

Kathleen Quardokus Fisher

Department of Earth & Environment
Florida International University

Office: AHC5 395
Phone: 305-348-1693
kquardok@fiu.edu

EDUCATION

Ph.D. in Science Education, Western Michigan University, 2014

Concentration: Instructional Change in Higher Education

Advisor: Dr. Charles Henderson

Dissertation: Instructional change in academic departments: An analysis from the perspective of two environment-focused change strategies

M.S. in Atmospheric Science, Purdue University, 2010

Co - Advisors: Dr. Sonia Lasher-Trapp, Dr. Eric Riggs

Thesis: Design and evaluation of an undergraduate laboratory course in atmospheric science research

M.Ed. Valparaiso University, 2007

B.S. in Meteorology, Mathematics (Magna Cum Laude), Valparaiso University, 2005

PROFESSIONAL EXPERIENCE

Assistant Professor, Discipline-Based Education Research in Meteorology

Department of Earth & Environment, STEM Transformation Institute Affiliation
Florida International University, 2016-*present*

Postdoctoral Scholar, Organizational Change Regarding Instructional Practices

Oregon State University, 2014-2016

Mentors: Milo Koretsky and Jana Bouwma-Gearhart

Research Assistant, Instructional Change

Western Michigan University, 2011-2014

Research Assistant, Authentic Research Experience for Undergraduates

Purdue University, 2008-2010

RESEARCH GRANTS AND CONTRACTS

Co-Principal Investigator, Exploring the Role of Instructors' Social Networks in Undergraduate STEM Instructional Improvement, National Science Foundation, 2015

Consultant, American Association for the Advancement of Science (AAAS) Center for Public Engagement with Science and Technology, Annotated Bibliography of Organizational Change, 2015

K. Quardokus Fisher

Co-Principal Investigator, Collaborative Research: Tool of EngAgement Measurement to Propel Academic Success of Students (TEAM PASS), National Science Foundation, 2016

TEACHING EXPERIENCE

Supervisor, Western Michigan University, 2012-2013

Course: Secondary Pre-Internship

Undergraduate student teaching experience for pre-service 6-12 educators

Instructor, Western Michigan University, 2013

Course: Earth Science: Atmosphere & Space

Graduate level science course for practicing educators

Teaching Assistant, Western Michigan University, 2013

Course: Exploring Earth Science: The Atmosphere

Undergraduate science course for pre-service K-8 educators

Teaching Assistant, Purdue University, 2008-2010

Course: Introduction to Research in Atmospheric Science

Undergraduate science course for atmospheric science majors

Mathematics Teacher, Benton Harbor High School, Benton Harbor, MI, 2007-2008

Courses: Geometry, Algebra, Pre-Calculus

Grades 10-12

Science and Mathematics Teacher, Luther High School South, Chicago, IL, 2005-2007

Courses: Physics, Chemistry, Physical Science, Algebra, Pre-Calculus, Calculus

Grades 9-12

CERTIFICATION

Michigan Provisional Secondary Education, Mathematics, Received 2008

PUBLICATIONS

- *Journal Articles*

Quardokus Fisher, K. & Henderson, C. (*Under Review*) Department-Level Instructional Change: Comparing Prescribed vs. Emergent Strategies

Quardokus, K. & Henderson, C. (2015). Promoting Instructional Change: Using Social Network Analysis to Understand the Hidden Structure of Academic Departments. *Higher Education*, 70 (3), 315-355

Addis, E. A., **K. M. Quardokus.**, D. C. Bassham, N. M. Boury, C. R. Coffman, & J. Powell-Coffman. (2013). Implementing pedagogical change in introductory biology courses through faculty learning communities. *Journal of College and Science Teaching*, 43(2).

Quardokus, K., Lasher-Trapp, S., & Riggs, E. M. (2012). A Successful Introduction of Authentic Research Early in an Undergraduate Atmospheric Science Program. *Bulletin of the American Meteorological Society*, 93(11), 1641–1649. doi:10.1175/BAMS-D-11-00061.1

- *Conference Proceedings*

Quardokus Fisher, K., Hirshfield, L., Seibert-Evenstone, A., Arastoopour, G., & M. Koretsky. (2016). Network Analysis of Interactions between Students and an Instructor During Design Meetings. *American Society of Engineering Education (ASEE) Annual Conference*.

Quardokus Fisher, K., Smith, C., Sitomer, A., Ivanovitch, J., Bouwma-Gearhart, J., and M. Koretsky. (2016) Identifying Features of Engineering Academic Units that Influence Teaching and Learning Improvement. *American Society of Engineering Education (ASEE) Annual Conference*.

Bouwma-Gearhart, J., Sitomer, A., **Quardokus Fisher, K.**, Smith, C., and M. Koretsky. (2016). “Studying Organizational Change: Rigorous Attention To Complex Systems Via A Multi-theoretical Research Model. *American Society of Engineering Education (ASEE) Annual Conference*.

Bouwma-Gearhart, J., Sitomer, A., **Quardokus Fisher, K.**, Smith, C., and J. Ivanovitch. (2016). Studying Organizational Change and Learning: Rigorous Attention to Complex Systems Via a Multi-theoretical Research Model. *NARST 2016 Annual Meeting*

Quardokus Fisher, K., Sitomer, A., & Bouwma-Gearhart, J., (2016). Institution-based instructional improvement: Establishing relational expertise through disciplinary unit social network analysis. *NARST 2016 Annual Meeting*

Little, D., **Quardokus Fisher, K.**, Brown, S., Koretsky, M., & Bouwma-Gearhart, J. (2015). Measuring Student Perceptions of Engineering Classroom Activities and the Use of Such Measures by Engineering Faculty, *Proceedings of the 2015 American Society for Engineering Education Annual Conference & Exposition*

Koretsky, M. D., Bouwma-Gearhart, J., Brown, S., Dick, T., Brubaker-Cole, S., Sitomer, A., **Quardokus Fisher, K.**, Risien, J., Little, D. , Smith, C., & Ivanovitch, J., (2015). Enhancing STEM Education at Oregon State University – Year 1, *Proceedings of the 2015 American Society for Engineering Education Annual Conference & Exposition*

Quardokus, K., & Henderson, C. (2014). Using Department-Level Social Networks to Inform Instructional Change Initiatives, *Proceedings of the NARST 2014 Annual Meeting*

Henderson, C., & **Quardokus, K.** (2013). Department-level change: Using social network analysis to map the hidden structure of academic departments, AIP Conf. Proc. 1513, 170 doi: 10.1063/1.4789679 1

Quardokus, K., S. Lasher-Trapp and E. M. Riggs (2010) “Bringing authentic science practice to the undergraduate classroom”, Extended abstract, 19th Symposium on Education, American Meteorological Society

PRESENTATIONS

- *Oral Presentations*

Quardokus Fisher, K., Bouwma-Gearhart, J., Sitomer, A., Little, D., Ivanovitch, J., Smith, C., & Koretsky, M. (2015). Design-Based Implementation Research To Study and Drive An Undergraduate STEM Education Improvement Project at Oregon State. Annual meeting of the APLU’s Science and Mathematics Teacher Imperative, June, New Orleans, LA.

Bouwma-Gearhart, J. & **Quardokus Fisher, K.** (2015). Building Understanding and Collaboration On The Study of Organizational Change Associated With Undergraduate STEM. Annual meeting of the APLU’s Science and Mathematics Teacher Imperative, June, New Orleans, LA.

Quardokus, K., & Henderson, C. (2013). “Using Social Network Analysis to Inform Education Reform Efforts in Atmospheric Science Departments” 22nd Symposium on Education, American Meteorological Society

Quardokus, K., S. Lasher-Trapp and E. M. Riggs. (2011). “Student experiences in a research-based laboratory” 20th Symposium on Education, American Meteorological Society

Quardokus, K., S. Lasher-Trapp and E. M. Riggs. (2010). “Bringing authentic science practice to the undergraduate classroom” 19th Symposium on Education, American Meteorological Society

- *Poster Presentations*

“Enhancing STEM Education at Oregon State University- Year 2,” Milo Koretsky, Jana Bouwma-Gearhart, Shane Brown, Thomas Dick, Susie Brubaker-Cole, Ann Sitomer, **Kathleen Quardokus-Fisher**, John Ivanovitch, Julie Risien, Lori Kayes, and Devon Quick. (2016) Paper presented at the American Society of Engineering Education (ASEE) Annual Conference.

“Using measures of the social structure of science departments to shape emergent change strategies” **Quardokus, K.** and Henderson, C. (2014). 23rd Symposium on Education, American Meteorological Society

“Department-level Change Initiatives: Using Social Network Analysis to Understand the Hidden Structure of Academic Departments” Henderson, C. and **Quardokus, K.** (2012). AIP Conference

“Thunderstorm Identification and Geospatial Distribution Study” **Quardokus, K.**, S. M. Blakely, P. R. Brandt, K. E. Fischer, K. K. Gleason, B. J. Harvey, A. S. Keller, T. M. Lucko, R. M. Meizberg, C. A. Miller, J. M. Palac, J. C. Rogers, C. K. Simpson, K. J. Snow, K. W. van Leer, T. C. Ward, B. S. Westfall, C. M. Woodward, J. M. Woznicki, and R. J. Trapp (2010). 9th Annual Student Conference, American Meteorological Society, and Purdue Graduate Student Expo

“An Introductory Study of Warm Rain Productivity in Convective Clouds Influenced by Regional Climate Change” **Quardokus, K.**, S. M. Blakely, P. R. Brandt, K. E. Fischer, K. K. Gleason, B. J. Harvey, A. S. Keller, T. M. Lucko, R. M. Meizberg, C. A. Miller, J. M. Palac, J. C. Rogers, C. K. Simpson, K. J. Snow, K. W. van Leer, T. C. Ward, B. S. Westfall, C. M. Woodward, J. M. Woznicki, and S. Lasher-Trapp (2010). 9th Annual Student Conference, American Meteorological Society

“The DOW Radar Observations at Purdue study (DROPs)” Trapp, R. J., J. Carley, J. Damjanovic, A. Eggink, J. Gebhard, K. Hoogewind, E. Jones, O. Kellner, B. Kraemer, M. Laureano, L. Little, R. Miller, D. Pittman, **K. Quardokus**, E. D. Robinson, B. Schwedler, D. Sheehan, D. Pittman, D. Solomon, and M. Toth (2010). 9th Annual Student Conference

RESEARCH TOOLS

ORA Social Network Software
UCINET Social Network Software
NVivo Qualitative Research Software
Teaching Dimensions Observation Protocol (TDOP)

PROFESSIONAL ORGANIZATIONS

American Meteorological Society
National Association for Research in Science Teaching