

Travis Adrian Dantzer

dantzert@umich.edu | <https://dantzert.github.io/>

EDUCATION

PhD, Civil Engineering – Intelligent Systems Engineering

University of Michigan, Ann Arbor MI, Expected 2025

MS, Electrical Engineering and Computer Science – Control Systems

University of Michigan, Ann Arbor MI, Expected December 2023

MSE, Environmental Engineering – Ecohydrology

University of Michigan, Ann Arbor MI, May 2021

BSE *Summa Cum Laude*, Environmental Engineering

University of Michigan, Ann Arbor MI, May 2020

WORK HISTORY

Teaching Experience

Graduate Student Instructor, UM College of Engineering, Jan 2021 – April 2021

ENGR 100: River Restoration. Microbenthic capture and categorization. Assist student project teams in design and technical communication. Flow and transect measurement. Discuss basic fluid mechanics, ecology, sediment transport.

Prof. Aline Cotel | acotel@umich.edu

Graduate Student Instructor, UM Civil and Environmental Engineering, Aug 2020 – Dec 2020

CEE 428: Groundwater Hydrology. Adjustment of course content for remote instruction, curriculum development, laboratory instruction in software including ArcGIS, Hydro GeoAnalyst, and Visual MODFLOW. Course administration and office hours. Winner of the Towner Prize for Outstanding GSIs.

Prof. Avery Demond | averyd@umich.edu

Instructional Aide, UM Civil and Environmental Engineering, Jan 2019 – Dec 2019

CEE 325: Fluid Mechanics. Creating problem sets, leading discussion, and holding office hours.

Dr. Lissa MacVean | lissajm@umich.edu

Research Experience

Graduate Researcher, Digital Water Lab at the University of Michigan, Apr 2021 – Present

Supervision of site surveys and deployment of sensors across Michigan. Hardware, firmware, and cloud integration of sensors and actuators using C, PSOC Creator, Python, and other tools. Theoretical contributions in model discovery in partially observable dynamical systems.

Prof. Branko Kerkez | bkerkez@umich.edu

Research Assistant, Hydrowit Research Group at the University of Michigan, Feb 2020 – Jan 2021

Development of predictive models in Python for groundwater levels in the Amazon rainforest.

Thermodynamic and behavioral modeling of arctic fox in the Yamal Peninsula of Siberia using R.

Prof. Valeriy Ivanov | ivanov@umich.edu

Research Assistant, Digital Water Lab at the University of Michigan, Nov 2017 – Dec 2018

Sensor node construction and design. Programming for cellular and WiFi connectivity and data collection. Deployment including material acquisition and design adjustments in international collaborations.

Prof. Branko Kerkez | bkerkez@umich.edu

Other Work Experience

Director of Music Ministry, St Mary Student Parish, Ann Arbor MI, September 2022 – Present

Management of a dozen staff musicians, a hundred volunteers, and a \$60k budget to provide music for seven liturgies (attendance of ~1500) per weekend as well as holy days. Planning music and hiring musicians for weddings, funerals, quinceaneras, and other special events.

Dr. Joe Wagner, S.J. | Campus Minister | jwagner@smspnewman.org

Choir Director and Accompanist, St Mary Student Parish, Ann Arbor MI, August 2019 – Present

Planning liturgies, directing a choir, coordinating and recruiting volunteer musicians, and playing piano, organ, guitar, and accordion. English and Spanish liturgies.

Ryan Migliore | Former Director of Music Ministry | rmiglior@umich.edu

Office of Applied Technology, Wade Trim, Detroit MI, May 2020 – July 2020

Automation of calibration, visualization, and optimization of stormwater models using IronPython, VBA, and Bash. Market research on SaaS optimization of infrastructure models, IaaS cloud computing / storage, and IoT distributed sensing / control systems.

Mark Pribak, PE | mpribak@wadetrim.com

Youth Worker, Challenge 2000, Wellington New Zealand, Summer 2019

Accompanying young men recently released from juvenile detention in education and work programs, fitness, and cultural activities.

Kitty McKinley | kittymckinley@challenge2000.org.nz

Construction Management Intern, Spence Brothers, Saginaw MI, Summer 2018

Requests for Information (RFI) management, scheduling, safety inspections.

LEADERSHIP AND SERVICE

Chi Epsilon Civil Engineering Honor Society - Michigan Chapter Vice President

University of Michigan Rugby Football Club Fundraising Director

St Mary Student Parish Alternative Spring Break Site Leader (El Salvador)

Undergraduate Student Advisory Council (UM Civil and Environmental Engineering)

Senior Design Task Lead – Water and Wastewater Conveyance

AWARDS AND FELLOWSHIPS

University of Michigan CEE Masters Fellowship for Academic Excellence (\$10,000)

Richard F. and Eleanor A. Towner Prize for Distinguished Academic Achievement (\$1,000)

University of Michigan College of Engineering McGormley Fellowship (\$77,000)

Richard & Eleanor Towner Prize for Outstanding Graduate Student Instructors (\$1,500)

<https://crlte.engin.umich.edu/towner-prize-winners/>

PUBLICATIONS

Travis Adrian Dantzer and Branko Kerkez. 2023. Generating interpretable rainfall-runoff models automatically from data. *Water Resources Research*. Submitted January 2023. In revision.

Travis Adrian Dantzer and Branko Kerkez. 2023. An automated toolchain for rainfall-runoff models anywhere with a sensor. *Environmental Modelling & Software*. In preparation.

CONFERENCE TALKS

Real-time control of dissolved oxygen in a stormwater network. 14th International Conference on Hydroinformatics. July 2022 in Bucharest, Romania.

Interpretable rainfall-runoff models anywhere with a sensor. Consortium of Universities for the Advancement of Hydrologic Science (CUAHSI) Biennial Meeting. June 2023 in Tahoe, California, USA.