

***The York 4 Mathematics Association  
2011 Fall Conference***

**Tuesday, October 18<sup>th</sup>, 2011**

**4:30 to 8:15 p.m.**

**St. Elizabeth Catholic High School  
525 New Westminster Drive, Thornhill,  
Ontario**

*Non-OAME Members: \$35.00*

*OAME Members: \$25.00*

*Faculty of Education Students: \$15.00*

**Plenary Session: Dr. Ruth Beatty, Lakehead University**

**Algebraic Thinking: Growing Understanding from Kindergarten to Grade 12**



In our plenary session we will outline the research we have conducted on students' **algebraic thinking**, particularly in the domain of **linear relations**. Our sessions will focus on three important concepts of algebraic thinking:

- **generalizations**
- **multiplicative thinking**
- **multiple representations**

We will engage participants in activities involving linear growing patterns, numeric patterns, graphical representations, and context problems. We will explore the interrelationships among these representations, which we believe is essential to developing a deep understanding of linear relationships. Participants will also examine examples of student thinking (transcripts, video, and student work samples) in order to begin to identify evidence of algebraic reasoning at different levels using supportive frameworks.

**Ruth** is an Associate Professor at Lakehead University (Orillia) where she teaches the mathematics methods course for Primary/Junior teacher candidates in the Faculty of Education. Her research of how children learn complex mathematical concepts, particularly in the domain of "early algebra", has resulted in a model of teacher professional development that links research and practice and resulted in a collaborative partnership with the Ministry of Education to produce online learning objects for linear relations <http://www.mathclips.ca>. In addition, Ruth was invited by the International Commission on Mathematics Education to contribute to an international study of technology and mathematics education based on her work utilizing online discourse spaces to support students' collaborative mathematical problem solving.

## Breakout Sessions: Kindergarten to Grade 12

### Kindergarten to Grade 4

#### Facilitators:



**MaryLou Kestell**



**Gina Micomonaco**

#### Session Description:

##### **K-4 Opening the Door**

What does algebraic reasoning look like, sound like, and feel like when young children engage? We will try to understand how the mathematics we do with children helps them develop multiplicative thinking, generalizing, and multiple representations so they learn to algebratize and express their mathematical thinking.

Throughout **MaryLou's** teaching and learning career she has engaged with students and teachers in grades 1 to 12 classrooms. Her dedication to improving engagement in mathematical inquiry has included research studies, serving on Ministry Expert Panels and editing policy documents. After working 7 years at EQAO and 5 years at the Literacy and Numeracy Secretariat, MaryLou retired. Currently she teaches pre-service teachers at OISE and works as a Provincial Math Coach on projects throughout the province.

**Gina Micomonaco** is currently a Program Resource Teacher, and was the former Math, Science and Technology Elementary Program Consultant in the York Catholic DSB. In 2008, Gina co-chaired the OAME 2008 conference in York Region. Her past experience includes teaching pre-service education at York University and additional qualifications courses at the University of Toronto. Gina has facilitated many mathematics workshops at both local and provincial levels.

#### Session Description:

This session will focus on the **development of patterns through algebraic thinking**. Together we will explore how this thinking and its representation develop in a variety of ways as the **junior** student learns.

**Cathy Chaput** is the grade 4-6 Curriculum Coordinator with the Wellington Catholic DSB. Mathematics is a passion, and she has engaged in this through teaching math in 3 panels, working and learning with teachers, and facilitating TLCP's, PLC's, afterschool book studies, Math CAMPPP and summer programs. She was a trainer for the Junior Numeracy series, is a proud and grateful member of OAME and OMCA, and has presented at OAME math conferences.

An elementary educator for 25 years, **Mike Davis** is a mathematics and numeracy consultant for Halton DSB. He is currently the treasurer for the OMCA. Mike has co-authored a number of mathematical resources for teachers. He was also a provincial writer and facilitator for the Junior Lead Teacher training, and has facilitated AQ courses for York and Charles Sturt Universities. He has facilitated workshops around the province including Math Camp and for OAME and OAME Leadership. He is delighted to be co-facilitating a session again with Cathy Chaput.

### Grades 3 to 6

#### Facilitators:



**Cathy Chaput**



**Mike Davis**

**Grades 7 & 8**

**Facilitator:**



**Chrystal  
Chilvers**

**Session Description:**

Come and explore **CLIPS** and see how **CLIPS** can be used to enhance your students' learning and further develop their understanding of algebraic thinking. In this session we will look at free interactive web-based learning modules developed by the Ministry of Education. Our session will focus on the **Linear Growing Patterns, Integers and Fractions Clusters**.

**Crystal Chilvers** is currently released from her duties as department head and secondary mathematics teacher at Centre Wellington District High School in the Upper Grand District School Board to work onmathCLIPS.ca. She has contributed to some Nelson mathematics textbooks and teacher resources, led writing teams working on grade 11 & 12 TIPS resources, facilitated at and organized for math CAMPPP and spent some time coaching in her board.

**Grades 9 – 12**

**Facilitator**



**Greg Clarke**

**Session Description:**

Come and explore **CLIPS** and see how **CLIPS** can be used to enhance your students' learning and further develop their understanding of algebraic thinking. In this session we will look at free interactive web-based learning modules developed by the ministry of education. Our session will focus on the **Linear Growing Patterns, and Trigonometric Functions CLIPS activities**.

**Greg Clarke** is currently on assignment with the Ministry of Education with the grade 7-12 Math Team, working on the CLIPS project since September 2007. Prior to this, he was working as the Secondary Programme Coordinator for the Simcoe Muskoka Catholic DSB. He has been involved in a number of provincial math projects, including TIPS, PRISM-NEO, a member of the great K-6 Numeracy Team in 2005-2006, and a number of Geometers Sketchpad symposiums.

Greg is also the webmaster for OAME and MAC<sup>2</sup>, and a member of the OAME board of directors. Greg has a passion for Mathematics and for Technology, and for working with others who share those interests (or want to).

**Registration**

**3:45 – 4:30pm**

**Plenary Session with Grade Level Groupings**

**4:30 – 6:00pm**

**Dinner**

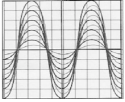
**6:00 – 6:45pm**

**Breakout Sessions**

**6:45 – 8:15pm**

To register fill out the form attached to this flyer.

Spaces are limited so register early!



**Y4MA Fall Conference 2011  
Tuesday, October 18<sup>th</sup>, 2011.  
Registration Form**

**PLEASE PRINT**

Name (First and Last)	
Telephone (work or home number)	
School, School board, or University affiliation	
<b>Most frequently checked</b> e-mail address	

Are you presently an OAME member?

\_\_\_\_\_ YES                      OAME Number: \_\_\_\_\_

If yes, you may take advantage of the reduced fee.

\_\_\_\_\_ NO                      If no, you may join/renew to take advantage of the reduced rate. Please  
attach separate cheques and complete the attached OAME membership  
form available at:

<http://www.oame.on.ca/main/index1.php?lang=en&code=memjoin>

If joining or renewing OAME membership - please issue a **separate** cheque payable OAME.

Please check **ONE** payment option:

- Non-OAME Members: \$35.00
- OAME Members: \$25.00
- Faculty of Education Students: \$15.00

Please make cheques payable to: Y4MA: Fall Conference 2011

**Please send completed registration forms by October 12<sup>th</sup> via your board courier to:**

**Keith Auyeung, YRDSB, Middlefield S.S.**

**or**

**Diana Vena, YCDSB, St. Elizabeth C.H.S., 525 New Westminster Dr.,  
Thornhill, ON L4J 7X3**

For university/faculty students, please forward your registration to Diana Vena at address above.

**No confirmation of registration will be sent.**