

2025 PNW NEXT Program Meeting – University of Washington Tacoma, Tacoma, WA

Thursday, April 24: Informal dinner and gathering at [The KOI @ 7 – 9pm](#)

Friday, April 25: [Tioga Library \(TLB\) room 109](#)

- 8:00am **Registration** (Parking permits available – park in Tioga Lot and come in to get your permit)
Coffee, tea, light breakfast
- 8:30 **Announcements & introductions**
- 8:35 **Session I: Redesigning precalculus using a modular and self-paced structure: an in-depth view**
Christine Cole, Dylan Helliwell, Angela Siple; Seattle U
- 9:25 **Session II: Curiosity, connections, and creating value: Leveraging the KEEN framework in undergraduate mathematics teaching**
Stephanie Anne Salomone, U of Portland; Wojciech Kossek, U of Denver
- 10:15 **Break & Discussion time**
- 10:45 **Session III: Collecting and using data to inform your teaching**
Kevin Meek, U of Alaska Fairbanks
- 11:15 **Lunch:** [Local restaurants in walking distance](#)
- 1:00 **Session V: Navigating the storm: Strategies for thriving mathematics department in challenging times**
Panelists: Chris Black, Central Washington U; Robin Angotti, U of Washington; Hortensia Soto, Colorado State U
- 2:05 **Session VI: What's next for NExT?**
Megan Buzby, U of Alaska Southeast; Brandy Weigers, College of Idaho
- 2:30 **Adjourn**
- 3:00 **Minicourses** (register through main meeting page)
- 5:30 **Dinner:** [Seven Seas Brewery](#) – [Food truck](#) available onsite or you can bring in outside food
- 7:30 **Plenary Talk: “Creating Metaphors for Linear Algebra Concepts: Developing Cognitive, Behavioral, and Affective Domains”**
Hortensia Soto, Colorado State U

Session Descriptions:

Session I: Redesigning precalculus using a modular and self-paced structure: an in-depth view

Christine Cole, Dylan Helliwell, Angela Siple; Seattle U

Abstract: It is well known that mathematics courses can be a significant barrier for retention at colleges and universities across the country. To address some of the systemic challenges, we have developed a new way to teach mathematics below the calculus level that is flipped, modular, self-paced, and standards-based. Early results indicate that our new structure is serving to improve students' experience and success.

Session II: Curiosity, Connections, and Creating Value: Leveraging the KEEN Framework in Undergraduate Mathematics Teaching

Stephanie Anne Salomone, U of Portland; Wojciech Kossek, U of Denver

Abstract: Several professional organizations in K-12 undergraduate STEM education have provided calls to action for changes in the ways in which we engage students in the teaching and learning of our field. In this presentation, we will consider the KEEN Entrepreneurial Mindset, which comes from engineering education and asks us to accompany our students as they grow their curiosity, make connections between concepts, and seek to understand the value of learning (for us, mathematics). We will engage in discussion about the importance of changing our mindsets about teaching as we change our students' mindsets about learning. We will dig into the KEEN website to look at the over 5000 classroom activity and pedagogy cards created by STEM colleagues committed to creating tasks that support the idea that learning mathematics (or engineering) is valuable both as an intellectual activity and as a tool for application, and we will invite participants to dive into task creation. The KEEN framework and calls to action are echoed in those from other recent publications, such as the GAIMME report, the MAA IP guide, and the ASEE Mindset Report, and as we make these connections explicit, our hope is that we can empower faculty to work with their colleagues in math-adjacent disciplines to better engage all students.

Session III: Collecting and using data to inform your teaching

Kevin Meek, U of Alaska Fairbanks

Abstract: I will present some strategies and tips for collecting and using data to improve your teaching and student outcomes. The emphasis will be on small scale endeavors that can be implemented individually or in collaboration with a small number of colleagues. I will focus on the nuts and bolts of how to gather useful data effectively and efficiently while minimizing the extra work added to our already busy schedules.

Session IV: Navigating the Storm: Strategies for Thriving Mathematics Department in Challenging Times

Organizers: Natalie Naerig, U of Washington; Aaron Wootton, U of Portland

Panelists: Chris Black, Central Washington U; Robin Angotti, U of Washington; Hortensia Soto, Colorado State U

Abstract: Educational institutions, regardless of size, are facing a universal set of challenges: declining enrollments, increased student dropout rates, and financial constraints shaped by shifting political realities. These issues disrupt the academic experience—courses are postponed or canceled, leaving students struggling to find suitable classes to complete their degrees. Faculty may find themselves unable to meet their teaching requirements or even compelled to create courses outside their expertise to attract broader student interest.

In light of these pressures, it is natural to question how mathematics departments can continue providing a robust education, maintain consistent numbers of math majors, and adapt to financial constraints. This panel will explore valuable insights, innovative measures, and successful programs that support departments in overcoming these hurdles while fostering excellence in mathematics education.