Silva**, David Garman. 2017. Development of a novel porous material for phosphorus removal from water. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 28, 2017. Oral presentation.
124. Cleaveland, Alex, Donald Boehm, **Marcia R. Silva**, David Garman. 2017. Developing a competitive recovery and regeneration method for a novel adsorbent. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 28, 2017. Poster presentation.
125. Haehle, Chad, Ryan Lecus, **Marcia R. Silva**, David Garman. Novel porous material for the removal of PCBs and mercury from water. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 28, 2017. Poster presentation.

126. Lecus, Ryan, Chad Haehle, **Marcia R. Silva**, David Garman. Concentration and distribution of PCBs in sediments in the Fox River, Green Bay and proposed novel porous material for remediation of PCBs. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 28, 2017. Poster presentation.
127. Li, Yuting, Yan Zhang, **Marcia R. Silva**, Donald Boehm, David Garman. Novel porous material for the removal of persistent organic pollutants. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 28, 2017. Poster presentation.
128. Ruch, Hayley, Abigail Shepard, **Marcia R. Silva**, David Garman. Evaluating novel porous materials for anti-biofilm capacity. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 28, 2017. Poster presentation.
129. Ballo, Michael, Shawn Strong, **Marcia R. Silva**, Thomas Hansen, Rudi Strickler. 2017. Hand-held bacteria detector sensor. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 28, 2017. Poster presentation.
130. Strong, Shawn, Michael Ballo, **Marcia R. Silva**, Thomas Hansen, Rudi Strickler. 2017. Digital Inline Holographic Microscopy (DIHM) software for bacteria detection. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 28, 2017. Poster presentation.
131. Barlas, Anne, **Marcia R. Silva**, David Garman. 2017. Development of a novel porous material for phosphorus removal from water. 14th annual Research in the Rotunda UW System annual undergraduate event. Wisconsin State Capitol, Madison. April 12, 2017. Poster presentation.
132. Zhang, Yan, Yuting Li, **Marcia R. Silva**, Donald Boehm, David Garman. Novel porous material for the removal of persistent organic pollutants. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 8, 2017. Poster presentation.
133. Edwards, Byron, Anne Barlas, **Marcia R. Silva**, David Garman. Influence of deposition of a zeolite layer on mechanical properties of Reverse Osmosis (RO) membrane by using a tissue tester. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 8, 2017. Poster presentation.
134. Roche, Emily, **Marcia R. Silva**, Joseph Corrao, David Garman. Optimization of cleaning processes to produce a novel porous material for the removal of phosphorus. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 8, 2017. Poster presentation.
135. Morgan, Andrew, **Marcia R. Silva**, Joseph Corrao, David Garman. Deposition of carbon particulates on natural porous materials by electron-beam evaporation by graphite. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 8, 2017. Poster presentation.
136. Manjili, Mohsen, **Marcia R. Silva**, David Garman. Novel porous material for the removal of heavy metal. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 8, 2017. Poster presentation.
137. Mwaniki, Kwendo, **Marcia R. Silva**, David Rice, David Garman. Bacteria detector water sensing. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 8, 2017. Poster presentation.
138. Haehle, Chad, Ryan Lecus, **Marcia R. Silva**, David Garman. Novel porous material for the removal of PCBs and mercury from water. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 8, 2017. Poster presentation.

139. Corrao, Joseph, **Marcia R. Silva**, David Garman. Acid treatments of naturally occurring porous particles for water filtration. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 8, 2017. Poster presentation.
140. Barlas, Anne, **Marcia R. Silva**, David Garman. 2017. Development of a novel porous material for phosphorus removal from water. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 8, 2017. Poster presentation. **Award: Student's Choice.**
141. Cleaveland, Alex, Donald Boehm, **Marcia R. Silva**, David Garman. 2017. Developing a competitive recovery and regeneration method for a novel adsorbent. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 8, 2017. Poster presentation.
142. Strong, Shawn, Michael Ballo, **Marcia R. Silva**, Thomas Hansen, and J. R. Strickler. 2017. Digital Inline Holographic Microscopy Software for Bacteria Detection. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 8, 2017. Poster presentation.
143. Ballo, Michael, Shawn Strong, **Marcia R. Silva**, Thomas Hansen, and J. R. Strickler. 2017. Hand-held bacteria detector sensor. College of Engineering and Applied Sciences Poster Competition 2017. University of Wisconsin-Milwaukee, Milwaukee. April 8, 2017. Poster presentation.
144. Cleaveland, Alex, Donald Boehm, **Marcia R. Silva**, David Garman. Developing a competitive recovery and regeneration method for a novel adsorbent. 31st Annual National Conference on Undergraduate Research, University of Memphis. April 6-8, 2017. Poster Presentation.
145. Ryan Lecus, Chad Haehle, **Marcia R. Silva**, David Garman. Concentration and distribution of PCBs in sediments in the Fox River, Green Bay and proposed novel porous material for remediation of PCBs. 31st Annual National Conference on Undergraduate Research, University of Memphis. April 6-8, 2017. Poster Presentation.
146. Haehle, Chad, Ryan Lecus, **Marcia R. Silva**, David Garman. Novel material for the removal of mercury from water. UW System Symposium 2017, UW Stevens Point. April 21, 2017. Poster Presentation.
147. Cleaveland, Alex, Donald Boehm, **Marcia R. Silva**, David Garman. Developing a competitive recovery and regeneration method for a novel adsorbent. UW System Symposium 2017, UW Stevens Point. April 21, 2017. Poster Presentation.
148. Corrao, Joseph, **Marcia R. Silva**, David Garman. Acid treatments of naturally occurring porous particles for water filtration. UW System Symposium 2017, UW Stevens Point. April 21, 2017. Poster Presentation.
149. Gohari, Zahra, Abigail Shepard, **Marcia R. Silva**, David Garman. A review of technologies for detection of zika virus. UW System Symposium 2017, UW Stevens Point. April 21, 2017. Poster Presentation.
150. Li, Yuting, Yan Zhang, **Marcia R. Silva**, David Garman. Novel Porous Material for the Removal of Persistent Organic Pollutants (POPs). UW System Symposium 2017, UW Stevens Point. April 21, 2017. Poster Presentation.
151. Ruch, Hayley, Abigail Shepard, **Marcia R. Silva**, David Garman. Evaluating novel porous materials for anti-biofilm capacity. UW System Symposium 2017, UW Stevens Point. April 21, 2017. Poster Presentation.
152. Strong, Shawn, Michael Ballo, **Marcia R. Silva**, Thomas Hansen, Rudi Strickler. Digital Inline Holography (DIHM) software for bacteria detection. UW System Symposium 2017, UW Stevens Point. April 21, 2017. Poster Presentation.

153. Mwaniki, Kwendo, **Marcia R. Silva**, David Rice, David Garman. Novel sensor for detection of bacteria in environmental water samples. UW System Symposium 2017, UW Stevens Point. April 21, 2017. Poster Presentation.
154. Mwaniki, Kwendo, **Marcia R. Silva**, David Rice, David Garman. Novel sensor for detection of bacteria in environmental water samples. MWAA 2017. January 27, 2017. Oral Presentation.
155. Ballo, Michael, Shawn Strong, **Marcia R. Silva**, Thomas Hansen, Rudi Strickler. Hand-held Bacteria Detector. MWAA 2017. January 27, 2017. Oral Presentation.
156. Lockwood, Kyle, **Marcia R. Silva**, Dennis Webb, David Garman. Continuous Monitoring for Dissolved Metals in Water Using X-Ray Fluorescence (XRF). MWAA 2017. January 27, 2017. Oral Presentation.
157. Boehm, Donald, **Marcia R. Silva**, Hai-Feng Zhang, Jayme Kolarik, Katie Henderson, David Garman. Removal of Emerging Persistent Organic Pollutants (Em-POPs) Model Compounds from Water Using a Natural Macroporous Material Functionalized with Graphene-Based Products. UWM Graduate Research Symposium, Milwaukee, WI. October 28, 2016. Poster Presentation.
158. Barlas, Anne, **Marcia R. Silva**, and David Garman. 2016. Metal coated porous material for phosphorus removal from water. 7th Annual Naval Academy Science and Engineering Conference (NASEC). Annapolis, MD. November 13 -15, 2016. Poster Presentation.
159. Barlas, Anne, **Marcia R. Silva**, and David Garman. 2016. Metal coated porous material for phosphorus removal from water. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 29, 2016. Poster presentation.
160. Fricano, Nina, **Marcia R. Silva**, Donald Boehm, and David Garman. 2016. pH dependent spectral analysis of sodium fluorescein for application in environmental studies. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 29, 2016. Poster presentation.
161. Lange, Christopher, **Marcia R. Silva**, David Rice, and David Garman. 2016. Evaluation of a Novel Sensor for Water Testing. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 29, 2016. Poster presentation.
162. Morgan, Andrew, **Marcia R. Silva**, Joseph Corrao, and David Garman. 2016. Deposition of carbon nanoparticles on natural porous particles by Electron-Beam Graphite Evaporation. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 29, 2016. Poster presentation.
163. Pynenberg, Michael, **Marcia R. Silva**, Lukus Wardecke, and David Garman. 2016. Adsorption of model organic compounds by natural and engineered porous material in aqueous phase. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 29, 2016. Poster presentation.
164. Shepard, Abigail, **Marcia R. Silva**, and David Garman. 2016. Occurrence, Distribution and Rate of Attachment of *E. coli* to Natural and Engineered Porous Surfaces. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 29, 2016. Poster presentation.
165. Sigmund, Colin, **Marcia R. Silva**, David Rice, and David Garman. 2016. Novel capacitive sensor for detection of concentration of solids and bacteria in water. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 29, 2016. Poster presentation.
166. Lecus, Ryan, Nicholas DuBach, **Marcia R. Silva**, and David Garman. 2016. Adsorption of heavy metal by a natural and a novel engineered porous material. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 29, 2016. Poster presentation.

167. Ballo, Michael, Timothy Hennessey, Thomas Hansen, **Marcia R. Silva**, and J. R. Strickler. 2016. Hand-held bacteria detector sensor. Undergraduate Research Symposium. University of Wisconsin-Milwaukee, Milwaukee. April 29, 2016. Oral presentation.
168. Barlas, Anne, **Marcia R. Silva**, and David Garman. 2016. Metal coated porous material for phosphorus removal from water. College of Engineering and Applied Sciences Poster Competition 2016. University of Wisconsin-Milwaukee, Milwaukee. April 23, 2016. Poster presentation. **Third place undergraduate competition.**
169. Fricano, Nina, **Marcia R. Silva**, Donald Boehm, and David Garman. 2016. Evaluation of novel macroporous material for the removal of sodium fluorescein from water. College of Engineering and Applied Sciences Poster Competition 2016. University of Wisconsin-Milwaukee, Milwaukee. April 23, 2016. Poster presentation.
170. Morgan, Andrew, **Marcia R. Silva**, Joseph Corrao, and David Garman. 2016. Deposition of carbon nanoparticles on natural porous particles by Electron-Beam Graphite Evaporation. College of Engineering and Applied Sciences Poster Competition 2016. University of Wisconsin-Milwaukee, Milwaukee. April 23, 2016. Poster presentation.
171. Pynenberg, Michael, **Marcia R. Silva**, Lukus Wardecke, and David Garman. 2016. Adsorption of model organic compounds by natural and engineered porous material in aqueous phase. College of Engineering and Applied Sciences Poster Competition 2016. University of Wisconsin-Milwaukee, Milwaukee. April 23, 2016. Poster presentation.
172. Nicholas DuBach, **Marcia R. Silva**, Ryan Lecus, and David Garman. 2016. Adsorption of heavy metal by a natural and a novel engineered porous material. College of Engineering and Applied Sciences Poster Competition 2016. University of Wisconsin-Milwaukee, Milwaukee. April 23, 2016. Poster presentation.
173. Ballo, Michael, Timothy Hennessey, Thomas Hansen, **Marcia R. Silva**, and J. R. Strickler. 2016. Hand-held bacteria detector sensor. College of Engineering and Applied Sciences Poster Competition 2016. University of Wisconsin-Milwaukee, Milwaukee. April 23, 2016. Poster presentation.
174. Corrao, Joseph, **Marcia R. Silva**, Donald Boehm, and David Garman. 2016. Effect of the cleaning steps and acid treatment on the structural and compositional characteristics of a natural porous material. College of Engineering and Applied Sciences Poster Competition 2016. University of Wisconsin-Milwaukee, Milwaukee. April 23, 2016. Poster presentation.
175. Rice, David*, **Marcia R. Silva**, David Garman. 2016. Sensor for detecting contaminated water. ACI 1st National Conference on "Next Generation Water Technology - April 6-8, 2016, Milwaukee, Wisconsin. Oral Presentation. *Presenter.
176. Piliouras, Panagiotis, Cassandra Bence, **Marcia Silva**, Dennis Webb, David Garman. REX Project. Undergraduate Water Research Symposium: Aquatic Science-Technology Engineering Math (Water SYS-STEM), UWM School of Freshwater Sciences, August 12, 2016, Milwaukee, Wisconsin. Poster and Oral Presentation.
177. Obbin, Quincy, **Marcia Silva**, Abigail Shepard, David Rice, David Garman. Development of New Materials and New Sensors for Water Industries. Summer 2016 Cardinal Stritch Career Ready Internship Showcase, August 29, 2016, Milwaukee, Wisconsin. Poster Presentation.
178. Lecus, Ryan, M. Virnoche, **M.R. Silva**, J. Chang, J. Chen, and D. Garman. 2015. "Engineering Porous Material for Water Filtration." Annual UWM Undergraduate Research Symposium, Milwaukee, April 24, 2015. Poster.
179. **Silva, M.R.**, David Garman, Jingbo Chang, and Junhong Chen. 2013. "Engineering Porous Material for Water Filtration." Global Water Center, Milwaukee, October 18, 2013. Poster.

180. **Silva, M.R.**, Thomas Hansen, Rudi Strickler, David Garman, Matthew Brunel, Sean Harvey, Michael Pochert, and Ashraf Al-Hajjeh. 2013. "Handheld Microbial Organisms Detector (H2MOD)." Global Water Center, Milwaukee, October 18, 2013. Poster.
181. **Silva, M.R.** & T.R. Naik. 2013. "Biodeterioration of concrete structures in coastal zone." Third International Conference on Sustainable Construction Materials and Technologies (SCMT), Kyoto, Japan, August 18-22, 2013. Oral presentation. **Prize paper**
182. **Silva, M. R.**, H. R. Bravo, D. Cherkauer, J. V. Klump, W. Kean, and S.L. McLellan. 2013. "Effect of hydrological and geophysical factors on formation of standing water and fecal indicator bacteria reservoirs at a Lake Michigan beach." IAGLR 56th Annual Conference, West Lafayette, IN, June 2-6, 2013. Oral presentation.
183. **Silva, M. R.**, J. VandeWalle, M. Bootsma, and S. L. McLellan. 2010. "Identification and remediation of sources of bacteria at Bradford Beach, Milwaukee, WI." Announcement of OHHI Traineeship Award, Great Lakes WATER Institute, Milwaukee, WI, July 21, 2010. Poster.
184. **Silva, M. R.** and S.L. McLellan. 2009. "Environmental and social impact of stormwater outfalls at Lake Michigan beaches." Water Innovation, Technology, and Sustainability (WITS) Conference, Manaus, Brazil, November 23-24, 2009. Oral presentation.
185. **Silva, M. R.** and S.L. McLellan. 2010. "The sources and nearshore transport of human fecal pollution in Lake Michigan beaches." IAGLR 53rd Annual Conference, Toronto, Canada, May 17-21, 2010. Oral presentation.
186. Bonnie J. Bills, Michael S. Baierlipp, Robert J Graziano, William F Kean, Wesley D Weichert, **Marcia R. Silva**, and Sandra L McLellan, 2010." Hydrogeophysical Study of the Bradford Beach Shoreline, Milwaukee, Wisconsin." AWRA 34th Annual Meeting, Madison, WI, March 4-5, 2010. Poster.
187. **Silva, M. R.**, F. Schlenker, S. Bingham, J. Chepp, and D. Cox. 2009. "Application of an automatic event-controlled sampler for biological analysis and monitoring: studies on plume tracking in Milwaukee Harbor, Milwaukee, Wisconsin." Oceans 2009 MTS/IEEE Conference, Biloxi, MS, Oct.26-29, 2009. Poster.
188. **Silva, M. R.**, J.VandeWalle, M. Bootsma, and S. L. McLellan. 2009. "Impact of Heavy rains and combined sewer overflows at Bradford Beach and Atwater Beach, Milwaukee, WI." 2009 Joint Conference Lake Michigan: State of the Lake and Great Lakes Beach Association, Milwaukee, WI, Sept. 29-Oct. 1, 2009. Oral presentation.
189. **Silva, M. R.**, H.R. Bravo, and S.L. McLellan. 2009. "Modeling bacteria fate and transport in nearshore waters and sand of Lake Michigan beaches: a case study of Bradford Beach and Atwater Beach", IEEE Poster Competition 2009, Milwaukee, WI, April 16, 2009. Poster.
190. **Silva, M. R.**, S.L. McLellan, and H.R. Bravo. 2009. "Fate and transport of bacteria at Bradford Beach and Atwater Beach, Milwaukee, WI – engineering and science at the land-water interface", College of Engineering and Applied Sciences Poster Competition 2009, Milwaukee, WI, April 4, 2009, Awarded Second Place. Poster.
191. **Silva, M. R.**, J. Li, and S. L. McLellan. 2006. "The removal of green fluorescent labeled *E. coli* by bench scale drinking water biofilters". WWA Annual Conference, Wisconsin Dells, WI, September 2006, Awarded First Place Overall Poster.
192. **Silva, M. R.**, J. Li, and S. L. McLellan. 2005. "The performance of biofiltration on *E. coli* removal from drinking water", Midwest Regional Chapter Society of Toxicology, Chicago, IL, May 2005. Poster.

TECHNICAL REPORTS (*indicates corresponding author; students and postdocs under my supervision are underlined)

1. **Silva, M. R.**, Sakib Mahmud, Nathanael Sovitzky. Emerging Water Contaminants Consumer Study- Understanding Consumer Awareness and Decision-Making on Using In-Home Water Treatment Devices. February 2022. Prepared for Water Quality Research Foundation. 85 pages.
2. **Silva, M. R.**, S. L. McLellan, H. R. Bravo, J. V. Klump, W. Kean. March 2012. "Bradford Beach Standing Water Investigation", Milwaukee, WI – School of Freshwater Sciences - UWM Great Lakes WATER Institute, UWM Department of Civil Engineering and UWM Department of Geosciences. Prepared for Milwaukee County.
3. **Silva, M. R.** 2006. "Modeling of pathogens at Bradford Beach, Milwaukee, WI – A preliminary study." Report No. MS2006-01, McLellan Lab, UWM Great Lakes WATER Institute.
4. **Silva, M. R.**, and T. Naik. 2006. "Overview of composting – fundamentals and processes." Report No. 2006-14, UWM Center for By-Products Utilization.
5. **Silva, M. R.**, and S. L. McLellan. 2005. "MMSD high-rate treatment pilot study – Ten-day test unit for the Trojan UV pilot unit with secondary effluent – Coliphage and *bacteroides* analyses." Report No. MS2005-02, McLellan Lab, UWM Great Lakes WATER Institute. Prepared for CH2M Hill.
6. **Silva, M. R.**, and S. L. McLellan. 2005. "MMSD high-rate treatment pilot study – Coliphage and *bacteroides* analyses." Report No. MS2005-01, McLellan Lab, UWM Great Lakes WATER Institute. Prepared for CH2M Hill.
7. **Silva, M. R.**, and T. Naik. 2005. "Municipal solid waste- a method for an efficient production of compost." Report No. 2005-03, UWM Center for By-Products Utilization.
8. **Silva, M. R.**, and T. Naik. 2004. "Overview of composting - fundamentals and processes." Report No. 2004-22, UWM Center for By-Products Utilization.
9. **Silva, M. R.** 2004. "Comparison of two male-specific (F+) / Somatic coliphage and evaluation of their usefulness for testing stormwater." Report No. MS2004-01, McLellan Lab, UWM Great Lakes WATER Institute.
10. **Silva, M. R.**, 2004. "How to compost organic waste quickly and efficiently." Report No. 2004-10, UWM Center for By-Products Utilization.

INVITED SPEAKER

1. Silva, Marcia. DPI Funding Talk. SBIR/STTR. August 19, 2025, Chicago, USA.
2. Silva, Marcia. Congresso Internacional de Saneamento: Concessao, Inovacao, Saude e Investimentos. Title: The nexus between Innovation and Environmental Sustainability. March 27, 2024. Sao Paulo, Brazil.
3. Silva, Marcia. IAWA Mini Course. Title: **Future-Ready Workforce Development for Leadership in Water and Wastewater Utilities (FRWD Leadership)**. March 7, 2024. Springfield, IL.
4. Silva, Marcia. University of Illinois at Chicago, College of Engineering. Title: Sustainability in the food-energy-water-waste nexus. February 16, 2024. Chicago, IL.
5. Silva, Marcia. UWM School of Freshwater Sciences Title: Sustainability in the food-energy-water-waste nexus. November 14, 2023. Milwaukee, WI.
6. Silva, Marcia. Neogen (Virtual). Title: Sustainability in the food-energy-water-waste nexus. February 20, 2023.

7. Silva, Marcia. Virtual Ag Technology Focus Group #3. Special industry/university focus group meeting for the Bicentennial Innovation Challenge project -AgTech. Title: Nutrient management and sensors. December 2, 2021.
8. Silva, Marcia and Sakib Mahmud. Emerging Contaminants Phase 1: A Study of Consumer Awareness and Concern. 2021 WQA Convention and Exposition. July 28-30, Las Vegas, NV. Oral virtual presentation.
9. Silva, Marcia. 2020 Connected Systems Institute (CSI) Lecture Series - Technical Tuesday, Milwaukee, WI. Building the future through water tech. May 12, 2020.
10. Silva, Marcia. 2020. Girls Who Code, CEAS, Milwaukee, WI. Building the future through water tech. Feb 21, 2020. Oral Presentation.
11. Silva, Marcia. 2020, Water Panel moderated by Dr. Qian Liao at Milwaukee Engineering Research Conference (MERC), UWM, Milwaukee, WI. Session: Making a bigger splash: transforming water infrastructure by developing smart and resilient urban water systems. February 28, 2020. Other panelists: Matt Magruder (MMSD), Dr. Hector Bravo, Dr. Yin Wang, Dr. Zeyun Yu.
12. Silva, Marcia. 2019. Ben-Gurion University, Sde Boqer, Israel. Building the future through water tech. Nov. 18, 2019. Oral Presentation.
13. Silva, Marcia. 2019. Technion University representative, Tel Aviv, Israel. Building the future through water tech. Nov. 19, 2019. Oral Presentation.
14. Silva, Marcia. 2019. Universidad Nacional Autónoma de México (UNAM) and PUMAGUA, Mexico City, Mexico. Building the future through water tech. Sep. 10, 2019. Oral Presentation.
15. Silva, Marcia. 2019. Rotoplas, Mexico City, Mexico. Building the future through water tech. Sep. 11, 2019. Oral Presentation.
16. Silva, Marcia. 2019. Sistema de Aguas de la Ciudad de Mexico (Sacmex), Mexico City, Mexico. Building the future through water tech. Sep. 12, 2019. Oral Presentation.
17. Silva, Marcia. 2019. Colloquium at School of Freshwater Sciences, Milwaukee, WI. Developing water technologies from laboratory scale to pilot production – challenges and opportunities in a globally connected Milwaukee Water Hub. Dec 11, 2019. Oral Presentation.
18. Silva, Marcia. 2019 WQA Convention & Exposition WQA, Las Vegas, Nevada. Building novel technologies for removal of pollutants from water and for detection of pollutants in water. April 24, 2019. Oral Presentation.
19. Silva, Marcia. Workshop: Rethinking Pinheiros River, Sao Paulo, Brazil. Building the future through water tech. Mar 11-12, 2019. Oral Presentation.
20. Silva, Marcia. Watershed Conference. Green Bay, Wisconsin. Novel Material for Removal and Recovery of Phosphorus. Mar 5-6, 2019. Oral Presentation.
21. Silva, Marcia. European Water Week, Leeuwarden, The Netherlands. UWM Water Technology Accelerator (WaTA) in the Milwaukee Water Hub. September 25, 2018. Oral Presentation.
22. Silva, Marcia. WI-AWWA Annual Meeting & Expo, Madison, WI. Building novel technologies for removal of pollutants from water and for detection of pollutants in water – present challenges and future horizons. September 12-14, 2018. Oral Presentation.
23. Silva, Marcia. Evoqua Technologies. Building novel technologies for the removal of pollutants from water and for detection of pollutants in water. July 12, 2018. Technical meeting. Oral presentation.
24. Silva, Marcia. NERI – NUS Environmental Research Institute. Building novel technologies for the removal of pollutants from water and for detection of pollutants in water. July 11, 2018. Technical meeting. Oral presentation.

25. Silva, Marcia. Rockwell Automation, Beijing, China. Building novel technologies for the removal of pollutants from water and for detection of pollutants in water. May 31, 2018. Technical meeting. Oral presentation.
26. Silva, Marcia. Purolite, Deqing, China. Building novel technologies for the removal of pollutants from water and for detection of pollutants in water. May 30, 2018. Technical meeting. Oral presentation.
27. Silva, Marcia. 2018 WQA Convention & Exposition. Denver, Colorado. Building novel technologies for the removal of pollutants from water and for detection of pollutants in water. March 26-29, 2018. Oral Presentation.
28. Silva, Marcia. UWM Bioengineering Seminar, Milwaukee, WI. Building novel technologies for the removal of pollutants from water and for detection of pollutants in water. March 16, 2018. Oral Presentation.
29. Silva, Marcia. UWMRF First Look Forum 2018, Milwaukee, WI. Novel Material for Removal and Recovery of Phosphorus. April 26, 2018. Oral Presentation.
30. Silva, Marcia. Building novel technologies for removal of pollutants from water and for detection of pollutants in water. National University of Singapore's Enterprise Incubator, Singapore, Dec. 4, 2017. Technical meeting. Oral presentation.
31. Silva, Marcia. Building novel technologies for removal of pollutants from water and for detection of pollutants in water. National University of Singapore, Department of Environmental Engineering, Singapore, Dec. 4, 2017. Technical meeting. Oral presentation.
32. Silva, Marcia. Building novel technologies for removal of pollutants from water and for detection of pollutants in water. Singapore's National Water Agency PUB, Singapore, Dec. 4, 2017. Technical meeting. Oral presentation.
33. St Matthew School, Oak Creek, WI. National Environmental Education Week. April 27, 2017.
34. Silva, Marcia. Rockwell Automation, Mequon, WI. Novel Materials and Novel Sensor for Water Industries. October 11, 2016. Oral Presentation.
35. Silva, Marcia. UWM Gives Donor Recognition Program – Global Water Center, Milwaukee. "Overview of WaTA: research labs and highlights, research successes, and future research." March 22, 2016. Oral Presentation.
36. Silva, Marcia. NanoAlerta - Renanosoma – Internet TV program – Program N° 60, Sao Paulo, Brazil. "Nanotechnology for Water and Wastewater Treatment". April 20, 2015. Oral Presentation.
37. Silva, Marcia. Round Table with US Army on Mission to Congo, Global Water Center, Milwaukee, WI. "Water quality assessment techniques suitable for developing countries and cost-effective emerging technologies". June 5, 2014. Oral presentation.
38. Silva, Marcia. NOAA/Great Lakes Environmental Research Laboratory, Ann Arbor, MI. "An integrative investigation of sources, fate, and transport of bacteria in Milwaukee Coastal Beaches.", July 29, 2013. Oral presentation.
39. Silva, Marcia. Grand Valley State University - Annis Water Resources Institute, Muskegon, MI. "An integrative investigation of sources, fate, and transport of bacteria in Milwaukee Coastal Beaches.", June 27, 2013. Oral presentation.
40. Silva, Marcia. Great Lakes WATER Institute. "An integrative approach of sources, fate and transport of bacteria in Milwaukee coastal beaches." May 3, 2013. Oral presentation.
41. Silva, Marcia. Great Lakes WATER Institute - McLellan Lab. "Application of a novel optical method for assessment of attachment of bacteria to particles at a sheared fluid simulating beach environment conditions." March 13, 2013. Oral presentation.
42. Silva, Marcia. College of Physical and Environmental Oceanography - Ocean University of China, Qingdao, China. "Application of a novel optical method for assessment of attachment of bacteria

- to particles at a sheared fluid simulating beach environment conditions", January 9, 2013. Oral presentation.
43. Silva, Marcia. Department of Hydraulics Engineering-Zhejiang University, Hangzhou, China. "Application of a novel optical method for assessment of attachment of bacteria to particles at a sheared fluid simulating beach environment conditions", January 8, 2013. Oral presentation.
 44. Silva, Marcia. State Key Laboratory of Estuarine and Coastal Research - East China Normal University, Shanghai, China. Application of a novel optical method for assessment of attachment of bacteria to particles at a sheared fluid simulating beach environment conditions", January 7, 2013 (<http://english.sklec.ecnu.edu.cn/s/71/t/180/8c/d9/info36057.htm>). Oral presentation.
 45. Silva, Marcia. Beijing Normal University - School of Environment, Beijing, China. "Application of a novel optical method for assessment of attachment of bacteria to particles at a sheared fluid simulating beach environment conditions", January 4, 2013. Oral presentation.
 46. Silva, Marcia. UWM School of Continuing Education – WiSE Breakfast Series. "Strategies for Effective Communication in Science and Engineering", February 2, 2012. Oral presentation.
 47. Silva, Marcia. UWM Department of Civil Engineering and Mechanics Seminar Series. "Assessing bacteria behavior with a non-invasive technique: attachment and transport", Milwaukee, Wisconsin, September 16, 2011. Oral presentation.
 48. Silva, Marcia. UFRGS - Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil. "Engineering science at land – water interface"– August 26, 2011. Oral presentation.
 49. Silva, Marcia. Center for Instructional and Professional Development. University of Wisconsin-Milwaukee - Teaching Assistant Orientation Program. "Getting ready to be a Teaching Assistant at the College of Engineering", Milwaukee, WI– August 22, 2011. Oral presentation.
 50. Silva, Marcia. Great Lakes WATER Institute. Presentation prepared for Badger Meter. "Engineering science at land –water interface", Milwaukee, WI – July 29, 2011. Oral presentation.
 51. Silva, Marcia. Great Lakes WATER Institute. Presentation prepared for Summer 2011 REU students. "Transport of bacteria at the beach environment and field investigations", Milwaukee, WI – July 13, 2011. Oral presentation.
 52. Silva, Marcia. Great Lakes WATER Institute. "Bradford Beach Standing Water Investigation", Milwaukee, WI – June 20, 2011. Oral presentation.
 53. Silva, Marcia. Great Lakes WATER Institute - McLellan Lab. "Bradford Beach Standing Water Investigation", Milwaukee, WI – March 7, 2011. Oral presentation.
 54. Silva, Marcia. Great Lakes WATER Institute, Milwaukee, Wisconsin. "Investigation of sources and transport of bacteria in Milwaukee beaches." July 6, 2010. Oral presentation.
 55. Silva, Marcia. Forschungszentrums Dresden-Rossendorf, Research Center FZD, Dresden, Germany. "An Integrative Investigation of Sources and Transport of Bacteria in Milwaukee Coastal Beaches." July 1, 2010. Oral presentation.
 56. Silva, Marcia. Oceanographic Institute - University of Sao Paulo, Sao Paulo, Brazil. "An Integrative Investigation of Sources and Transport of Bacteria in Milwaukee Coastal Beaches." December 18, 2009. Oral presentation.
 57. Silva, Marcia. UWM - Engineering and Mathematical Sciences Building. Bradford Beach Standing Water Investigation Meeting. "Fate and Transport of bacteria on the sand at Bradford Beach – Preliminary results." May 6, 2009. Oral presentation.
 58. Silva, Marcia. Beloit College, Beloit, WI. "Modeling bacteria fate and transport in nearshore waters and sand of Lake Michigan beaches: a case study of Bradford Beach and Atwater Beach." April 17, 2009. Oral presentation.

59. Silva, Marcia. Great Lakes WATER Institute - McLellan Lab. "Fate and transport of bacteria at Bradford Beach and Atwater Beach, Milwaukee, WI – engineering and science at the land-water interface." April 2, 2009. Oral presentation.
60. Silva, Marcia. Great Lakes WATER Institute. "Modeling of beach profile evolution." June 28, 2007. Oral presentation.
61. Silva, Marcia. Great Lakes WATER Institute - McLellan Lab. "The removal of green fluorescent labeled *E. coli* by bench scale drinking water biofilters." September 2006. Oral presentation.
62. Silva, Marcia. Great Lakes WATER Institute - McLellan Lab. "The performance of biofiltration on *E. coli* removal from drinking water." May 2005. Oral Presentation.
63. Silva, Marcia. Great Lakes WATER Institute - McLellan Lab. "Biofilm experiment." November 24, 2004. Oral Presentation.
64. Silva, Marcia. University of Wisconsin-Milwaukee – UWM - Dr. Jin Li's Lab (Civil Engineering Department) and Dr. Ching-Hong Yang's Lab (Biological Sciences Department). "Biofilm experiment." Fall 2004. Oral Presentation.
65. Silva, Marcia. UWM Center for By-products Utilization. "How to compost organic materials quickly and efficiently." June 11, 2004. Oral Presentation.
66. Silva, Marcia. Great Lakes WATER Institute - McLellan Lab. "How to compost organic materials quickly and efficiently." June 2004. Oral Presentation.

INVITED VISITOR/ATTENDEE

1. UIC Innovation Center, Chicago, IL – May 11, 2023
2. Springbrook Water Reclamation Facility, Naperville, IL – May 10, 2023
3. Invited to attend virtual event: "Digital Mission Luxembourg - Wisconsin" – Mar 29th – Mar. 31st, 2022.
4. AO Smith, Milwaukee, WI – Jan 2020.
5. Ben-Gurion University, Sed Boqer, Israel – Nov 18, 2019.
6. Rotoplas, Mexico City, Mexico – Sep 12, 2019.
7. UNAM, Mexico City, Mexico – Sep 10, 2019.
8. EMAE Water and Energy company – Sao Paulo, Brazil – Mar 12, 2019.
9. Tuan Desalination Plant and PUB R&D Facility – Singapore – July 12, 2018
10. Evoqua Technologies, Singapore – July 12, 2018
11. NERI – NUS Environmental Research Institute – Singapore – July 11, 2018
12. Marmon Technologies, Singapore – July 9, 2018
13. Sembcorp, Nanjing, China- June 4, 2018
14. AO Smith, Nanjing, China – May 28, 2018
15. Purolite, Dqing, China – May 30, 2018
16. Rockwell Automation, Beijing, China – May 31, 2018
17. National University of Singapore's Enterprise Incubator, Singapore, Dec. 4, 2017.
18. National University of Singapore, Department of Environmental Engineering, Singapore, Dec. 4, 2017.
19. Singapore's National Water Agency PUB, Singapore, Dec. 4, 2017.
20. Tsinghua University, Beijing, China – January 13, 2013.
21. First Institute of Oceanography - State Oceanic Administration, Qingdao, China – January 10, 2013.

PROFESSIONAL DEVELOPMENT`

1. UIC Computational Research Symposium, April 20, 2026, Chicago, IL
2. UW Madison 28th Annual Undergraduate Symposium, April 17, 2026, Madison, WI.
3. Advancement Cyberinfrastructure for Education and Research (ACER). Best Practices in Research Software Development. April 16, 2026 (1.5 hours). UIC, Virtual Webinar.
4. AI for Medical Diagnosis (≈20 hours)
DeepLearning.AI (via Coursera) — Certificate of Completion / In Progress, 2026
Applied training in machine learning methods for clinical diagnosis, including supervised learning, model evaluation metrics, interpretation of results, and ethical considerations for the use of AI in healthcare.
5. AI 101 for Water Professionals (1.5 hours)
Water Environment Federation (WEF) / Watura — Certificate of Completion, April 14, 2026
Introductory training on artificial intelligence fundamentals and applications in water and wastewater utility operations, data analysis, and decision support.
6. Participant, NVIDIA Quantum Day virtual event exploring how AI and accelerated computing are enabling scalable quantum systems, including quantum error correction, hybrid quantum–GPU supercomputing, and application development for near- and long-term quantum advantage. April 14, 2026. Virtual.
7. Participant, HIMSS 2026 Global Health Conference & Exhibition
March 8–12, 2026 — Las Vegas, NV
Participated in sessions on digital health innovation, AI-enabled healthcare systems, clinical informatics, and emerging technologies in health delivery.
8. Participant, mHUB HardTech Summit 2026
March 5, 2026 — Chicago, IL
Engaged with industry leaders and innovators on hardtech commercialization, advanced manufacturing, and emerging hardware-driven solutions in health and engineering sectors.
9. Participant, Chicago Quantum Summit 2025
Chicago, IL — November 2025
Engaged with national leaders in quantum science, engineering, and policy to explore emerging directions in quantum technologies and their applications in healthcare, computing, and innovation ecosystems.
10. AI and Data Centers: Innovations and Opportunities, Schneider Electric Data Centre University, 2025
11. Data Analytics and Visualization in Health Care – Rochester Institute of Technology (edX, Audited, 2025)
12. Calculating Total Cooling Requirements, Schneider Electric Data Centre University, 2025.
13. Symposium on Eye Inflammation and Infection – Department of Ophthalmology and Visual Sciences, University of Illinois College of Medicine, Sep 12-14, 2025, Chicago, IL
14. Virtual 17th Annual NORDP Research Development Virtual Conference. April 28th – May 1st, 2025. Description: Attended sessions on research development, grant writing, and professional networking.

15. 2024-2025 SPaRC'Ed Research Administration Certification Series- University of Illinois Urbana Champaign – August 2024- April 2025. Courses on Grant management, Budget development, Regulatory compliance, Training and support, Communication and teamwork.
16. DARPA's Defense Sciences Office Discover DSO Day (D3), Chicago, IL, April 23-24, 2025. Attended sessions on high-impact research initiatives and emergent technologies for U.S. national security.
17. Introduction to Environmental Law and Policy - The University of North Carolina at Chapel Hill by Coursera (In Progress)
18. Corporate Finance: Environmental, Social, and Governance (ESG) - LinkedIn Learning Certificate – 8/16/23
19. Navigating Environmental Sustainability: A Guide for Leaders – LinkedIn Learning Certificate - 8/15/23
20. Classroom and Campus Safety – UWM – Mar 16, 2022 - Virtual
21. TTC Title Appeals Training Session 3 – UWM – Feb 16, 2022 - Virtual
22. PFAS in Wisconsin: Regulatory Updates, Available Funding, Municipal Case Study, Ongoing Research and Future Treatment Options- Feb 16, 2022 – Virtual – Wisconsin Section AWWA.
23. Emerging Contaminants in Water and Wastewater 2021 – Oct 26, 2021- Virtual
24. Project Portfolio Management Foundations. LinkedIn Virtual Learning-July 30, 2021. 1h15 min.
25. What is Business Analysis. LinkedIn Virtual Learning-July 30, 2021. 21 min.
26. Quality Assurance- Part I, Eurofins Environmental Testing America– Feb 16, 2021 – Virtual – PD hours: 1.0
27. Emerging Contaminants in Water and Wastewater 2020 – Oct 20, 2020- Virtual
28. 2020 WQA Mid-Year Leadership Conference - Sep 16-17, 2020 - Virtual
29. CSI Workshop Series: AI in Manufacturing Application – May 10, 2019, CEAS, Milwaukee, WI. Organized by Rockwell Automation, Microsoft and ptc.
30. I-Corps Customer Discovery Mini-Course, Milwaukee, WI- April 18, 2018.
31. Achieving Career Success by David Lubar and Vince Shiely, Milwaukee, WI, April 13, 2018.
32. Franklin Covey Project Management Workshop, Milwaukee, WI – Mar 3, 2017. Organized by WEP.
33. Milwaukee Metropolitan GIS User Group Meeting – MMGUG- Milwaukee, WI- April 21, 2015
34. EPA qPCR Method 1609 Lab training – EPA, Cincinnati – November 3-6, 2014
35. Emerging Contaminants in Water and Wastewater- 12PDHs – Civil, Construction, and Environmental Engineering, Marquette University, Milwaukee, WI– October 21 and 22, 2014
36. Biological Electron Microscopy – Fall 2013, UWM, Milwaukee, WI
37. Responsible Conduct of Research – Sep 6 to Dec 6, 2013, UWM, Milwaukee, WI
38. Interagency Training on Developing Predictive Models for Beaches – Jan 15 to 17, 2013, Middleton, WI

HONORS AND AWARDS

1. Nominated to be included in the 2020 Marquis Who's Who in America (<https://lnkd.in/gvKeYmH>) to represent Science Professionals from the state of WI.

2. Undergraduate student Louis Chapman received the Senior Excellence in Research Award for 2020-2021. Project: Novel Material for Removal of Ammonia from Water.
3. Research Mentor of the Year. University of Wisconsin-Milwaukee. Apr 2020.
4. Governor Evers visited Dr. Silva's lab on April 25, 2019.
5. Undergraduate Research Mentor of the Year. University of Wisconsin-Milwaukee. Mar 2019.
6. Invited by NAFSA (Association of International Educators) to attend Congressional Meetings in Washington, DC with Democrats and Republicans. Dr. Silva spoke about water technology projects in Milwaukee. Dec 10-11, 2018.
7. Water Warrior of the Year Award 2018 – The Water Council – Award Ceremony: June 28, 2018.
8. UWM Alumni Association's Graduate of the Last Decade (GOLD) Award. Award ceremony: October 6, 2017.
9. Selected by NAFSA (Association of International Educators) for their International Student Campaign based on Dr. Silva's research impact on the American Society – Spring 2018.
10. Undergraduate Research Mentor of the Year. University of Wisconsin-Milwaukee. Mar 2018.
11. In collaboration with startup Rice Technology, developed a single sensor for detection of multiple contaminants (omni sensor) and made top 10 in the country at NASAitech competition in 2018, receiving local and national attention (<http://fox6now.com/2018/02/08/uwm-researcher-is-finalist-in-nasa-itech-challenge-for-inventing-virus-super-sensor/>)
12. Undergraduate student Anne Barlas was invited to present at the Student Spotlight section at the Board of Regents meeting. Mentor: Dr. Marcia Silva. <http://uwm.edu/our/video-anne-barlas-speaks-to-the-board-of-regents/>, Milwaukee, June 9, 2017.
13. Undergraduate student Anne Barlas received the Senior Excellence in Research Award for 2016-2017. Project: Novel Adsorbent for Removal of Phosphorus from Water.
14. 2016 UWM Research Foundation Award – Dr. Silva and Dr. Garman licensed their technology on zeolite water filter to a Chinese company aiming to scale up the production of the of the material – Mar 9, 2017. 2016 Annual Report. <https://uwmresearchfoundation.org/About.aspx>
15. UWM Research Foundation Student Startup Challenge Award, Fall 2013 and Spring 2014
16. SCMT3 Conference Prize Paper, Kyoto, Japan, 2013
17. UWM Chancellor's Graduate Student Award, 2013
18. UWM Travel Award, 2013
19. UWM Chancellor's Graduate Student Award, 2012
20. UWM Graduate Research Assistantship, 2012
21. UWM Graduate School Recognition Day - Category: Dissertator Fellow, 2012
22. UWM Graduate School Featured Graduate Student, January 2012
23. UWM Graduate School Dissertator Fellowship Award, 2011-2012
24. UWM Chancellor's Graduate Student Award, 2011
25. George A. Boyer Scholarship, 2010-2011
26. Graduate Student Travel Award, 2010
27. UWM Chancellor's Graduate Student Award, 2010
28. Second Place in the Student Poster Competition (graduate level) in the College of Engineering and Applied Sciences Poster Competition, Milwaukee, WI, April 4, 2009
29. UWM Center for Latin American and Caribbean Studies Graduate Student Travel Grant, 2009
30. UWM Chancellor's Graduate Student Award, 2009
31. UWM Chancellor's Graduate Student Award, 2008
32. UWM Graduate Student Travel Grant, 2007

33. UWM Chancellor's Graduate Student Award, 2007
34. First Place in the Student Poster Competition at the WWA Annual Conference, Wisconsin Dells, WI, September 2006
35. UWM Chancellor's Graduate Student Award, 2006
36. UWM Chancellor's Graduate Student Award, 2005
37. UWM Chancellor's Graduate Student Award, 2004
38. UWM Graduate Research Assistantship, 2004-2007

RESEARCH - STUDENTS MENTORED AND PROJECTS:

- Project: State of the Art of Quantum Health
Spring 2026: Aamuktha Yalamanchili, Biomedical Engineering (UGRD), AIHealth4All Center, UIC.
- Project: PFAS in Illinois water bodies.
Summer 2025: Kevin Tchoffa, UIC CS (UGRD), DPI Internship Program.
- Project: Chicago Water Beaches.
Summer 2025: Lucy Ferron and Joven Chinna – IMSA (High School), DPI Internship Program.
- Project: Machine Learning Methods for predicting wastewater treatment efficiency of utilities in Chicago
Spring 2025: Zikora Okonkwo – UIUC Data Science (UGRD), City Scholars Program.
- Project: Neighborhood Lake Watch: A case study of ML-Based HAB prediction in SIU Campus Lake
Summer 2024: Vatsal Tailor - Computer Sciences (UGRD), Anuj Tiwari (Co-advisor)
- Project: Sensors for detecting per- and polyfluoroalkyl substances (PFAS): status and future direction
Summer 2024: Kadija Sylla- Electrical Engineering (UGRD)
- Project: IMPACT Tool: Enhancing Research and Grant Collaboration
Summer 2024: Aryan Sachdev (High school), Summer 2023-Fall 2024: UIUC Gies College of Business Master of Science of Business Analytics (MSBA) GRAD students: Shreya Das, Jayashree Dommara, Rijul Gupta, Yu-Hsuan Ho, Tanvi Lamba, Jae Young Lee, Raj Mehta, Diya Patel, Vishwas Rao, Panshul Saraswat, Subham Shaurav, Aditi Tiwari, Sam Miller (Co-advisor), Jogi Karan (Co-advisor), Vishal Sachdev (Clinical Professor).
- Project: EDA Regional Innovation Strategies
Spring 2024- Current: Malavika Kashireddy – Computer Sciences (UGRD).
- Project: Microplastics
Winter and Spring 2022: Zahra Saeed – PSM School of Freshwater Sciences (GRAD)
Spring 2022: Rajad Esharef – Mechanical Engineering (UGRD).

- Project: Bacteria Sensor
Winter and Spring 2022: Dominic Maar – PSM School of Freshwater Sciences (GRAD)
Spring 2022: James Vences – Computer Engineering (UGRD).
- Project: Microfabrication of LOC Device - SURF
Fall 2021 and Spring 2022 – Manav Menon – Mechanical Engineering (UGRD).
- Project: P sensor – SURF
Fall 2021 and Spring 2022 – Kevin Hicks – Electrical Engineering (UGRD)
- Project: Emerging contaminants consumer study – WQRF
Fall 2021 and Spring 2022- Nathanael Sovitzky – Biomedical Engineering (UGRD)
- Project: Data-driven models for micropollutants removal at wastewater treatment plants – Kinerett College
Fall 2021 and Spring 2022: Isabelle Reeson- Environmental Engineering (UGRD)
- Project: A study of the effect of physiochemical and wetting properties of beach sand on bacterial contamination using machine learning models
Fall 2021 and Spring 2022: Alma Nunez- Biology – Cardinal Stritch (UGRD) and Syam Hasan (Materials Sciences and Engineering – Shared with Prof. Nosonovski)
- Project: Enhanced Treatment Technologies for Removal of P from Agricultural Runoff Treatment Systems (ARTS): Fall 2021 and Spring 2022 - Daniel Lakich - Civil Engineering (UGRD) and Diego Avila – Industrial Engineering (UGRD). Spring 2022: Nathaniel Wurzer- Civil Engineering (UGRD).
- Project: Non-Invasive Ultrasonic Detection of sub- λ biofilm using acoustic waveguide amplification: from concept to prototype –SURF
Fall 2021 and Spring 2022: Sachin Davis – Electrical Engineering, Master's. student – (GRAD), Zenab Ali – Electrical Engineering (UGRD) (Fall 2021). Spring 2022: Emma Alburg – Electrical Engineering (UGRD)
- Project: Evaluation of a novel water treatment solution for RAS (recirculating aquaculture system). Summer and Fall 2021- Louis Chapman – Environmental Engineering (UGRD)
- Project: Adsorption Technology – ZAPL gift
Fall 2021 and Spring 2022 - Nathanael Sovitzky – Biomedical Engineering (UGRD)
- Project: Produced Water –
Spring 2022 – Joshua Swigart – School of Freshwater Sciences (GRAD)
- Project: Microplastics –
Spring 2022 – Zaara Saeed – School of Freshwater Sciences (GRAD)
- Project: Fiber Optics Sensor –

Spring 2022 – Dominic Maar – School of Freshwater Sciences (GRAD) and Syeda Sultanah-Computer Sciences (UGRD) (Fall 2021)

- Project: Phytoremediation efficacy of Cannabis sativa on heavy metals in freshwater aquaculture–Spring 2022 – Adam Jeschke – School of Freshwater Sciences (GRAD)
- Project: Enhanced Treatment Technologies for Removal of P from Agricultural Runoff Treatment Systems (ARTS): Spring and Summer 2021 - Daniel Lakich - Civil Engineering (UGRD)
- Project: Adsorption Technology – ZAPL gift
Fall 2020, Spring and Summer 2021: Brooke Hanson, Professional Master's Student, School of Freshwater Sciences (GRAD), Aman Raizada (M.S. Engineering), Nathanael Sovitzky – Biomedical Engineering (UGRD)
- Project: Fiber optics sensor
Summer 2021: Samuel Moore – Saint Thomas More High School
- Project: Sand properties and hydrophobicity and adsorbent material for removal of Legionella
Summer 2021: Alma Nunez- Biology – Cardinal Stritch (UGRD)
- Project: Digital In-Line Holographic Microscopy and Crypto detection - SURF
Spring and Summer 2021: Andres Lira - Computer Sciences (UGRD)
- Project: Adsorbent material for removal of PFAS from water –SURF
Summer 2021: Isabelle Reeson- Environmental Engineering (UGRD)
- Project: Non-Invasive Ultrasonic Detection of sub- λ biofilm using acoustic waveguide amplification: from concept to prototype –SURF
Summer 2021: Sachin Davis – Electrical Engineering, Master's. student –(GRAD), Sophia Thompson – Environmental Engineering (UGRD)
- Project: AI and Machine Learning Time-to-Failure Prediction for Utility Meters
Fall 2020, Spring and Summer 2021: Carlos Gonzalez - Electrical Engineering (GRAD)
- Project: Digital In-Line Holographic Microscopy and *E. coli* detection - SURF
Fall 2020: Cameron Wizner - Computer Sciences (UGRD)
- Project: Non-Invasive Ultrasonic Detection of sub- λ biofilm using acoustic waveguide amplification: from concept to prototype –SURF
Fall 2020: Sachin Davis – Electrical Engineering, Master's. student –(GRAD), Ramprasad Karanam - Electrical Engineering (UGRD)
- Project: Porous Material for Removal of Ammonia from Water - SURF
Fall 2020, Spring and Summer 2021: Louis Chapman- Environmental Engineering (UGRD)
- Project: Adsorption Technology – ZAPL gift

Fall 2020 and Spring 2021: Brooke Hanson, Professional Master's Student, School of Freshwater Sciences (GRAD), Kevin Hicks – Electrical Engineering (UGRD), Louis Chapman – Environmental Engineering (UGRD)

- Project: Digital In-Line Holographic Microscopy and *E. coli* detection - SURF
Summer 2020: Cameron Wizner - Computer Sciences (UGRD)
- Project: Non-Invasive Ultrasonic Detection of sub- λ biofilm using acoustic waveguide amplification: from concept to prototype –SURF
Summer 2020: Sachin Davis – Electrical Engineering, Master's. student –(GRAD), Ramprasad Karanam - Electrical Engineering (UGRD)
- Project: Porous Material for Removal of Ammonia from Water - SURF
Summer 2020: Louis Chapman- Environmental Engineering (UGRD)
- Project: Adsorption Technology – ZAPL gift
Summer 2020: Brooke Hanson, Professional Master's Student, School of Freshwater Sciences (GRAD), Kevin Hicks – Electrical Engineering (UGRD), Louis Chapman – Environmental Engineering (UGRD)
- Project: FESTO Learning System
Summer 2020: Sarah Zahorodny, Chemistry, Alverno College (UGRD). Collaborator: Dennis Webb, Sage Water.
- Project: Perfluorinated Chemicals (PFCs) – Health Goals for Perfluorinated Alkyl Substances (PFAS)- Phase II: an investigation of PFAS presence in municipal biosolids and the implications on end-of-life disposal approaches.
Year 2020 and Spring 2021: Katarina Schulz – School of Freshwater Sciences- Master's Student (GRAD) in collaboration with Dr. Rebecca Klaper (PI).
- Project: Digital In-Line Holographic Microscopy and *E. coli* detection - SURF
Spring 2020: Basil Hable - Electrical Engineering (UGRD) and Andrew Thompson - Computer Sciences (UGRD)
- Project: Non-Invasive Ultrasonic Detection of sub- λ biofilm using acoustic waveguide amplification: from concept to prototype –SURF
Spring 2020: Sachin Davis – Electrical Engineering, Master's. student –(GRAD), Ramprasad Karanam - Electrical Engineering (UGRD)
- Project: Sensor for Detection of Phosphorus in Stormwater - SURF
Spring 2020: Kevin Hicks- Electrical Engineering (UGRD)
- Project: Porous Material for Removal of Ammonia from Water - SURF
Spring 2020: Louis Chapman- Environmental Engineering (UGRD)
- Project: Digital In-Line Holographic Microscopy and *E. coli* detection - SURF

Summer and Fall 2019: Basil Hable - Electrical Engineering (UGRD) and Andrew Thompson - Computer Sciences (UGRD)

- Project: Microbial Fuel Cell (MFC) - Summer 2019: Shaunak Bhattacharyya (High Schooler)
- Project: Adsorption Technology – ZAPL gift
Fall 2019: Kevin Hicks – Electrical Engineering (UGRD), Alice Lecus – Conservation & Environmental Sciences (UGRD), Isabelle- Conservation & Environmental Sciences (UGRD), Kiana Modaresahmadi, Environmental Engineering (GRAD)
- Project: Sensor for Detection of Phosphorus in Stormwater - SURF
Summer and Fall 2019: Kevin Hicks- Electrical Engineering (UGRD)
- Project: Porous Material for Removal of Ammonia from Water - SURF
Summer and Fall 2019: Louis Chapman- Environmental Engineering (UGRD)
- Project: Adsorption Technology – ZAPL gift
Summer 2019: Chris Kudatla, Environmental Engineering (UGRD), Kevin Hicks – Electrical Engineering (UGRD), Alice Lecus – Conservation & Environmental Sciences (UGRD), Isabelle- Conservation & Environmental Sciences (UGRD) (volunteer), Kiana Modaresahmadi, Environmental Engineering (GRAD)
- Project: Non-Invasive Ultrasonic Detection of sub- λ biofilm using acoustic waveguide amplification: from concept to prototype –WEP and SURF
Summer and Fall 2019: Sachin Davis – Electrical Engineering, Master's. student –(GRAD), Ramprasad Karanam - Electrical Engineering (UGRD)
- Project: Systematic and Fundamental Changes in Agricultural Water Resources Management – Great Lakes Protection Fund grant
Summer 2019: Chris Kudatla, Environmental Engineering (UGRD), Kevin Hicks – Electrical Engineering (UGRD), Alice Lecus – Conservation & Environmental Sciences (UGRD), Patrick Zastrow- Environmental Engineering (UGRD), Isabelle- Conservation & Environmental Sciences (UGRD), Mason Stelter - Environmental Engineering (UGRD).
- Project: Development of PFOA sensor. Ramprasad Karanam - Electrical Engineering (UGRD)
Summer 2019: Ramprasad Karanam - Electrical Engineering (UGRD)
- Project: Fiber Optics for detection of bacteria in water
Summer 2019: Ishan Raikar (High Schooler) and Sachin Davis – Electrical Engineering, Master's. student – (GRAD mentor, volunteer).
- Project: Novel porous materials for the removal of PCBs from water
Summer 2019 : Alice Lecus – Conservation & Environmental Sciences (UGRD)
- Project: Digital In-Line Holographic Microscopy and *E. coli* detection - SURF

Summer 2019: Basil Hable - Electrical Engineering (UGRD) and Andrew Thompson - Computer Sciences (UGRD)

- Project: Porous Material for Removal of Ammonia from Water - SURF
Summer 2019: Louis Chapman- Environmental Engineering (UGRD)
- Project: Developing of Novel Zeolite based porous ceramic membrane - SURF
Summer 2019: Selena Cao- Environmental Engineering (UGRD)
- Project: Evaluation of novel porous materials for the removal of Legionella from water and its anti-biofilm properties –
Summer 2019: Lucia Gramza- Post doc Volunteer
- Project: Dopamine-modified graphene-based filtration adsorbent and antibiotics removal
Summer 2019: Lucia Gramza- Post doc Volunteer
- Project: P sensor for stormwater applications in collaboration with Dr. WooJin Chang
Summer 2019: Kevin Hicks – Electrical Engineering (UGRD) and Mohammad Rizwen Ur Rahman (GRAD- Mechanical Engineering)
- Project: Perfluorinated Chemicals (PFCs) – Phase I: literature review, survey, screening, and analysis of PFCs in industrial and commercial products and literature review of water technologies for removal and detection of PFCs in drinking water.
Year 2019: Katarina Schulz – School of Freshwater Sciences- Master's Student (GRAD) in collaboration with Dr. Rebecca Klaper (PI)
- Project: Non-Invasive Ultrasonic Detection of sub- λ biofilm using acoustic waveguide amplification: from concept to prototype – WEP grant
Spring 2019: Sachin Davis – Electrical Engineering, Master's. student –(GRAD), Ramprasad Karanam - Electrical Engineering (UGRD)
- Project: PCM. Collaborator: David Swiderski - Aquor
Spring 2019: Sachin Davis – Electrical Engineering, Master's. student –(GRAD), Ramprasad Karanam - Electrical Engineering (UGRD)
- Project: Systematic and Fundamental Changes in Agricultural Water Resources Management – Great Lakes Protection Fund grant
Spring 2019: Post doc: Mohsen Manjili, Chris Kudatla, Environmental Engineering (UGRD), Ruben Gasparini- Electrical Engineering (UGRD), Kevin Hicks – Electrical Engineering (UGRD), Kiana Modaresahmadi – Civil Engineering (GRAD hourly), Alice Lecus – Conservation & Environmental Sciences (UGRD), Muqrin Alrehaili-Industrial Engineering (UGRD), Nicholas Fults Mechanical Engineering (UGRD), Patrick Zastrow- Environmental Engineering (UGRD)
- Project: Non-Invasive Ultrasonic Detection of sub- λ biofilm using acoustic waveguide amplification: from concept to prototype – WEP grant

Spring 2019: Sachin Davis – Electrical Engineering, Master's. student –(GRAD), Ramprasad Karanam - Electrical Engineering (UGRD)

- Project: PCM. Collaborator: David Swiderski - Aquor
Spring 2019: Sachin Davis – Electrical Engineering, Master's. student –(GRAD), Ramprasad Karanam - Electrical Engineering (UGRD)
- Project: Development of zeolite-based anode for increasing performance of microbial fuel cell.
Summer 2018-Spring 2019: Kwendo Mwaniki– Civil Engineering (UGRD)
- Project: Fiber Optics for detection of bacteria in water
Spring 2019: Ishan Raikar (High Schooler) and Sachin Davis – Electrical Engineering, Master's. student – (GRAD mentor, volunteer).
- Project: P sensor for stormwater applications in collaboration with Dr. WooJin Chang
Spring 2019: Kevin Hicks – Electrical Engineering (UGRD) and Mohammad Rizwen Ur Rahman (GRAD- Mechanical Engineering)
- Project: Natural zeolite-based materials as a new tool for drug delivery.
Fall 2018 and Spring 2019: Yuting Li– Electrical Engineering (UGRD)
- Project: Novel porous materials for the removal of PCBs from water
Spring 2019: Alice Lecus – Conservation & Environmental Sciences (UGRD) and Post doc Mohsen Manjili
- Project: Digital In-Line Holographic Microscopy and *E. coli* detection - SURF
Fall 2018 and Spring 2019: Basil Hable - Electrical Engineering (UGRD) and Andrew Thompson - Computer Sciences (UGRD)
- Project: Porous Material for Removal of Ammonia from Water - SURF
Spring 2019: Louis Chapman- Environmental Engineering (UGRD)
- Project: Developing of Novel Zeolite based porous ceramic membrane - SURF
Fall 2018 and Spring 2019: Ruben Gasparini- Environmental Engineering (UGRD)
- Project: Evaluation of novel porous materials for the removal of Legionella from water and its anti-biofilm properties - SURF
Spring 2019: Zahra Gohari- Volunteer
- Project: Systematic and Fundamental Changes in Agricultural Water Resources Management – Great Lakes Protection Fund grant
Fall 2018: Amir Kordijazi – Ph.D. student Industrial & Manufacturing Engineering (GRAD), Chris Kudatla, Environmental Engineering (UGRD), Ruben Gasparini- Electrical Engineering (UGRD), Kevin Hicks – Electrical Engineering (UGRD), Kiana Modaresahmadi – Civil Engineering (GRAD hourly), Alice Lecus – Conservation & Environmental Sciences (UGRD), Muqrin Alrehaili- Industrial Engineering (UGRD)

- Project: Systematic and Fundamental Changes in Agricultural Water Resources Management – Great Lakes Protection Fund grant
Spring and Summer 2018: Amir Kordijazi – Ph.D. student Industrial & Manufacturing Engineering (GRAD), Byron Edwards - Environmental Engineering (UGRD), Tony Smith- Environmental Engineering (UGRD), Elliot Szabo – Environmental Engineering (UGRD), Kiana Modaresahmad – Civil Engineering (GRAD hourly), Alice Lecus – Conservation & Environmental Sciences (UGRD)
- Project: Porous Material for the Removal of Heavy Metals – WEP grant
YR 2018: Mohsen Manjili - Materials Engineering, Ph.D. student –(GRAD), Olivia Rush - Environmental Engineering (UGRD) and Loren Hemingway- College of Letters and Science (UGRD)
- Project: Non-Invasive Ultrasonic Detection of sub- λ biofilm using acoustic waveguide amplification: from concept to prototype – WEP grant
YR 2018: Sachin Davis – Electrical Engineering, Master's. student –(GRAD), Basil Hable - Electrical Engineering (UGRD)
- Project: Study of anti-biofilm properties of coating materials
Summer 2018 and Fall 2018: Miranda Halser– Biology, Alverno College (UGRD), Marjan Nezafati, Civil Engineering (GRAD), Alice Lecus, Conservation and Environmental Science (UGRD)
- Project: Development of zeolite-based anode for increasing performance of microbial fuel cell.
Fall 2017 and Spring 2018: Kwendo Mwaniki– Civil Engineering (UGRD) and Spring 2018: Conrad Farrell – Post High School/Pre-college
- Project: Natural zeolite-based materials as a new tool for drug delivery.
Fall 2017 and Spring 2018: Yuting Li– Electrical Engineering (UGRD)
- Project: Fiber Optics for detection of bacteria in water
Summer and Fall 2018: Ishan Raikar (High Schooler) and Sachin Davis – Electrical Engineering, Master's. student – (GRAD mentor, volunteer).
- Project: Natural zeolite-based materials as a new tool for drug delivery.
Fall 2017 and Spring 2018: Yuting Li– Electrical Engineering (UGRD)
- Project: Novel porous materials for the removal of PCBs from water
Summer 2018: Maryam Behrouzinia – Master's Professional Science – School of Freshwater Sciences (GRAD) – volunteer student and Alice Lecus – Conservation & Environmental Sciences (UGRD) – volunteer student
- Project: Digital In-Line Holographic Microscopy and *E. coli* detection - SURF
Summer 2018: Basil Hable - Electrical Engineering (UGRD) and Andrew Thompson - Computer Sciences (UGRD)

- Project: Porous Material for Removal of Ammonia from Water - SURF
Spring 2018: Danielle Lee O'Hagan-Kennedy- Environmental Engineering (UGRD)
- Project: Novel Porous Material for Removal of PCPPs from Water - SURF
Spring 2018: Alice Lecus- – Conservation & Environmental Sciences (UGRD)
- Project: Developing of Novel Zeolite based porous ceramic membrane - SURF
Spring and Summer 2018: Eileen Freres- Environmental Engineering (UGRD)
- Project: Evaluation of novel porous materials for the removal of Legionella from water and its anti-biofilm properties - SURF
Spring and Summer 2018: Zahra Gohari- Biology (UGRD)
- Project: Digital In-Line Holographic Microscopy and *E. coli* detection - SURF
Spring 2018: Basil Hable - Electrical Engineering (UGRD) and Adam Honts - Computer Sciences (UGRD)
- Project: Cross-correlation of REX Dissolved Metals Analysis Instrument and ICP-MS - Sage Water LLC
Fall 2017 and Spring 2018: Mitchell Hansing – Franklin High School
- Project: Corrosion Coupon Test and Biodegradability of our ODYREF A90
Fall 2017 and Spring 2018: Mohsen Manjili – Ph. D. student – CEAS Material Sciences (GRAD) – hourly student
- Project: Development of zeolite-based anode for increasing performance of microbial fuel cell.
Fall 2017: Yiming Yang – Biochemistry (UGRD)
- Project: Digital In-Line Holographic Microscopy and *E. coli* detection
Fall 2017: Basil Hable - Electrical Engineering (UGRD) and Adam Honts - Computer Sciences (UGRD)
- Project: Determining the boundaries and dynamic changes of brain tumors using intra-operative ultrasound imaging during craniotomy. Post doc: Yasaman Adibi
- Project: Development of zeolite-based anode for increasing performance of microbial fuel cell.
Summer 2017: Yiming Yang – Biochemistry (UGRD)
- Project: Natural zeolite-based materials as a new tool for drug delivery.
Summer 2017: Yuting Li– Electrical Engineering (UGRD)
- Project: Evaluation of novel macroporous materials for the removal of chemical and biological model compounds from water – SURF grant
Summer 2017: Yiming Yang – Biochemistry (UGRD)

- Project: Evaluation of novel macroporous materials for the removal of model organic pollutants from water – SURF grant
Summer 2017: Yuting Li– Electrical Engineering (UGRD)
- Project: Systematic and Fundamental Changes in Agricultural Water Resources Management – Great Lakes Protection Fund grant
Summer 2017: Brian Leightner – Master of Freshwater Sciences (GRAD), Byron Edwards - Environmental Engineering (UGRD), Danielle Lee O'Hagan-Kennedy- Environmental Engineering (UGRD)
- Project: Corrosion Coupon Test and Biodegradability of our ODYREF A90
July 2017: Kathryn Muench – Master's Professional Science – School of Freshwater Sciences (GRAD) – hourly student
- Project: Evaluation of novel macroporous materials for the removal of chemical and biological model compounds from water – SURF grant
Summer 2017: Lada Avrunina – Conservation and Environmental Sciences (UGRD)
- Project: Evaluation of novel macroporous materials for the removal of model organic pollutants from water – SURF grant
Summer 2017: Yuting Li – Electrical Engineering (UGRD)
- Project: Assessment of different methods for zinc and magnesium oxide loadings in zeolite particles
Summer 2017: Sage LeGault – Civil and Environmental Engineering (UGRD)
- Project: Porous Material for the Removal of Heavy Metals – WEP grant
Spring and Summer 2017: Mohsen Manjili - Materials Engineering, Ph.D. student –(GRAD), Chad Haehle - Environmental Engineering (UGRD) and Alice Lecus - Conservation and Environmental Sciences (UGRD)
- Project: Porous Materials for the Removal of POPs – WEP grant
Spring and Summer 2017: Yan Zhang - Materials Engineering, Ph.D. student (GRAD) and Yuting Li – Electrical Engineering (UGRD).
- Project: Systematic and Fundamental Changes in Agricultural Water Resources Management – Great Lakes Protection Fund grant
Spring 2017: Brian Leightner – Environmental Engineering- Marquette University (UGRD) and Byron Edwards – Environmental Engineering (UGRD)
- Project: Cross-correlation of REX Dissolved Metals Analysis Instrument and ICP-MS and software adjustment of REX - Sage Water LLC
Summer 2017: Jamie O'Neil – Chemistry – Alverno College (UGRD)
- Project: Digital In-Line Holographic Microscopy and *E. coli* detection
Summer 2017: Basil Hable - Electrical Engineering (UGRD) and Adam Honts - Computer Sciences (UGRD)

- Project: Adsorption Kinetics of novel porous materials
Spring 2017: Rawan Garwan – Chemistry – Alverno College (UGRD)
- Project: Porous Materials for the Removal of Bacteria (Research for credit)
Spring 2017: Lada Avrunina – Conservation and Environmental Sciences (UGRD)
- Project: Evaluation of occurrence, distribution, and rate of biofilm growth on the surface of novel porous materials – SURF grant
Spring 2017: Hayley Ruch – Biology (UGRD)
- Project: Evaluation of novel macroporous materials for the removal of model organic pollutants from water – SURF grant
Spring 2017: Alexander Cleveland – Civil Engineering (UGRD)
- Project: A review of technologies for rapid detection of zika virus
Spring 2017: Zahra Gohari – Biology (UGRD) – Volunteer student
- Project: Evaluation of methods for tailoring the silica cage of natural porous materials – SURF grant
Spring 2017: Joseph Corrao – Civil Engineering (UGRD)
- Project: Novel macroporous materials for the removal of PCBs and PCPPs from water- SURF grant
Spring 2017: Alice Lecus – Conservation and Environmental Sciences (UGRD)
- Project: Novel macroporous materials for the removal of PCBs from water
Spring 2017: Kathryn Muench – Master's Professional Science – School of Freshwater Sciences (GRAD) – volunteer student
- Project: Digital In-Line Holographic Microscopy and *E. coli* detection
Spring 2017: Michael Ballo - Electrical Engineering (UGRD) and Shawn Strong - Computer Sciences (UGRD)
- Project: Cross-correlation of REX Dissolved Metals Analysis Instrument and ICP-MS and software adjustment of REX - Sage Water LLC
Fall 2016: Kyle Lockwood - Business and Sustainability Management - UW Superior (UGRD)
- Project: Influence of deposition of a zeolite layer on mechanical properties of Reverse Osmosis (RO) membrane by using a tissue tester.
Fall 2016: Byron Edwards – Environmental Engineering - volunteer student (UGRD)
- Project: A review of technologies for rapid detection of zika virus
Nov 2016 – Mar 2017: William Steffens (Ponche Verde High School, Brazil) – Volunteer student
- Project: Digital In-Line Holographic Microscopy and *E. coli* detection – SURF grant

Fall 2016: Michael Ballo - Electrical Engineering (UGRD) and Shawn Strong - Computer Sciences (UGRD)

- Project: development of novel filtration materials and also on the development of a novel method for evaluating mechanical properties of filtration membranes. UWM SURF (Undergraduate Research) Senior Excellence Award.
September 2016 – May 2017 – Anne Barlas – Mechanical Engineering (UGRD)
- Project: Evaluation of novel macroporous materials for the removal of mercury species from water. – SURF grant
Fall 2016 – Chad Haehle - Environmental Engineering (UGRD)
- Project: Evaluation of novel macroporous materials for the removal of model organic pollutants from water. – SURF grant
Fall 2016 – Alexander Cleaveland - Environmental Engineering (UGRD)
- Project: Novel Macroporous Material for In Situ Water Cleaning
Fall 2016: Atashe Davis - Chemistry – Alverno College (UGRD)
- Project: Assessing the efficacy of different methods of depositing silver-based products on zeolites. – SURF grant
Summer and Fall 2016 – Andrew Morgan – Material Engineering (UGRD)
- Project: Novel macroporous materials for the removal of PCBs and PCPPs from water. – SURF grant
Summer 2016 and Fall 2016– Alice Lecus - Conservation and Environmental Sciences (UGRD)
- Project: Novel Sensor for detection of suspended solids and bacteria in urine samples and environmental samples
Fall 2016: Kwendo Mwaniki – Civil Engineering (UGRD) – volunteer student
- Project: Metal oxide-coated porous material for the removal of lead from water – SURF grant
Summer 2016 – Emily Roche – Environmental Engineering (UGRD)
- Project: Evaluation of novel macroporous materials for the removal of organic pollutants and mercury from water – SURF grant
Summer 2016 – Emily Watton - Conservation and Environmental Sciences (UGRD)
- Project: Development of New Materials and New Sensors for Water Industries – Internship
Cardinal Stritch University
Summer 2016 – Quincy Obbin – Chemistry – Cardinal Stritch University (UGRD)
- Engineered Macroporous Material for the Removal of Emerging Persistent Organic Pollutants (POPs) from Water – NSF/IUCR grant
YR 2016: Donald Bohem – Master's Professional Science – School of Freshwater Sciences (GRAD)

- Epigenetic Transgenerational Impacts of Great Lakes Chemicals of Concern – UWM RGI grant
Fall 2015 – Joseph Corrao and Alice Lecus
Spring 2015 – Joseph Corrao - Civil Engineering (UGRD) and Nicholas DuBach -Mechanical Engineering (UGRD)
Summer and Fall 2016 –Joseph Corrao - Civil Engineering (UGRD) and Alice Lecus - Conservation and Environmental Sciences (UGRD)
- Project: Solar PECO Pilot Test– Pilot Development Program – The Water Council
Summer 2016: Cassandra Bence – Environmental Engineering (UGRD)
- Project: Cross-correlation of REX Dissolved Metals Analysis Instrument and ICP-MS and software adjustment of REX - Sage Water LLC
Summer 2016: Cassandra Bence – Environmental Engineering (UGRD) and Panagiotis Piliouras (Gateway Technical College)
- Project: Novel Sensor for detection of suspended solids and bacteria in urine samples and environmental samples – SURF grant
Spring 2016: Christopher Lange - Conservation and Environmental Sciences (UGRD)
- Project: Novel Macroporous Material for In Situ Water Cleaning – SURF grant
Spring 2016: Nina Fricano — Environmental Engineering (UGRD)
- Project: Metal coated porous material for phosphorus removal from water – SURF grant
Spring 2016: Anne Ballas – Mechanical Engineering (UGRD)
- Project: Novel Macroporous Material for In Situ Water Cleaning – SURF grant
Fall 2015: Michael Pynemberg – Environmental Engineering (UGRD)
- Project: Novel Macroporous Material for In Situ Water Cleaning
Summer 2015: Lukus Wardecke – Chemistry - Cardinal Stritch University-(UGRD) and Nour Snoubar – Chemistry - Alverno College (UGRD)
- Project: Novel Sensor for detection of suspended solids and bacteria in urine samples and environmental samples – SURF grant
Summer 2015: Colin Sigmund - Conservation and Environmental Sciences (UGRD)
- Project: Digital In-Line Holographic Microscopy and *E. coli* detection – SURF grant
Summer and Fall 2015: Timothy Hennessey - Computer Sciences (UGRD) and Michael Ballo- Electrical Engineering (UGRD)
- Project: Assessment of different methods for graphene loadings in zeolite particles and improvement of fabrication of interdigitated electrode – SURF grant
Summer and Fall 2015: Andrew Morgan – Materials Engineering (UGRD)
- Project: Novel Macroporous Material for In Situ Water Cleaning – SURF grant
Summer 2015: Ryan Lecus - Conservation and Environmental Sciences (UGRD)

- Project: Metal coated porous material for phosphorus removal from water – SURF grant
Summer 2015: Ryan Lecus - Conservation and Environmental Sciences (UGRD)
- Project: Occurrence, distribution, and rate of attachment of fluorescently labeled particles to surfaces – SURF grant
Summer and Fall 2015: Abigail Shepard – Biology (UGRD)
- Project: Development of engineered porous material coated with graphene-based product for water cleaning
Fall 2014 and Spring 2015: Mackenzie Virnoche – Chemistry (UGRD) and Ryan Lecus - Conservation and Environmental Sciences (UGRD)
- Project: Development of engineered porous material coated with lanthanum and zinc for water cleaning
Fall 2014 and Spring 2015: Post doc: Sucharita Tandon
- IND ENG 405 PRODUCT REALIZATION: Graduate student: Jason Craanen; Undergraduate students: Jeremy Keifenheim, Jon-David Schuetze, Clint Cull, Yuming Chen – Engineering (UGRD) Spring 2014. Title: “Development of hand-held bacterial device – Phase II”.
- IND ENG 405 PRODUCT REALIZATION: Graduate student: Matt Brunell; Undergraduate students: Mike Pochert, Sean Harvey, Ashraf Al-Hajjeh – Fall 2013. Title: “Development of hand-held bacterial device – Phase I”.
- BUS ADM 447 ENTREPRENEURSHIP: Undergraduate students: Avni Asipi, Denis Dhimarku, Evan Meier, Michael Rosanski, Ronnie Graham, Lonnie Mitchell – Fall 2013. Title: “Business plan for hand-held bacterial device”.
- REU student: Apryle Taylor. Title: “The effects of caffeine on the heart rate of daphnia using image processing” – Summer 2013 (In collaboration with Dr. Rudi Strickler).

PROFESSIONAL AND UNIVERSITY SERVICES

- Member of searching committee for Vst Sr Proj Mgr – CRI Institute – October 2024
- Member of searching committee for VST Community Engagement Manager – CRI Institute – October 2024
- Member of searching committee for Senior Project Manager, DPI- Sep. 2024.
- Attended WEFTEC to represent DPI at the event and promote networking with the water community – Chicago, IL- September 30 – October 4, 2023.
- Member of searching committee for Relationship Manager, DPI- Mar-May 2024.
- Member of searching committee for Business Analyst, DPI– Mar-May 2024.
- Member of searching committee for Corporate Lead, DPI – November 2023.
- Member of searching committee for Scientist and Research Associate positions, DPI- October 2022- Present.
- UWM Academic Staff Nominations Committee member, DPI. Mar 7, 2022.
- UWM TTC Appeal Committee member – February 2022.
- **UWM Member of searching committee** for Climate Scientist, School of Freshwater Sciences – Spring 2022.

- BREW 2.0 The Water Council – Invited to serve as judge. Jan-Feb 2022.
- ASEE North Midwest Section Conference 2022 – Invited to serve as reviewer of Posters. Jan-Feb 2022. -Milwaukee, WI - Apr 7-8, 2022. Organized by Dr. Ethan Munson, CEAS.
- Connected Systems Institute (CSI) – Invited to join the **Academic Advisory Board** on January 26, 2022.
- **UWM Member of searching committee** for biosafety officer – Summer 2021
- National Science Foundation (NSF) panelist – Smart and Connected Communities (S&CC) - Fall 2020
- Connected Systems Institute (CSI) – Invited to join the **Industry Advisory Board** on April 29, 2020 until December 2021.
- **Session moderator**, WEFTEC, “Challenging the Status Quo: Smart Water Technology Advancements”, Chicago, IL, Sep 24, 2019.
- Invited to join the Water Science Committee – Water Quality Association (WQA) – Mar 2019.
- Invited **Judge** for the Water Council BREW for water technologies- Dec 2008-Jan 2019.
- Invited to join the **Research Committee** AWWA – Since December 2018
- **Judge** of WI’s Tech Cluster- Student Design Competition, WEFTEC -September 30, 2018. Special invite by The Water Council and WEDC.
- **UWM Member of searching committee** for safety officer – Spring 2018
- Attends monthly meetings with The Water Council (Dean Amhaus and Karen Frost) and WEP (David Marsh), representing WaTA.
- Attends frequent meetings (every other month) with The Water Council (Dean Amhaus and Karen Frost), WEP (David Marsh), School of Engineering (Dean Brett Peters), School of Freshwater Sciences (Dean Val Klump, Eric Leafe, Tim Grundl), representing WaTA.
- Member of the M7 Midwest Innovation Exchange (MIE) Advisory Network, representing UWM, along with Dean Brett Peters. These meetings happen 2-3 times a semester and are led by Elizabeth Thelen, Vice President of Innovation & Tech Transfer, Midwest Innovation Exchange with OAI and NASA.
- Promotes strong academic-industry interactions and collaborations, most of the time including WaTA tours to multiple local industries. A university record of over 100 industry interactions since 2013.
- **UWM Chemical Safety Committee** – since June 2017
- **Reviewer for:**
 - Sensing and Imaging
 - RSC Advances
 - IEEE Sensors Journal
 - Journal of Environmental Management (FEMA)
 - Adsorption
 - Frontiers of Environmental Science and Engineering
 - American Journal of Applied Sciences
 - American Journal of Environmental Sciences
 - Journal of American Water Works Association (AWWA)
 - Revista Igapo, Brazil
- **Session chair**, SCMT3 Conference, Theory and methods for achieving sustainability, Kyoto, Japan, August 2013
- **Judge for the UWM CEAS Poster Competition.** UWM, Milwaukee, WI, April 25, 2015, April 23, 2016, April 27, 2017, April 2018, 2018, April 27, 2019, April 2021 Virtual, April 2022, April 2023, April 2024.

- **Judge for UWM Undergraduate Research Symposium**, UWM, Milwaukee, WI. May 1, 2020.
- **Member of Technical Program Committee**: CEUP 2013 Conference, Xianning city, China.
- **Ambassador of UWM at four universities in China** – Jan 1-14, 2013.
- **Judge for the Building the Water Generation ROV Competition**, UWM, Milwaukee, WI – March 18, 2012, March 17, 2013, and March 30, 2014, April 19, 2015, April 10, 2016, April 2, 2017, April 29, 2018, April 28, 2019, May 7, 2021.
- **Judge for the ASCE Student Technical Paper Competition 2011**, UWM, Milwaukee, WI, April 2, 2011.
- **Member of Graduate Student Advisory Council (GSAC)** at UWM - Nominated by Interim Dean of Graduate School (Dr. David Yu) - January 2012 - May 2013.
- **UWM Committee for Brazilian Brainstorm to attract Brazilian students to UWM** – since February 18, 2013

PROFESSIONAL MEMBERSHIP

- National Organization of Research Development Professionals (NORDP)
- American Association for the Advancement of Science (AAAS)
- International Water Association (IWA)
- American Academy of Environmental Engineers and Scientists
- International Association for Great Lakes Research (IAGLR)
- Marine Technology Society (MTS)
- American Water Works Association (AWWA)
- The National Scholars Honors Society
- Society of Women Engineers (SWE)
- Women in Science and Engineering (WiSE)

MEDIA COVERAGE

- Gies MSBA students create innovative AI tool to streamline industry-academia collaboration - <https://giesbusiness.illinois.edu/news/2024/08/26/gies-msba-students-create-innovative-ai-tool-to-streamline-industry-academia-collaboration>
- WQRF completed research: [WQRF.org/newsletter](https://wqrf.org/newsletter)
- Marcia Silva is UWM Featured Expert for April 2022 <https://uwm.edu/freshwater/marcia-silva-is-uwms-featured-expert-for-april/>. Apr 20, 2022.
- [WQRF Funds First Phase of Emerging Contaminants Research | 2021-01-13 | phcppros](#)
- How UW-Milwaukee Engineers are Changing the World: WATER - https://youtu.be/iu9OBpU_tJ Mar 2, 2020.
- A filter for farms and lakes - <https://uwm.edu/news/a-filter-for-farms-and-lakes/> February 26, 2020.
- Tech Tues: Research for Pipelines & Closed Loop Systems - What's Relevant? <https://www.linkedin.com/events/techtues-researchforpipelines-closedloopsystems-wh/>
- WI Governor Tony Evers visited Marcia Silva' lab. [UWM - College of Engineering & Applied Science - Posts | Facebook](#) – April 26, 2019.

- Workshop Repensando o Rio Pinheiros EMAE - <http://www.emae.com.br/noticia.asp?id=217>
Mar 2019
- UWM's Water Technology Accelerator Reinforces Milwaukee' Status as Global Leader in Water Tech. August 9, 2018. [UWM's Water Technology Accelerator Reinforces Milwaukee's Status As Gloabl Leader In Water Tech | WUWM 89.7 FM - Milwaukee's NPR](http://www.wuwm.com/post/water-council-announces-winners-clean-water-technology-competition#stream/0)
- Troubled Waters- Water, Water Everywhere.
<http://conversationsllc.com/2018/07/05/troubled-waters/#more-680>
July 2018
- Dr. Marcia Silva Announced as "Water Warrior of the Year"
<https://uwm.edu/freshwater/dr-marcia-silva-announced-as-water-warrior-of-the-year/>
July 2, 2018
- Silva named Water Warrior of the Year
<https://uwm.edu/engineering/silva-named-water-warrior-of-the-year/>
July 12, 2018
- Water Council names UWM Prof. Marcia Silva "Water Warrior of the Year"
<https://uwm.edu/news/water-council-names-uwm-prof-marcia-silva-water-warrior-of-the-year/>
June 29, 2018
- "Water Warrior of the Year" Announced
<https://www.wateronline.com/doc/water-warrior-of-the-year-announced-0001>
June 28, 2018
- Meet the Milwaukee Academics creating med tech startups based on their research
[Med tech ideas in Milwaukee that could use venture funding, business models - Milwaukee Business Journal \(bizjournals.com\)](http://bizjournals.com/milwaukee/business/2018/04/27/med-tech-ideas-in-milwaukee-that-could-use-venture-funding-business-models) - April 27, 2018
- UWM researcher, entrepreneur invent virus 'super-sensor,' selected as NASA finalist
<http://fox6now.com/2018/02/08/uwm-researcher-is-finalist-in-nasa-itech-challenge-for-inventing-virus-super-sensor/>
Fox6 News- February 8, 2018
- Entrepreneur and UWM Researcher invent a virus "super-sensor"
<https://uwm.edu/news/entrepreneur-uwm-researcher-invent-virus-super-sensor/>
Water Report- January 24, 2018
- Marcia Silva's lab and research featured on the WEP Center News- Summer 2017-
<http://mailchi.mp/32b5e89b630f/wep-water-research-center-update?e=f720b64815>
- Anne Barlas speaks to the board of regents. Mentor: Dr. Marcia Silva.
<https://uwm.edu/our/video-anne-barlas-speaks-to-the-board-of-regents/>
- Research as undergrad sets student on path for career in water and energy by Chris Lago May 17 2017 <http://uwm.edu/news/video/research-undergrad-sets-student-path-career-water-energy/>
- Meet our undergraduate researchers
<https://uwm.edu/news/gallery/undergraduate-student-research/>
UWM Report –August 18, 2016
- Water Council Announces Winners of Clean Water Technology Competition
<http://wuwm.com/post/water-council-announces-winners-clean-water-technology-competition#stream/0>
WUWM Milwaukee Public Radio 89.7 FM– March 21, 2016
- UWM Program aims to create entrepreneurial students -
<http://www.biztimes.com/2013/12/23/uwm-program-aims-to-create-entrepreneurial-students/>
- BizTimes December 23, 2013.

- Ph.D. candidate presents in China -
<http://www.facebook.com/media/set/?set=a.460816333967222.94175.177314782317380&type=1> – SFS electronic journal – January 23, 2013.
- Successful cases of students – 20th anniversary of Food Engineering – University of the Sinos Valley, Brazil – November 2012 Newsletter.
- “IAMUWM” Video Spotlight Interview.
http://www.youtube.com/watch?v=YA1wGZFfL_k&feature=share&list=PL84C725BB71ABA513
- “WiSE Breakfast Series: Strategies for Effective Communication in Science and Engineering”, by Marcia Silva: <http://www4.uwm.edu/sce/course.cfm?id=25115>
- “UWM Graduate School Featured Student - January 2012”:
<http://www.graduateschool.uwm.edu/students/featured/marcia-silva/>
- “Students receive Dissertation Fellowship Awards” – Freshwater Science School - UWM:
<http://www4.uwm.edu/freshwater/news/20110411-students-receive-dissertation-fellowship-awards.cfm> - 3/27/11
- “Adaptive Sampling RAS Track Plume Events” – McLane Research laboratories, Inc. Winter 2010 Newsletter
- OCEANS '09 MTS/IEEE - Biloxi Student Poster:
<http://www.ieee.org/organizations/pubs/newsletters/oes/html/winter10/BiloxiStudentPosterPro.html>
- WATER Personnel – Graduate student: <http://www.glwi.uwm.edu/profiles/msilva/>
- School of Freshwater Sciences – For the Community
(<http://www4.uwm.edu/freshwater/community/>) – August 2009.
- Interviewed by Leah Dobkin from Milwaukee Magazine’s Green Supplement– August 2009.
- GLWI graduate students win awards in neuroscience, toxicology, engineering
(<http://www.glwi.uwm.edu/features/news/WATERNewsGLWIgradstudentswinawards05-07-09.php>), May 2009.
- UWM Stormwater Studies Lead to Cleaner Local Waters
(http://www4.uwm.edu/about_uwm/news_press/uwm_featured_stories_detail.cfm?customel_datapageid_11602=69874), April 2007.

PUBLIC OUTREACH, TRAINING, AND VOLUNTEER WORK

1. Volunteer English Tutor (ESL – Brazil) - Remote. Provided individualized English instruction to Brazilian ESL students, supporting language development, conversation skills, and confidence in real-world communication. Nov. 2025 – Present.
2. Mentor/fundraiser of FRC Robotics team – Thomas More High School –August 2024 - Present
3. Tour at the Water Technology Accelerator (WaTA) to 12 members of UWM Basketball Team. Event organized by Dennis Webb. July 14th, 2021.
4. Served as Scout counselor for Chemistry, Innovation and Environmental Science – July 2021-Present.
5. Served as Innovation Project judge for FIRST WI FLL Virtual State Championship – April 14th, 2021.
6. Discover Engineering (<http://www.discovere.org/our-programs>) – “Be a Role Model” Volunteer – Start: 03/01/21.
7. Mentor of one team of 5 students (6th -10th grade) of Girls Who Code lead by Dr. Christine Cheng at CEAS, UWM. Project: Particle’s detector in collaboration with Thomas Hansen. Spring 2020.

8. Tour at the Water Technology Accelerator (WaTA) to about 8 students from a FIRST Robotics Team (7th to 8th grade) Viperbots mentored by GE staff Amjad Jabbar – Nov 26th, 2019.
9. Tour at the Water Technology Accelerator (WaTA) to a Ripon College Intern. The tour is part of a micro-internship of three days organized by her school with key entities from the community. Mar 21st, 2019.
10. Tour at the Water Technology Accelerator (WaTA) to over 30 students from Bradley Tech. Event organized by the Water Council. Jan 16th, 2019.
11. Tour at the Water Technology Accelerator (WaTA) to about 8 students from a FIRST Robotics Team (7th to 8th grade) Viperbots mentored by GE staff Amjad Jabbar - Jan 9th, 2019.
12. Served as a mentor of a For Inspiration of Science and Technology (FIRST) Robotics Team- Lego League (4th to 8th grade) at St. Matthew School, Oak Creek – Fall 2018 up to present.
13. Making Waves with Women in STEM – The 3rd Annual UWM Alumnae and Tenant Social Event Tour of WaTA facility – Global Water Center, Milwaukee, WI, August 1st, 2018.
14. Tour of WaTA facility to two middle schoolers who are considering science as a career – July 2018.
15. Created and launched the WaTA seminar series in April 2017 inviting one speaker per month to give a talk to the WaTA students and water community in general
16. Doors Open Milwaukee – September 23rd, 2017.
17. Tour of the UWM Water Technology Accelerator to high schoolers of Divine Savior Holy Angels School – Mar 8th, 2017.
18. St Matthew School Grant Writing Committee Mar 2017 - Pentair Foundation STEM grant – Role: lead writer.
19. Doors Open Milwaukee – Attendance: 300 people – September 17th, 2016.
20. Science Fair – St Matthew School, Oak Creek, WI – Role: Science Mentor – January 15th, 2016.
21. Doors Open Milwaukee – Attendance: 600 people – September 19th, 2015.
22. Featured UWM Engineer for EnQuest All-Girls Engineering Summer Camp for high schoolers, Milwaukee, WI — Attendance: 20 aspirant Engineering girls – August 5th, 2015.
23. Science Fair – St Matthew School, Oak Creek, WI – Role: Science Mentor – March 27th, 2015.
24. Wisconsin Alliance for Minority Participation at UWM – Theme: Water – Attendance: 15 students- Jan 12th, 2015.
25. Featured UWM Engineer for EnQuest All-Girls Engineering Summer Camp for high schoolers, Milwaukee, WI — Attendance: 15 aspirant Engineering girls – August 5th, 2014.
26. Featured UWM Engineer for EnQuest All-Girls Engineering Summer Camp for high schoolers, Milwaukee, WI — Attendance: 16 aspirant Engineering girls – August 4 -9, 2013.
27. Lead to Succeed Kickoff Conference: Water careers. Milwaukee, WI - Attendance: 120 students - November 3rd, 2012.
28. Featured UWM Engineer for EnQuest All-Girls Engineering Summer Camp for high schoolers, Milwaukee, WI — Attendance: 18 aspirant Engineering girls – August 5 -10, 2012.
29. Tour to Environmental Hydraulics Lab and School of Freshwater Sciences for students from the University of Oshkosh. Attendance: 13 students. – May 25th, 2012.
30. Water Day at St Robert's School: Beach water sampling and modeling. Attendance: 300 children – May 22nd, 2012.
31. Tour to Environmental Hydraulics Lab - Summer 2011 REU students – July 25th, 2011.
32. Featured UWM Engineer for EnQuest All-Girls Engineering Summer Camp for high schoolers — Attendance: 19 aspirant Engineering girls – July 25th, 2011.
33. In partnership with DNR: Lake Hydrology and bacteria transport class for youth students, Lakeshore Park, Milwaukee, WI – Attendance: ~30 students, July 12 and July 26th, 2011.

34. Friends of Bradford Beach - Family Day Event, Bradford Beach, Milwaukee, WI- (<http://friendsofbradfordbeach.org/>) - Attendance: ~100 people, June 19th, 2011.
35. Gathering Waters Festival, Lakeshore State Park, Milwaukee, WI (http://www.friendslsp.org/lsp_gw_main.php) - Attendance: 4000 people, June 11th, 2011.
36. Friends of Bradford Beach - Family Day Event, Bradford Beach, Milwaukee, WI- (<http://friendsofbradfordbeach.org/>) - Attendance: ~100 people, September 12th, 2010.
37. Gathering Waters Festival, Lakeshore State Park, Milwaukee, WI (http://www.friendslsp.org/lsp_gw_main.php) - Attendance: 4000 people, June 12th, 2010.
38. Engineering Advisor for FORTE (Fostering Opportunities foR Tomorrow's Engineers) program - UWM, Spring 2010.
39. Friends of Bradford Beach - Family Day Event, Bradford Beach, Milwaukee, WI- (<http://friendsofbradfordbeach.org/>) - Attendance: 100 kids and 1000 people on the beach, August 9th, 2009.
40. Gathering Waters Festival, Lakeshore State Park, Milwaukee, WI (http://www.friendslsp.org/lsp_gw_main.php) - Attendance: 5000 people, June 13th, 2009.
41. Engineers Without Borders – Mission in Guatemala– Trained a student to test water samples for microbiological analysis, using membrane filter technique and provided supplies (40 media plates and filters), June 2009.
42. Milwaukee Riverkeeper Event – Estabrook Park River Cleanup, Milwaukee, WI, April 17th, 2009
43. Why is the Beach Closed? And Other Big Questions Affecting Our Shoreline, Session 4, Presenter: Sandra L. McLellan, Discovery World, Milwaukee, WI, April 11th, 2009.

OTHER SKILLS

Languages

- English
- Portuguese
- Spanish and Italian (Reading and Listening)
- Chinese – basic level

Computer Skills

Python, MATLAB, SAS, SPSS, ArcGIS, GeoDa; computational modeling and simulation; machine learning and AI for scientific data analysis; quantum computing fundamentals and hybrid AI–quantum workflows (course-based, MIT & LinkedIn Learning).