



Maple Conference

October 15-17, 2019 | Waterloo, Ontario, Canada

Agenda

Tuesday, October 15 • Perimeter Institute for Theoretical Physics

6:00 - 7:00pm - Cocktail Reception

7:00 - 8:00pm - Keynote Presentation by Dr. Marvin Weinstein

Your data wants you to ask better questions. Do it!

Wednesday, October 16 • Federation Hall at University of Waterloo

Research Stream

Columbia Room

Education/Application Stream

Westmount Board Room

8:15 - 9:00am - Registration and Café Breakfast

9:05 -
9:45am

**Ball Arithmetic as a Tool in
Computer Algebra** - Fredrik
Johansson

9:05 -
9:45am

**Transforming Maple into an
Intelligent Model-Tracing Math
Tutor** - Dimitrios Sklavakis

9:45 -
10:25am

**Using Maple to Analyse Parallel
Robots** - Damien Chablat, Guillaume
Moroz, Fabrice Rouillier and Philippe
Wenger

9:45 -
10:25am

**Using Leslie Matrices as
Application of Eigenvalues and
Eigenvectors in a First Course in
Linear Algebra** - Michael Monagan

10:25 - 10:40am - Break

10:40 -
11:20am

**Polynomial Factorization in Maple
2019** - Michael Monagan and Baris
Tuncer

10:40 -
11:20am

**The Creation of Animated Graphs
to Develop Computational Thinking
and Support STEM Education** -
Alice Barana, Alberto Conte, Cecilia
Fissore, Francesco Floris, Marina
Marchisio and Matteo Sacchet

11:20 - 12:00pm	Decomposing the Parameter Space of Biological Networks via a Numerical Discriminant Approach - Heather Harrington, Dhagash Mehta, Helen Byrne and Jonathan Hauenstein	11:20 - 12:00pm	Distributive Laws Between the Operads Lie and Com - Murray Bremner and Vladimir Dotsenko
12:00 - 1:00pm - Lunch			
1:00 - 1:40pm	Studying Wythoff and Zometool Constructions using Maple - Benoit Charbonneau and Spencer Whitehead	1:00 - 1:40pm	Use of Maple and Moebius in an Undergraduate Course on Cryptography - Bruce Char and Jeremy Johnson
1:40 - 2:20pm	A Maple Package for the Symbolic Computation of Drazin Inverse Matrices with Multivariate Transcendental Functions Entries - Juana Sendra, Rafael Sendra and Jorge Caravantes	1:40 - 2:20pm	Undergraduate Upper Division Quantum Mechanics: An Experiment in Maple Emersion - Scot A.C. Gould
2:20 - 3:00pm	Detecting Singularities Using the PowerSeries Library - Mahsa Kazemi and Marc Moreno Maza	2:20 - 3:00pm	Classifying Discrete Structures by their Stabilizers - Gilbert Labelle
3:00 - 3:15pm - Break			
3:15 - 3:55pm	Using Maple to Compute the Intersection Curve of Two Quadrics: Improving the Intersectplot Command - Laureano Gonzalez-Vega and Alexandre Trocado	3:15 - 4:15pm	Maplesoft Session: A Maple Exploration of Surface Curvatures - Dr. Robert Lopez
3:55 - 4:35pm	Exact Parametric Solutions for the Intersections of Quadric Surfaces using MAPLE - Samir Hamdi, David Levin and Brian Morse	4:15 - 4:50pm	Maplesoft Session: Hollywood Math - Charlotte Blinston
4:35 - 5:30pm	Maplesoft Session: Multivariate Limit Computations - Jürgen Gerhard	4:50 - 5:30pm	Roundtable Discussion: Why Do You Think Maple Matters to Math Education? – Eithne Murray and Karishma Punwani (moderators)

Main Hall

5:30 - 6:30pm - Short Recess and Cocktail Reception

7:00 - 8:00pm - Banquet Dinner & Keynote Presentation by Dr. Laurent Bernardin, President & CEO, Maplesoft & Samir Khan, Maple Product Manager

“Math Matters”

9:00pm - End of Reception

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8:30 - 9:00am End of Reception

9:05 -
9:45am

PseudoLinearSystems: A Maple Package for Studying Systems of Pseudo-Linear Equation - Moulay Barkatou, Thomas Cluzeau and Ali El Hajj

9:05 -
9:45am

Using Maple to Make Manageable Matrices - Ana Carolina Camargos Couto and David J. Jeffrey

9:45 -
10:25am

The Lie Algebra of Vector Fields Package with Applications to Mappings of Differential Equations - Zahra Mohammadi, Gregory J. Reid and S.-L. Tracy Huang

9:45 -
10:25am

Effective Problem Solving Using SAT Solvers - Curtis Bright, Jürgen Gerhard, Ilias Kotsireas and Vijay Ganesh

10:25 - 10:40am - Break

10:40 -
11:20am

Approximate GCD in Bernstein Basis - Robert M. Corless and Leili Rafee Sevyeri

10:40 -
11:20am

Enhance Faculty Experience and Skills using Maple in the 21st Century Classroom - Lance Gooden

11:20 -
12:00pm

Machine Learning to Improve Cylindrical Algebraic Decomposition in Maple - Matthew England and Dorian Florescu

11:20 -
12:00pm

Maplesoft Session: Introducing the Maple Companion App - Karishma Punwani

12:00 - 1:00pm - Lunch

1:00 - 1:40pm	A Poly-algorithmic Quantifier Elimination Package in Maple - Zak Tonks	1:00 - 1:40pm	How Maple Has Improved Student Understanding in Differential Equations - Doug Meade
1:40 - 2:20pm	LegendreSobolev Package and its Applications in Handwriting Recognition - Parisa Alvandi and Stephen M. Watt	1:40 - 2:20pm	A Heilbronn Type Inequality of Plane Nonagon - Zhenbing Zeng, Jian Lu, Dehbi Lydia, Liangyu Chen and Jianlin Wang
2:20 - 3:00pm	The Z_Polyhedra library in Maple - Rui-Juan Jing and Marc Moreno Maza	2:20 - 3:00pm	The Fermat-Torricelli Problem on Sphere with Euclidean Metric - Xiaofeng Guo, Tuo Leng and Zhenbing Zeng
3:00 - 3:15pm - Break			
3:15 - 3:55pm	On the Effective Computation of Stabilizing Controllers of 2D Systems - Yacine Bouzidi, Thomas Cluzeau, Alban Quadrat and Fabrice Rouillier	3:15 - 3:55pm	Maplesoft Session: Tools for Practice & Assessment - Paul DeMarco, Paulina Chin
3:55 - 4:50pm	Maplesoft Session: Maple Programming: Tips and Tricks - Jürgen Gerhard	3:55 - 4:50pm	Maplesoft Session: Deep Learning in Maple - Stephen Forrest
4:50 - 5:30pm - Meeting of the Maple Ambassador Group			