Forrest J. Bowlick, Lecturer and Graduate Program Director, MS Geography - GIST
fbowlick@umass.edu

Degrees:
PhD   2016   Geography, Texas A&M University, College Station, TX
MS   2012   Geography, University of Idaho, Moscow, ID
BA   2010   Geography – GIST, University of Northern Colorado, Greeley, CO

UMass Employment:
2016 – Present: Lecturer, Department of Environmental Conservation and Department of Geosciences; Graduate Program Director, MS Geography – GIST

Research:
Areas of Specialization: Geography and GIS Education; CyberGIS; Geography in Higher Education
Research Description: My research investigates how students learn GIS, especially in the growing field of CyberGIS. Through analysis of curriculum and instruction in GIS, I aim to build an evidence-based understanding of how GIS programs function, and what knowledge, skills, and practices make up the GIS degree. In this research, I seek to understand what is taught, how those topics are taught, and what the best models of instruction in different facets of geography education are. I use mixed methods, like surveys, Q-method, interviews, and others to determine the structures of geography education. I am interested not only in learning the 'state-of-the-art' of GIS and geography education, but also exploring specific issues in how topics are learned.
Active Grants: NSF - CyberTraining: CIU: Hour of Cyberinfrastructure: Developing Cyber Literacy for Geographic Information Science, February, 2018 ($40,515/$497,306)
Rejected Grants: NSF - CIF21 DIBBS: EI: The CRISTALS DataVerse: A data-enabled CybeRInfrstructure for the SpatioTemporAl LifecourSe, National Science Foundation, January, 2017 ($458,909/$2,500,000)

Refereed Journal Articles (since arrival at UMass):
Bowlick, F. J., D. W. Goldberg, and S. W. Bednarz. 2018. Valuable Components of CyberGIS: Expert Viewpoints through Q-Method Interviews. *Transactions in GIS*, published online 8/8/2018.

Bowlick, F. J., and D. J. Wright. 2018. A Dark-Side to Data-Centric Geography? Implications for Geography's Frontier. *The Professional Geographer*, published online 4/23/2018.

Myers, D. J., C. M. Schweik, R. Wicks, **F. Bowlick,** and M. Carullo. 2018. Developing a Land Cover Classification of Salt Marshes Using UAS Time-Series Imagery and an Open Source Workflow. *International Archives of the Photogrammetry, Remote Sensing, and Spatial Information Sciences*, XLII-4/W8, 155-162.

Pierstorff, R., J. Horney, D. Goldberg, **F. Bowlick,** and T. Hammond. Revision in Review. Bike Network Equity: A GIS and Qualitative Analysis of Several American Cities. *Journal of Transportation Geography*

Shook, E., **F. J. Bowlick**, K. K. Kemp, O. Ahlqvist, P. Carbajales, D. DiBiase, E.-K. Kim, S. Lathrop, B. Ricker, P. Rickles, J. Rush, J. Swift, and S. Wang. In Production. Cyber Literacy for GIScience: Toward Formalizing Geospatial Computing Education. *The Professional Geographer,* accepted 5/8/2018.

Bowlick, F. J., D. W. Goldberg, and S. W. Bednarz. 2017. Computer Science and Programming Courses in Geography Departments in the United States. *The Professional Geographer,* 69 (1), pp. 138-150.

Bowlick, F. J., S. L. Young, T. D. A. Murphy, B. M. J. Hammond, and O. W. Frauenfeld. 2016. Flexibility, Communication, and Transparency: Lessons for a Successful Geography Lab Manual Implementation from First Semester Experiences. *Research in Geographic Education*, 18 (1), pp. 74-85.

Bowlick, F. J., S. W. Bednarz, and D. W. Goldberg. 2016. Student Learning in an Introductory GIS Course: Using a Project-Based Approach. *Transactions in GIS*, 20 (2), pp. 182-202.

Book Reviews
Bowlick, F. J. 2017. Interpreting our World: 100 Discoveries that Revolutionized Geography. *Journal of Geography,* 116 (6), pp. 263-264; published online April 24 201

Teaching:

Title	Teaching Schedule	Enrollment	Notes
Introduction to GIS	Every Fall	100 to 120	Lecture and 3x labs per Fall
WebGIS	Every Spring	20 to 30	Integrated Lab/Lecture
GIS Programming	Every Spring	25 to 30	Integrated Lab/Lecture
Readings in GIS	Fall 17 and 18	10 to 15	Three-hour seminar
Honors Seminar: Critical GIS	Fall 2018	12	One-hour seminar for Honors College
Diversity, Inclusion & Pedagogy in the Geosciences	Fall 2018 & Spring 2019	5	One-hour seminar

Service:
Vice Chair, Geography Education Specialty Group, Association of American Geographers, 2017-2018.
Peer Review:

2014-2018	Journal of Geography in Higher Education
2016-2018	Transactions in GIS
2016-2018	International Journal of Geographic Information Science
2017	ISPRS International Journal of Geo-Information
2017-2018	The Professional Geographer
2018	Sustainability