MATHEMATICS SPECIALISTS IN INTERNATIONAL SCHOOLS

"The essence of mathematics is not to make simple things complicated, but to make complicated things simple."

S. Gudder

Announcing:

2019-2020 MSIS Program

- **A 2-year mathematics certificate program designed for K-8 teachers of mathematics**
- **Based on mathematics content from the AERO/Common Core Standards**
- **Offering optional graduate credit at additional cost from SUNY Buffalo State University**
- **Participants who complete all 5 institutes will receive a certificate as Mathematics Specialist in International Schools from the Office of Overseas Schools.**

GOALS:

1) Deepen mathematics content and pedagogy
2) Develop and implement rigorous, meaningful assessments
3) Build school capacity for continuous improvement in mathematics
4) Provide intensive training and support for a cohort of mathematics specialists who will assume a role of collaborating with classroom teachers
5) Enhance the use of evidence-based instruction and assessment practices defined in the AERO/Common Core Standards

DESCRIPTION:

A coherent sequence of 5 face-to-face, three-day institutes over a two year period, including online support, that will expand teachers' understanding of the AERO/Common Core Standards, how students learn that content, evidence of students understanding, and how to work with peers in a mentoring relationship.

COST:

- Tuition per Institute (5 total) per participant is:
  Member participants: $300 per Institute
  Non-member schools :$500 per Institute
  (Excludes transportation and room/board)

- SUNY Buffalo State University graduate credit is available. $90 per graduate credit for a total of 9 credits

CRITERIA FOR PARTICIPANTS:

- Must commit to attending *all 5 institutes*.
- Bachelor's Degree form an accredited institution
- A valid Education Teaching License
- Currently employed teaching K-8 in an international school for a minimum of 3 years

2018-2020 MSIS Program

Institute I
Numbers and Operations
April 14-16, 2019 (Rome, Italy)

The focus is on the content and the Common Core Mathematical Practices that support the **Numbers and Operations** progressions of the AERO/Common Core Standards. Attention will be given to ways of representing numbers, relationships between numbers, number systems, the meanings of operations and how they relate to one another, and computation within the number system as a foundation for algebra.

Institute II
Algebraic Thinking
October 30-31, 2019 (Rome, Italy)
The focus is on the content and the Common Core Mathematical Practices that support the **Algebra and Functions** progressions of the AERO/Common Core Standards. Attention will be given to the transition from arithmetic to algebra, working with quantitative change and the description of and prediction of change.

Institute III
Rational Numbers and Proportional Reasoning
January 27-29, 2020 (Rome, Italy)
The focus is on the content and the Common Core Mathematical Practices that support the **Rational Numbers and Proportional Reasoning** progressions of the AERO/Common Core Standards. Attention will be given to the basic number progressions in fractions and rational numbers, decimals and percents, and ratios and proportions to develop both rational number concepts and skills and proportional reasoning.

Institute IV
Geometry and Measurement
April 28-30, 2020 (Rome, Italy)

The focus is on the content and the Common Core Mathematical Practices that support the Geometry and Measurement progressions of the AERO/Common Core Standards. Attention will be given to the the foundations of informal measurement and geometry in one, two, and three dimensions. The van Hiele model for geometric learning will be used as the framework for how children build their understanding of length, area, volume, angles, and geometric relationships.

Action Research Project is <u>required</u> to complete the Math IV.

Institute V
Embedding the Mathematical Practices into Instruction and Assessment
September 12-14, 2020 (Rome, Italy)

The Institute will focus on the math practices, addressing the instructional shifts teachers need to provide in order for our students to be able to reason through mathematics. Achieving excellence in mathematics teaching and learning begins by understanding the importance of the mathematical practices in instruction and assessment.

Participants will receive a deeper understanding of the hope for improved student learning provided by the eight Mathematical Practices, the impact of those practices on daily instruction, and the necessary formative assessment that will result in significant improvement in student learning. Participants will learn how to prepare and develop meaningful mathematics instruction and assessment processes with the rigor and coherence expected by the Mathematical Standards.

Institute Director
Erma Anderson is a former high mathematics and physics teacher and Albert Einstein Distinguished Fellow the United States Senate. She was a Senior Program Officer with Research Council assisting in the development of the National Science Education Standards and a Christa McAuliff Fellow with the National Foundation for Improvement of Education. She was a consultant with the Council for Basic Educations Schools Around the World Project, developing and implementing a protocol and series of professional development experiences that used student work to enhance the teaching and learning of mathematics and science. More recently she has been a consultant with international schools and the AERO project.