

Craig L. Zirbel

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My mission

I am leaving academia to focus my career on electrification, renewable energy, and CO₂ reduction. I enjoy using data, models, and code to understand complex systems and help organizations make better decisions. I am looking for work where careful analysis, clear thinking, and practical problem-solving can improve how existing projects run or support the expansion of clean energy and electrification.

Summary of Qualifications

- Deep background in data analysis, modeling, and optimization applied to real-world decision making
- Comfortable working with uncertainty, incomplete data, and messy systems
- Strong ability to learn new domains quickly and contribute independently or as part of a team
- Extensive experience designing studies, performing economic and cost–benefit analyses, and documenting results
- Actively following developments in renewable generation, storage, electrification, and Community Choice Aggregation

Professional Experience

Working with undergraduates and graduate students

- Supervised student research projects on [electrification of BGSU fleet vehicles](#) and [installation of electric car chargers](#)
- Taught 30 distinct courses over 30 years, including probability, statistics, data science, stochastic processes, R coding
- Supervised 10 PhD dissertations in statistics and mathematics; committee member on dissertations in data science

Research in RNA bioinformatics

- Designed and optimized algorithms to analyze large, complex datasets of atomic-resolution RNA 3D structures
- Built automated data pipelines for weekly processing of newly released 3D structures from the Protein Data Bank
- Published 30 peer-reviewed articles in bioinformatics, plus 10 in applied probability. [Google scholar list](#)
- Key contributor to the [BGSU RNA group code base](#) and a core developer of the [RNA 3D Hub](#), 30,000+ lines of code

Grant funding, administration, and hiring

- Developed multi-year project plans, balancing long-term strategy with evolving priorities and available resources.
- Awarded 12 years of NIH R01 support, in collaboration with researchers at BGSU and at Rutgers University
- Managed a \$1.5 million budget over the last four years of the NIH project as Principal Investigator
- Hired and supervised 15 graduate and undergraduate research assistants in the last four years of the NIH project

University service projects at Bowling Green State University

- Designed, proposed, and implemented the first [Data Science PhD program](#) in Ohio, as part of a small committee
- Produced yearly [comparisons of health care insurance plans](#) for faculty and staff
- Led university-wide discussion of the general education curriculum; won the [University Community Fellowship Award](#)

Employment

• Professor	Mathematics and Statistics	Bowling Green State University, Ohio	2012-2024
• Assist., Assoc. Professor	Mathematics and Statistics	Bowling Green State University, Ohio	1996-2012
• Visiting Assistant Professor	Mathematics and Statistics	University of Massachusetts Amherst	1994-1996
• Research Associate	Institute for Math and its Applications	University of Minnesota	1993-1994
• Summer Intern	Wisconsin Electric	Milwaukee, Wisconsin	1987

Education

• PhD in Applied and Computational Mathematics	Princeton University	1989-1993
• BA in Mathematics and Physics	Illinois Wesleyan University	1985-1989

Skills

- Data analysis, visualization, modeling, data science, optimization, cost-benefit analysis, decision support
- Project management, budgeting, supervision, program evaluation, grant writing, technical writing, collaboration
- Python, SQL, R, JavaScript, Git, Matlab; Excel, Word, PowerPoint; quick to adapt to new software and coding tools