

Presenter: Dr. Natalya Vinogradova. Professor of mathematics department at the Plymouth State University in Plymouth, NH

Intended Presentation: Workshop in person

Title: Springtime in the Garden – a Buquet of Mathematical Problems

Description: Fluency with algebraic ideas opens many doors for students. This includes access to a wide variety of higher learning opportunities and career paths. In this sense, helping students develop deep understanding of algebraic formulas and procedures creates equal opportunities for future success. During this session participants will develop mathematical models for designing flower beds, refining maple syrup, and maybe even sharing a Margarita with a friend after hard work in the garden. Explorations that connect words, numbers, geometric shapes, and algebraic formulas will allow every learner to find their comfort zone.

Proposal Objective: This session will invite participants to explore possibilities to involve students in mathematical modeling. Practical examples of designing garden beds and making maple syrup will be used to develop mathematical modeling. The following conference themes will be highlighted during this workshop:

- Importance of mathematical modelling and interdisciplinarity for studying and learning mathematics.
- Mathematical creativity from an interdisciplinary perspective.

Expected Outcomes:

Presented activities (developed and tested by the author and her colleagues) can be used in any middle and/or high school classroom to help students improve their modelling skills, as well as get a habit of using mathematical approach to making conclusions concerning everyday situations seemingly not connected with school mathematics.