Mathematics Teacher Professional Development Workshop
March 4, 2023

Offered by the Cornell University Department of Mathematics as part of MATH 4980/5080, together with the NYS Master Teacher Program & the Teacher Center of Central Westchester

AGENDA

9:00 – 9:20 am   **Welcome & Overview**

9:20 – 10:50 am   **Creating Culturally Relevant Math Tasks**
Toni Gamils (Teacher Center of Central Westchester)

A culturally relevant mathematics classroom is one in which teachers utilize materials and practices needed to support positive academic outcomes for all students. In this session, participants will draw from their students' strengths, knowledge, culture, and competence to create inclusive, relevant, and meaningful lessons in mathematics. Participants will work with grade-level teams to develop authentic and rigorous tasks to support regular education and English Language Learners in elementary and secondary classrooms.

11:00 am – 12:00 pm   **When Will I Ever Use This?**
Ravi Ramakrishna (Department of Mathematics, Cornell University)

"When will I ever use this?" is a question math teachers always get asked. I will give (literally!) concrete answers to this question by giving brief expositions of three scientific papers/books:

- *The Dance of the Thirty-Ton Trucks: Dispatching and Scheduling in a Dynamic Environment*, by Durban & Hoffman, on the applications of Operations Research to the scheduling of concrete deliveries at construction sites
- *Artistic Simulation of Curly Hair*, by Iben, Meyer, Petrovic, Soares, Anderson & Witkin, on the how the hair of Merida, the main character of the animated movie *Brave* was made to move in a fashion that bridged the gap between physically real and artistically pleasing
- An example (TBD) from the text *Modeling Life,* by Garfinkel, Shevtsov, & Guo

12:00 – 12:30 pm   **Break**

12:30 – 12:50 pm   **Birds-of-a-Feather Session**
Break-out rooms will be available for same grade / same class discussions.

12:50 – 2:20 pm   **Function Approach to Geometry Transformations**
Irina Lyublinskaya (Teachers College, Columbia University)

Let's make connections from algebra to geometry for our students! Students are introduced to functions informally in middle school and more formally in Algebra 1, but they rarely use the concept of function in geometry classes. In this session, participants will engage in activities with geometry transformations that reinforce understanding of functions and help students to make connections between new geometry topics and prior knowledge of functions.

2:20 – 2:30 pm   **Wrap-Up & Closing**