

**Poster Sessions
National Advisory Board Meeting
October 16, 2019**

Mary Ann Wolf (PLLC)

Growing and Supporting Educator Networks: Building Capacity of Administrators and Educators through the Early Learning Network and Early College Network

Presenters: Shayla Rexrode, Research Scholar

The PLLC leads ongoing, job-embedded networks for principals and school teams to learn about and develop solutions for problems of practice. The Early Learning Network includes 20 school teams in the 2019-2020 cohort and 16 school teams in the 2018-2019 cohort and utilizes design thinking to address a challenge in early learning. The Early College Network provides opportunities for principals and school teams to deepen their pedagogy and implement personalized learning. Shayla and Tricia will share highlights and lessons learned from these networks.

Micro-credentials: Moving to a More Scalable Model of Competency-Based Professional Learning Opportunities

Presenter: Alex Dreier, Instructional Design Lead

The Friday Institute has led the creation of micro-credentials and assessed over 4,000 submissions. The Friday Institute is a leader in this competency-based approach to professional learning and embeds micro-credentials into other types of professional learning. The PLLC continues to speak on and share the work nationally.

Jose Picart (Wake Promise)

The Literacy and Community Initiative: Write, Lead, and Engage

Presenters: Crystal Lee, Assistant Professor
Jose Picart, Professor

The Literacy and Community Initiative (LCI) is a collaboration among NC State's College of Education's Department of Teacher Education and Learning Sciences, the Friday Institute, and three [community-based organizations](#). The purpose of this initiative is to investigate and promote the power of voice among historically underserved students by supporting literacy learning in educational community-based organizations (CBOs). The LCI assesses the needs of youth by supporting the publication of [student-authored narratives](#) and sharing their experiences with multiple educational and political stakeholders.

Hollylynne Lee (HI-RiSE and PTMT)

HI-RiSE: A Hub for Innovation and Research in Mathematics Education

Presenters: Hollylynne S. Lee, Professor, Mathematics Education
Gemma F. Mojica, Research Associate

The goal of HI-RiSE (Hub for Innovation and Research in Mathematics Education) is to build foundations for future data scientists and data literate citizenry. Many active projects are funded by the National Science Foundation, the Institute of Educational Sciences and other sources. All projects are cross-institutional and involve collaboration with for-profit and non-profit educational organizations, as well as partnerships with classroom teachers. The foci of projects include: development, implementation and research in online teacher development for teaching statistics; creating and implementing free online data visualization tools and engaging “big data” lessons with middle and high school students; formative assessments for students and micro-credentials for teachers. We will share information about each of these initiatives, as well as research findings.

Preparing to Teach Mathematics with Technology: Making a Difference in Mathematics Teacher Preparation

Presenter: Hollylynne S. Lee, Professor, Mathematics Education

The Preparing to Teach Mathematics with Technology was one of the founding projects of the Friday Institute in 2005. With a new \$1.8 million NSF grant, the project continues to develop high quality text, video cases, and technology-infused activities. With materials disseminated in an online portal, the project remains committed to open educational resources. Come learn how the project has grown over the years in research and development and the impact it has had on university faculty, teachers, and the discipline of mathematics teacher education.

Gail Jones (Innovations in STEM Education Research)

A New Generation of Science Educators and Communicators: Unexpected Career Aspirations

Presenters: Dr. Gail Jones, Alumni Distinguished Graduate Professor
Kathryn Rende, Graduate Research Assistant
Emma Revem, Graduate Research Assistant
Julianna Niewsma, Graduate Research Assistant
Pam Huff, Graduate Research Assistant

In partnership with a local science museum, we are examining the impact of youth volunteer experiences on career aspirations. Youth volunteer programs are often designed to engage youth authentic science experiences and encourage them to pursue STEM careers. However, our study has found that these programs may also have the added effect of inspiring the next generation of science educators and communicators. Careers in science and engineering are growing rapidly, spurring a growing need for science educators and communicators who can support public understanding of complex science issues. While the literature indicates that after-school and informal science education programs have the capacity to generate interest in science and expose youth to a variety of STEM career pathways, little research exists on the role of these programs in encouraging complementary career paths in science education or

communication. These results suggest that museum volunteer programs may be places to cultivate the next generation of science educators and communicators.

Phil Emer and Ray Zeisz (Technology Programs)

Optimization and Analysis of Education Data with Python & Machine Learning

Presenter: Mike Babb, System Analyst

Programmatic methods are an extensible and powerful tool that, when used effectively, may be used to solve a multifarious set of problems in any sector of the world. In the past few months, we've been applying the aforesaid methodologies to several challenging problems; in particular, optimization and analysis in regards to educational data. During the presentation, we'll focus on two specific problem sets: optimization of the eRate budget for NC, and analysis of teacher working conditions data. Whereupon, we'll iterate through our findings during the respective processes, as well as expound upon the theory behind each approach, to wit: random number generation and Monte Carlo based algorithms, facets of machine learning & c., and statistical analysis.

Dave Frye (Computer Science Initiatives)

A Hub for CS Education Innovation

Presenters: Dave Frye, Senior Director for Computer Science Initiatives
 Sam Morris, Program Manager, Computer Science & Computational Thinking
 Eric Wiebe, Professor, STEM Education

This poster will provide an overview of the computer science for all team to expand opportunities in CS Education through local, state, regional and national partnership. The poster will include: 1) Teacher PD programs in NC; 2) State policy and the NC CS Initiative; 3) Current research projects, and 4) Publications, presentations and roles in the national CS Education movement. Proposed and future projects and partnerships will be highlighted, current barriers and limiters will be identified, and advisors will be asked for feedback and suggestions on ways to advance our growing role as a hub for CS Education.

Braska Williams (NC MSEN)

Burroughs Wellcome STEM Research for High School Students

Presenter: Braska Williams, NC MSEN Pre-College Program Coordinator

The NC-MSEN Pre-College Program in partnership with the College of Engineering received funding for three years from the Burroughs Wellcome Fund to develop a program for high school students that teaches them about college level STEM research. 40 High achieving ninth grade underserved students were selected to participate in the program which included the attendance at 11 Saturday Academies and a two week summer camp. During the summer before their senior year, students were able to participate in a four week residential research camp where they would work with STEM faculty here at NCSU.

LaTricia Townsend (Friday Institute Research and Evaluation)

FIRE Team Updates

Presenter: LaTricia Townsend and members of the FIRE team

The FIRE Team will provide an overview of the past year's project activities and impacts.