JAMES QUINLAN

EDUCATION

Ph.D., Computational Science, Univ. of Southern Mississippi

Ph.D., Mathematics Education, Ohio State University

M.S., Mathematics, Youngstown State University

B.S., Mathematics, Ohio State University

PROFESSIONAL APPOINTMENTS

Assistant Professor, Department of Computer Science University of Southern Maine, Portland, Maine	2023 – Now
Associate Professor, Department of Mathematical Sciences University of New England, Biddeford, Maine	2016 – 2023
Assistant Professor, Department of Mathematical Sciences University of New England, Biddeford, Maine	2010 – 2016
Visiting Assistant Professor, Department of Mathematical Sciences University of New England, Biddeford, Maine	2009 – 2010
Post-Doc Researcher, School of Teaching and Learning Ohio State University, Columbus, Ohio	2008 – 2009

PUBLICATIONS

Books

Lambers, J. V., Mooney, A. S., Montiforte, V. A., & Quinlan, J. (2024, forthcoming). *Explorations in numerical analysis and deep learning with Julia.* World Scientific.

Quinlan, J. (2021, in progress). *Database Concepts, Cloud Computing, and Big Data.*

Refereed Journals

Omtzigt, E.T.L. and Quinlan, J. (2023). Universal Numbers Library: Multi-format Variable Precision Arithmetic Library. *Journal of Open Source Software, 8(83)*, 5072, https://doi.org/10.21105/joss.05072

Quinlan, J. and Edwards, T. (2023). On the Even Distribution of Odd Primes: An on-ramp to mathematical research. *The Mathematics Enthusiast*, 21(1 & 2), 327 – 334.

Omtzigt, E.T.L. and Quinlan, J. (2022). Universal: Reliable, Reproducible, and Energy-Efficient Numerics. In: Gustafson, J., Dimitrov, V. (eds) Next Generation Arithmetic. CoNGA 2022. *Lecture Notes in Computer Science, 13253.* Springer.

Verkamp, H.J., Hammerschlag, N., Quinlan, J., Langan, J.A., and Sulikowski, J.A. (2021). Reproductive hormone profiles of the blacktip shark (Carcharhinus limbatus) in southern Florida. *Marine and Freshwater Research.*

Curran, M., Holt, C., Arciero, M., Quinlan, J., Cox, D., & Craig, A. (2020). Proxy Finnegan Scores for Eat, Sleep, Console in a Cohort of Opioid-Exposed Neonates. *Hospital Pediatrics. 10*(12), 1053–1058.

Quinlan, J. & Kolibal, J. (2016). Trigonometric Integration without trigonometric functions. *Teaching Mathematics and Its Applications, 35*, (4).

Quinlan, J. (2016). Sage: Mathematics in the Cloud. Proceedings of the Twenty-eighth Annual International Conference on Technology in Collegiate Mathematics. ICTCM, Atlanta, GA.

Quinlan, J., & Tennenhouse, C. (2016). Perceived Utility of Typesetting Homework in Post-Calculus Mathematics Courses. *PRIMUS, 26*(1), 53-66.

Quinlan, J. (2016). Mathematicians' perspectives on the utility of software. *The International Journal for Technology in Mathematics Education, 23*,(3), 103-110.

Edwards, T., Quinlan, J., & Strayer, J. (2016). Flip and Add: Explorations in Place Value. *Teaching Children Mathematics.* NCTM, Reston VA.

Quinlan, J. (2016). *Using the tail of a sequence to explore its limit* in Proceedings of the Fourth Annual Southern Connecticut GeoGebra Conference. Southern Connecticut State University, New Haven, CT.

Quinlan, J. (2016). Sage: Mathematics in the Cloud. Proceedings of the Twenty-eighth Annual International Conference on Technology in Collegiate Mathematics. ICTCM, Atlanta, GA.

Quinlan, J. (2015). *An informal approach to least squares* in Proceedings of the Third Annual Southern Connecticut GeoGebra Conference. Southern Connecticut State University, New Haven, CT.

Edwards, M. T., & Quinlan, J. (2015). Virtual Miniature Golf. *Mathematics Teacher, 109*(2), 160-160.

Koyunkaya, M. Y., Kastberg, S., Quinlan, J., Edwards, M. T., & Keiser, J. (2015). Dynamic Right Triangles. *Mathematics Teacher, 109*(4), 320-320.

Edwards, M. T., Quinlan, J., & Day, R. (2015). Repeated square roots. *Mathematics Teacher, 109*(3), 240.

Edwards, T., Quinlan, J., et al. (2014). Fostering Deductive Thinking with Angle Chasing.

Mathematics Teacher. NCTM, Reston VA.

Quinlan, J. (2013). GeoGebra as a frontend to generating graphics for LaTeX. *North American GeoGebra Journal,* 2(1), 37 – 42.

PRESENTATIONS

Quinlan, J. & Omtzigt, E. T. L., (2023, June). *Universal Numbers Software Library.* Mathematical Association of America Northeastern Section Meeting. Fitchburg State University. Fitchburg, Massachusetts.

Quinlan, J. (2023, March). *Data Mining Methods for Improving Health Outcome.* MaineR Users Group. Northeastern University Roux Institute, Portland, Maine March 30, 2023.

Omtzigt, E. T. L., & Quinlan, J. (2022, March). *Universal: Reliable, Reproducible, and Energy-Efficient Numerics.* Conference on Next Generation Arithmetic (CoNGA). Singapore, China. March 1–3, 2022.

Holt, T. Margaret Curran Michael Arciero, James Quinlan. (2018). *Predictive Value of Finnegan Neonatal Abstinence Scores (FNAS) in infants exposed to narcotics in utero.* North American Primary Care Research Group Annual Meeting Chicago, Illinois November 9-13, 2018

Quinlan, J. (2019, Aug). *Factors and Methods in STEM Student Retention.* Mathematical Association of America (MAA MathFest), Cincinnati, OH.

Quinlan, J. & Deveau, A.M. (2018, Aug). *NSF S-STEM report: what we learned, issues, successes, and recommendations.* Mathematical Association of America (MAA MathFest), Denver, CO.

Quinlan, J. & Deveau, A.M. (2018, July). *Outcomes of an NSF S-STEM Grant: SUCCESS Scholars, Research Opportunities, and Curriculum Evolution.* Poster presentation, The Council of Undergraduate Research (CUR Biennial Conference), Arlington, VA.

Quinlan, J. (2018, June). *NSF S-STEM report: what we learned, issues, successes, and recommendations.* Mathematical Association of America – Spring Meeting of the Northeast Section, New Haven, CT.

Quinlan, J. & Deveau, A.M. (2018, June). *Outcomes of an NSF S-STEM Grant at UNE: SUCCESS Scholars, Research Opportunities, and Curriculum Evolution.* Poster presentation, The Maine Center for Research in STEM Education (RiSE) Center (2018 RiSE Teaching Symposium), Orono, ME.

Quinlan, J. (2017, July). *Developing an academic data science program.* Data Science: Big Data, Big Questions Themed Contributed Paper Sessions. MAA MathFest, Chicago, IL.

Kolibal, J. & Quinlan, J. (2016, July). Solving Differential Equations Using Chebyshev Inner Products. The *Society of Industrial and Applied Mathematics Annual Meeting.* SIAM, Boston, MA.

Quinlan, J. (2016, June). *Securing NSF Grants with Significant Impacts: Advice for Junior Faculty.* Mathematical Association of America – Spring Meeting of the Northeast Section (Section NeXT Speaker), Biddeford, ME.

Quinlan, J. (2016, August). *Using SageMathCloud Worksheets to facilitate computational thinking and collaboration in Calculus.* MAA Math Fest, Columbus, Ohio.

Quinlan, J. (2016, August). *SageMathCloud: An introduction to computational collaboration.* Open Mathematics Conference, Columbus, OH.

Quinlan, J. & Tennenhouse, C. (2016, June). *SageMathCloud.* MAA Northeast Section Meeting. University of New England, Biddeford, ME.

Quinlan, J. (2016, March). Sage: Mathematics in the Cloud. The *Twenty-eighth Annual International Conference on Technology in Collegiate Mathematics.* ICTCM, Atlanta, GA.

Quinlan, J. (2015, June). *Modeling Machines and Prototyping with GeoGebra.* North American GeoGebra Conference, Miami University, Oxford, OH.

Quinlan, J. (2015, April). *Period, order, and rank of a generalized Fibonacci sequence Modulo n.* University of New Haven, New Haven, CT.

Col, N.F., & Quinlan, J. (2013, September). *Next–Generation Interactive Decision Aids: Breaking Implementation Barriers.* World Congress 3rd Annual Leadership Summit on Shared Decision Making: Adopting a Patient–centered System to Improve Outcomes and Decrease Costs. Boston, MA.

Quinlan, J. & Edwards, T., (2013, March). Utilizing Web Technologies to Supplement Coursework Including Embedding GeoGebra and Hacking Google Web Forms. The *Twenty-fifth Annual International Conference on Technology in Collegiate Mathematics.* ICTCM, Boston, MA.

Edwards, T., & Quinlan, J. (2013, March). Applying the WIN strategy to convert textbook problems into rich, inquiry-based activities using technology. Creating Engaging Tasks from Ordinary Exercises using GeoGebra and the What-if-Not Approach. The *Twenty-fifth Annual International Conference on Technology in Collegiate Mathematics.* ICTCM, Boston, MA.

Col, N.F., & Quinlan, J. (2012, October). *New Methods for Integrating Patient Preferences with Clinical Evidence.* Society for Medical Decision Making, Phoenix, AZ. October 17–19.

Quinlan, J. (2009, August). *Developing graphical user interface for interactive applications*

in MATLAB using GUIDE. MAA Math Fest, Portland, OR.

Quinlan, J. (2012, June). *Matrix Reductions, Elementary Matrices, and Solving Systems of Equations*. Midwest Regional GeoGebra Conference, Miami University, Oxford, OH.

GRANTS & PROJECTS

Funded

Principle Investigator (PI). *Maine Mathematics and Science Scholars for School and University Collaboration Centered on Educating STEM Students (SUCCESS) Program*. Funded by the National Science Foundation (NSF) DUE 1259896. ($620,788).

Key Personnel / Consultant. *Incorporating Patient Preferences into Decisions about Chronic Pain Management*. Funded by Pfizer Independent Grants for Learning & Change ($748,500).

Co-Principle Investigator (co-PI). *NSF SUCCESS Support Grant*. Funded by the Bangor Savings. ($3,000).

Co-Principle Investigator (co-PI). *Decision Support Transformed: Integrating Patient Preferences with Clinical Evidence*. Funded by the Office of Patient and Population Oriented Research University of New England (PPOR) ($6,678).

Principle Investigator (PI). *The Nature of Software Utilization, Part II*. Funded by UNE Vice President for Research Mini-Grant ($1850).

Unfunded Grants

Co-Principle Investigator (co-PI). *Sharing Health Evidence Linking Patients and Providers about Pain: Pain-HELPP*. Funded by the Patient-Centered Outcomes Research Institute (PCORI) ($1,866,608).

Co-Principle Investigator (co-PI). *Under-represented Maine STEM scholars grant*. Funded by the Coke-Cola ($250,000).

Co-Principle Investigator (co-PI). *Integrating patient preferences with evidence to improve decision making for prostate cancer treatment*. Patient-Centered Outcomes Research Institute (PCORI) ($1,768,432).

Co-Principle Investigator (co-PI). *Connecting US to Strengthen K-5 Mathematics Content and Pedagogy: A University/School Partnership*. State of Maine Department of Education ($108,000).

SERVICE AND LEADERSHIP

Founder and Director of the *GeoGebra Institute of Maine*

Member of the Mathematical Association of America Committee on Technologies in Mathematics Education

Webmaster for the Northeast Section of theMathematical Association of America

Chair - Mathematical Association of America (MAA) Northeast Sectional Meeting (Spring 2016)

PROFESSIONAL AFFILIATIONS

Association for Computing Machinery (ACM)

Mathematical Association of America (MAA)

HONORS AND AWARDS

Distinguished University Teaching Award, Mathematical Association of America Northeast Section, 2023

University Leadership Award: Club Advisor of the Year. UNE Math Club 2010

Nominee, Deborah & Franklin Tepper Haimo Award for Distinguished University Teaching

Recent Courses Taught

- Advanced Database Concepts, Cloud Computing, & Big Data
- Introduction to Database Design and Implementation
- Numerical Analysis
- Data Structures and Algorithms
- Applied Linear Algebra
- Programming I w/Python
- Programming II w/Python (Machine Learning & Natural Language Processing)
- Tech Stack (Shell-scripting, github, AWS)
- Data Science - Exploring Data with R
- Calculus I, II, and III
- Statistics for Life Sciences and Applied Statistics