BRIDGES
WATERLOO 2017
UNIVERSITY OF WATERLOO

Program and Conference Information

July 27-31, 2017
Waterloo, Ontario Canada
Bridges Waterloo 2017
The Bridges Organization oversees the annual Bridges conference on mathematical connections in art, music, architecture, education, and culture. Since 1998, Bridges has traveled to North America, Europe, and Asia, and has attracted participants from over thirty countries. The conference features invited speakers, full and short paper presentations, educational workshops, a juried art exhibition, and arts performance events.

Supporters
University of Waterloo

University of Waterloo
The University of Waterloo is home to the world’s largest co-operative education program and boasts a uniquely entrepreneurial culture that encourages experimentation and risk-taking. The result is an outstanding learning and research experience for more than 36,000 undergraduate and graduate students in Waterloo, Ontario, Canada — the anchor of Canada’s innovation corridor. Waterloo — Canada’s top innovation university — is a research powerhouse and the engine of one of the world’s leading startup ecosystems. Offering world-class scholarship and research, combined with unparalleled experience-based education, Waterloo builds a better future for Canada and the world by championing innovation and collaboration to create solutions relevant to the needs of today and tomorrow.

Faculty of Mathematics
The University of Waterloo is unique in North America as home to a Faculty of Mathematics, made up of five departments – applied mathematics, combinatorics and optimization, pure mathematics, statistics and actuarial science, and the David R. Cheriton School of Computer Science. The Faculty is currently home to 7,588 undergraduate students from 68 countries, 616 master’s and 316 doctoral students, 63 postdoctoral researchers, 240 faculty, and 115 staff members. This vibrant research community investigates questions from theoretical foundations to applications across the full range of mathematical disciplines. Topics include cybersecurity and privacy, quantum information, artificial intelligence, quantitative finance, computer algebra, mathematical biology, data science, general relativity theory, functional analysis, number theory, and more.

Cheriton School of Computer Science
The David R. Cheriton School of Computer Science brings together over 80 faculty members, 40 staff and 2700 students at the undergraduate and graduate levels. The School has its origin in the Department of Applied Analysis and Computer Science, founded in 1967, and has grown to become the largest academic computer science research centre in Canada. Researchers in the School engage in an incredible range of computer science and information systems topics, from artificial intelligence to computer graphics, machine learning to scientific computation. They are leading the scientific community: QS Top University Rankings places Waterloo in the top 25 globally among computer science departments, while US News and World Report ranks Waterloo in the top 20. Approximately one quarter of all university spin-off companies in Canada are from the University of Waterloo and computer science plays a prominent role in many of these.
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Sunday, July 30  

    Poetry reading  
    Family day  
    Film festival  
    Informal music night  

Monday, July 31- Optional excursion  

Reza Sarhangi Fund Art Auction  

General information  

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    Cash machines  

Recommended places to eat  

Maps  

    Mathematics and Computer floor plans  
    Campus Map  
    Davis Centre floor plans
# Schedule

## Wednesday, July 26, 2017

2:00 p.m. - 6:00 p.m.  
*DC atrium*  
**Registration**

## Thursday, July 27, 2017

8:00 a.m. - 5:00 p.m.  
*Fed Hall*  
**Registration**

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<td>Stephen Watt, Dean, Faculty of Mathematics</td>
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<td>9:30 a.m.</td>
<td><strong>Stumbling Into It: You Make Your Best Work When You Don’t Know What You’re Making</strong></td>
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<td>11:00 a.m.</td>
<td><strong>Reza Sarhangi Memorial Lecture</strong></td>
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<td>Fun with Fonts: Mathematical Typography</td>
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<td>Erik Demaine</td>
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<td><em>DC 1302</em>                                    <strong>Making Math Visible</strong></td>
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<td>George Hart and Elisabeth Heathfield</td>
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<td>Let the Numbers Do the Walking: Generating Turtle Dances on the Plane from Integer Sequences</td>
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<td>Adam Colestock</td>
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<td><strong>A Mathematics and Digital Art Course</strong></td>
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<td>Vincent J. Matsko</td>
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Regular Papers Session 2

DC 1304

Dichromatic Dances
Karl Schaffer

Kissing Rings, Bracelets, Roses and Canadian Magnetic Coins: Circle Packing with Ferrite Block Magnets and Magnetic Sheet
Maria Victoria Canullo, Veronika Irvine and Robin Linhope Willson

Magnetic Sphere Constructions
Henry Segerman and Rosa Zwier

Short Papers Session 1
DC 2568

3D Printable Golden Sponges
Donald Plante

Constructing Deltahedra from Recycled Plastic Bottles
Weiling He, Chengde Wu and Ergun Akleman

Triskelion Block Families
Akihiro Matsuura and Hiroshi Shirane

Designing Skeletal Polyhedral Sculptures Inspired by Octet-Truss Systems and Structural Inorganic Chemistry with Bugle Beads
Chia-Chin Tsoo and Bih-Yaw Jin

Surfaces Foliated by Planar Geodesics: A Model for Curved Wood Design
David Brander and Jens Gravesen

Designing Modular Sculpture Systems
Christopher Carlson

Short Papers Session 2
DC 2585

Math Creations - A Math-Art Competition
Bianca Violet, Chiquira Wagner and Ekaterina Eremenko

The English Translation of the 1652 Edition of J-F Niceron’s Perspective Curieuse
James Hunt and Sylvia Hunt

Nebula: Live Dynamic Projection Mapping via Object Saliency
Sara Greenberg, Audrey G. Chung and Alexander Wong

The Sound of Space-Filling Curves
Herman Haverkort

Listening to the Logistic Map
Andrea Capozucca, Marco Fermani and Simone Giorgini

Algorithmic Aesthetics: Redefining Traditional Islamic Art
Carol Bier
Workshops Session 1a  
**MC 5417**

Creating Polyhedra with Snapology  
Faye Goldman

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Workshops Session 1b  
**MC 5479**

How to Use Vector Theory to Write a Story  
Cynthia Clay

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3:30 p.m. - 4:00 p.m.  
**DC atrium**  
Coffee break

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4:00 p.m. - 5:30 p.m.  
Parallel sessions

Regular Papers Session 3  
**DC 1302**

The Golden Ratio: How Close Is Close Enough?  
Lisa Lajeunesse

Zometool Tribute to Fabien Vienne at Bridges Finland 2016  
Samuel Verbiese

Art of Infinity  
Kenneth Brecher

Regular Papers Session 4  
**DC 1304**

Non-Euclidean Virtual Reality  
Vi Hart, Andrea Hawksley, Elisabetta Matsumoto and Henry Segerman

HyperRogue: Playing with Hyperbolic Geometry  
Eryk Kopczyński, Dorota Celińska and Marek Čtrnáct

Regular Papers Session 5  
**DC 2585**

A General Method for Building Topological Models of Polyhedra  
Mircea Draghicescu

Inter-transformability II  
John Hiigli and Stephen Weil

Artwork Inspired by Dual Dodecahedra and Icosahedra  
Stephen Wassell and Mark Reynolds
Short Papers Session 3  
*DC 2568*

**Cartesian Lace Drawings**  
Susan Happersett

**How to Draw a Line**  
Simon Ever-Hale

**Topological Images with Modular Block Print Tiles**  
Felicia Tabing

**Inversive Diversions and Diverse Inversions**  
Gregg Helt

**Symmetric Binary Trees with Branching Ratios Larger than 1**  
Nick Mendler and Vincent J. Matsko

**Ballistic Deposition and Aesthetic Patterns**  
Gary Greenfield

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**Workshops Session 2a**  
*MC 5417*

**Folding the Dragon Curve Fractal**  
Natalija Budinski and Miroslav Novta

Please register for this workshop at the registration desk!  
Maximum number of participants: 30

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**Workshop Session 2b**  
*MC 5479*

**The Aesthetics of Colour in Mathematical Diagramming**  
Eva Knoll, Tara Taylor, Wendy Landry, Paul Carreiro, Katie Puxley and Karyn Harrison

Please register for this workshop at the registration desk!  
Maximum number of participants: 24

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5:30 p.m. - 6:00 p.m.  
**Break**

6:00 p.m. - 9:00 p.m.  
*Fed Hall*

Opening reception and art exhibit opening

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Thursday, July 27
**Friday, July 28, 2017 - CanCon Day**

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<td>Homage to Eva Hild</td>
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<td>Conics from Polygons: The Chord Ratio Construction</td>
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**Friday, July 28, 2017 - CanCon Day**

Motion Exposure: Telling the Story of Movement With Light Painting Photography
Stephen Orlando

Numbers with Personality
Alice Major

Aspects of Symmetry in Bobbin Lace
Veronika Irvine and Frank Ruskey

New Quasiperiodic Architectures: Work in progress from the Living Architecture Systems Group
Philip Beesley

**Friday, July 28**
A Cellular Automaton for Pied-de-poule (Houndstooth)
Loe Feijs and Marina Toeters

A Temari Permutation Sampler
Debra K. Borkovitz

Quilting the Klein Quartic
Elisabetta Matsumoto

Tiling Notation as Design Tool for Textile Knotting
Nithikul Nimkulrat, Janette Matthews and Tuomas Nurmi

The Complexity of Braids, Cables, and Weaves Modeled with Stranded Cellular Automata
Joshua Holden

Triaxial Weaving for Complex Repeat Patterns and Tessellations
Mary Klotz

Transforming Squares to Strips in Expanded Polyhedral Forms
David Reimann

Polyhedra: Eye Candy to Feed the Mind
Stacy Speyer

Introducing the Kasparian Constructions
Raffi J. Kasparian and Alice E. Petillo

Die-Cut Colored Paper Sculptures of the Real and Imaginary Parts of Complex Functions
Caroline Bowen

Applying Helical Triangle Tessellations in Folded Light Art
Jiangmei Wu

Hyparhedra Revisited
Eve Torrence

Playing in the Lux Dimension
Michael Acerra

Thinking Visually: Triangles as Units of Area
Paul Gailiunas
3:30 p.m. - 4:00 p.m.  
*DC atrium*  
Coffee break

4:00 p.m. - 5:30 p.m.  
Parallel sessions

Regular Papers Session 8  
*DC 1302*

**New Kinds of Fractal Patterns**  
Douglas Dunham and John Shier

*Obtaining the H and T Honeycomb from a Cross-Section of the 16-cell Honeycomb*  
Hideki Tsuiki

**Hidden Beauty in Penrose Tiling: Weavings & Lace**  
Douglas Burkholder

Regular Papers Session 9  
*DC 1304*

**An Algorithmic Approach to Obtain Generalized 2D Meander-Patterns**  
Saied Zarrinmehr, Ergun Akleman, Mahmood Ettehad, Negar Kalantar, Alireza Borhani Haghighi and Shinjiro Sueda

**Flowsnake Earth**  
Jacob Rus

**Morphing TSP Art**  
David Swart

Short Papers Session 6  
*DC 2585*

**Using African Designs in Virtual Manipulatives for Geometrical Concept Development**  
Philip Collett and Catherina Steyn

**Visualizing Math Art Activities at the GameLab**  
Sujan Shrestha

**Obtaining Four Main Animation Cycles Using an Extremely Limited Set of Poses**  
Ergun Akleman, Derya Akleman, Ioannis Pavlidis and Pradeep Buddharaju

**3D Printed Tours**  
Robert Bosch

Friday, July 28
Workshops Session 4a  
MC 4060

**Collaboration in Creating The Mathematical Poem**  
Carol Dorf  

Please register for this workshop at the registration desk!  
Maximum number of participants: 40

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Workshops Session 4b  
MC 5417

**From Rabbit Ears to Origami Flowers: Triangle Centers and the Concept of Function**  
Alan Russell

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5:00 p.m. - 8:00 p.m.  
*East Campus Hall*

**UNIVERSITY OF WATERLOO ART GALLERY RECEPTION**  
Passage + Obstacle  
A selection of work by multidisciplinary area artists Patrick Cull, Paul Dignan, Laura De Decker, Soheila Esfahani, and Andrew James Smith.

Sharing a rigorous approach to materials and subject matter, their artwork parallels Bridges stated goal to explore “mathematical connections in art, music, architecture, education and culture”. The exhibition sets out to complement and expand our perception of the subtle and overt links between the use of geometry, pattern and optical effects across mediums ranging from painting and installation to digital media. Using the bridge as a metaphor, the artworks can be appreciated as a means of getting from A to B by overcoming obstructions, perceptual or otherwise.

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8:00 p.m. - 9:30 p.m.  
*Fed Hall*

**BRIDGES THEATRE NIGHT**  
*Structure: An Allegory*  
Peter Taylor and Judy Wearing  

Friday, July 28
Saturday, July 29, 2017

9:30 a.m. - 10:30 a.m.
Fed Hall
What are the foundations of mathematics and art?
Form, logic, or intuition?
Lynn Gamwell

10:30 a.m. - 11:00 a.m.
Coffee break

11:00 a.m. -12:00 p.m.
Fed Hall
ALGORITHMIC TRANSFORMATIONS: from idea in mind to idea in code
Roman Verostko

12:00 p.m. - 2:00 p.m.
Lunch break

2:00 p.m. - 3:30 p.m.
Parallel sessions
Regular Papers Session 10
DC 1302

Tuti Inter-Weaving
Abdalla Ahmed and Oliver Deussen

DNA-inspired Basketmaking: Scaffold-Strand Construction of
Wireframe Sculptures
James Mallos

Interwoven Islamic Geometric Patterns
Craig Kaplan

Regular Papers Session 11
DC 1304

A Peg Solitaire Font
Taishi Oikawa, Kazuaki Yamazaki, Tomoko Taniguchi and Ryuhei Uehara

Fun with Integer Sequences
Kerry Mitchell

Combinatorics in the Art of the Twentieth Century
Lali Barrière

Regular Papers Session 12
DC 2568

Modelling Seashells Shapes and Pigmentation Patterns:
Experiments with 3D Printing
Francesco de Comité

Seeing and Hearing the Eigenvectors of a Fluid
Aaron Jones, Joann Kuchera-Morin and Theodore Kim

Versatile Genius: A Case Study Intersecting Math, Science, Art, and California’s National Parks
Leslie Love Stone and Christopher S. Brownell
Short Papers Session 7  
*DC 2585*

**The Interval Dissonance Rate: An Analytical Look into Chromaticism of Chopin’s Op. 10 No. 2 and Scriabin’s Op. 11 No. 2**  
Nikita Mamedov and Robert Peck

**Non-Octave Guitar and Keyboard Designs for Ervin M. Wilson**  
Reilly Smethurst

**Émilie, an Opera about Love, Death, and Mathematics**  
Liisamaija Hautsalo and Osmo Pekonen

**Shaping Poems – with Visual Forms and Counting**  
Jo Anne Growney

**Great Books, Poetry and Mathematics**  
Emily Grosholz

**The Poetics of a Cyclic Directed Graph**  
Courtney Huse Wika and Daniel May

Workshops Session 5a  
*MC 3003*

**Star Origami**  
Joy Hsiao

Please register for this workshop at the registration desk!  
Maximum number of participants: 30

Workshops Session 5b  
*MC 5417*

**Omnidrive Robot Construction at the Math Class**  
Kristof Fenyvesi, Ákos Vecsei, Diego Lieban, Zsolt Lavicza, Hogul Park and Gábor Vecsei

3:30 p.m. - 4:00 p.m.  
*DC atrium*  
**Coffee break**

4:00 p.m. - 5:30 p.m.  
**Parallel sessions**

Regular Papers Session 13  
*DC 1302*

**Invertible Infinity: A Toroidal Fashion Statement**  
Ellie Baker and Charles Wampler

**A Survey of Symmetry Samplers**  
Susan Goldstine

**Crooked Houses: Visualizing the Polychora with Hyperbolic Patchwork**  
Taneli Luotoniemi

Saturday, July 29
Regular Papers Session 14  
DC 1304

**Natural Color Symmetry**  
Frank A. Farris

A Geometrical Representation and Visualization of Möbius Transformation Groups  
Kento Nakamura and Kazushi Ahara

**The Artful Kaleidoscopes of the Circular and Spherical Bells**  
Carlos Puente

Short Papers Session 8  
DC 2585

**On the Enumeration of Chequered Tilings in Polygons**  
Hiroaki Hamanaka, Takashi Horiyama and Ryuhei Uehara

**The Surprising Versatility of Edge-Matching Tiles**  
Kate Jones

**The Discovery and Application of the Protogon’s Spiral**  
Andrew Smith

Constructing Mini-tools for Tessellations  
Loe Feijs, Jun Hu, Mathias Funk, Mayra Goevaerts, Teun Keusters and Caro Van Kessel

Turing-Like Patterns Revisited: A Peek Into The Third Dimension  
Martin Skrodzki and Konrad Polthier

Artistic Rendering of Curves via Lattice Paths  
Anton Bakker and Tom Verhoeff

Abstracts Session  
DC 2568

Workshops Session 6a  
MC 5417

**The Magic of Anamorphosis in Elementary and Middle School**  
Marina Barreto and Diego Lieban

Please register for this workshop at the registration desk!  
Maximum number of participants: 20

Workshops Session 6b  
DC 1331

**Dancing Rope and Braid Into Being: Whole-body Learning in Creating Mathematical/ Architectural Structures**  
Susan Gerofsky, Eva Knoll and James Forren

Saturday, July 29
FORMAL MUSIC NIGHT
The Dazzled Eye Lost its Speech
A program of music for vocal ensemble spanning seven centuries.

Chosen repertoire explores relationships of music to math through architecture, form, symmetry and process-driven composition. The concert includes Guillaume DuFay’s (1397-1474) motet Nuper rosarum flores, composed for the consecration of the newly completed Florence Cathedral in March 1436. DuFay was among the earliest composers to make an explicit link between music and math by composing this dedicatory motet to have the same mathematical proportions as the biblical Temple of King Solomon.

In addition to DuFay’s proportionally balanced isometric motet, the program includes music by the 15th century French composer, Johannes Ockeghem, Americans William Billings, John Cage, Phillip Glass and David Lang, as well as Baltic composers Rytis Myžulis, Ėriks Ešenvalds and Arvo Pärt and Canadian R. Murray Schafer. Conducted by University of Waterloo/Conrad Grebel University College music professor, Mark Vuorinen, the program features a specially-formed ensemble of choristers and professional soloists.

Brought to you by the Musagetes Fund at the Kitchener and Waterloo Community Foundation

THE MUSAGETES FUND
Can mathematics be playful, can it be fun? Can mathematics be intriguing, attractive, amazing and magical, even for those who did not think it was the most inspiring class at school?

Bridges Family Day is a free public event that offers a range of hands-on activities, workshops, games, exhibitions, and performances that connect mathematics with art. Join us for an afternoon of delight and inspiration. Family day is a free event, open to any and all who wish to join us!

Bridges Family Day is coordinated by Kristóf Fenyvesi, the Bridges Organization’s Director of Community Events, researcher of Contemporary Art & Culture Studies at University of Jyväskylä, Finland.
Playing in the Lux Dimension
Mike Acerra

4DFrame Mechatronics
Hogul Park

Geometry Through Time
Roger Burrows

Mathematics and Origami
Natalija Budinski and Miroslav Novta

Imaginary Cube Puzzle
Hideki Tsuiki

Building with Z-bent Springs
James Mallos

Polyhedra Party
Stacy Speyer

Re-Bot Experience Workshop: Don’t throw it out, create a robot!
Gábor Vecsei

How to Write a Story Using Vector Theory?
Cynthia Clay

Polyhedra on a Shoe String: String and Finger Geometry
Karl Schaffer

Poly-Universe & caraWonga Mandalas
Experience Workshop

Persian Patterned Polyhedra
Eve Torrence

Treasures Inside the Bell
Carlos E. Puente

“X-mas in July”: Kirigami Workshop
Corinna Beuermann-Kulp

Jardin Galerie’s Children and Youth Art Exhibit
John Hiigli and Kristóf Fenyvesi
The Piano Keyboard as You Never Saw it Before
Samuel Verbiese

Coloring Infinity: a study on The Dougherty Set
Buddy James & Theo Dougherty

3D Geometric Art
Mircea Draghicescu

Navigational puzzles in the hyperbolic plane
Dorota Celinska and Eryk Kopczynski

LEGO Broccoli
Sunil Singh

The Playful Side of Mathematical Art
Kate Jones and Alex Streif

(A-)periodic Puzzles
Uli Seidel

Big Zome Construction
Micho Đurđevich, Paul Hildebrandt and Samuel Verbiese

2:00 p.m. - 3:30 p.m. and 4:30 p.m. - 6:00 p.m.

DC 1302

FILM FESTIVAL

The Bridges Short Film Festival was initiated by Reza Sarhangi in 2010, and has since become an integral part of the conference. The festival presents an annual reel of mathematical short films, videos and animations that have been created for educational, corporate and artistic purposes, or just for fun.

This year’s program was juried by Aubin Arroyo, Kim Davidson, Chantal Landry, Jos Leys, Ana Cristina Oliveira, and Bianca Violet (chair). The 16 selected short films represent a variety of styles, from visualizing objects or spaces, mathematical stories and fairytales, art based on mathematical rules, exciting explanations and entertainment, conceptual animations, and more. The full program, with links to all of the films, will appear on the Bridges Organization website.
8:00 p.m. - 11:00 p.m.
Conrad Grebel chapel

INFORMAL MUSIC NIGHT

Do you sing or play an instrument and would like to share a song with us? Do you have a rhythm group exercise or audience participation number you think your Bridges friends would enjoy? Or do you just want to show up and see what kind of fun happens at the unpredictable Bridges informal night?

Each year we gather for an evening during the Bridges conference for the best variety music show in the math world. Some participants are world-class musicians. Some have never performed before but are eager to bang out a tune. Some songs are mathematical, most are not. The point is to have fun, and that’s just what we’ll be doing!

We’ll have a piano and a guitar on hand, and folks often bring their own instruments. We’ll have an informal show for an hour and then those who want to can stay after for an even more informal jam session.

If you’d like to play something for us, just contact Mike Naylor or find him during the first few days of the conference and he’ll put you on the roster. We hope you’ll join us!
The McMichael Canadian Art Collection stands alone as the only publicly funded fine art gallery in the nation that focuses on Canadian art and the Indigenous art of our country, both historical and contemporary. The permanent collection consists of over 6,400 artworks by Tom Thomson, the Group of Seven, their contemporaries, and First Nations, Métis, Inuit and contemporary artists who have contributed to the development of Canadian art.

Built of fieldstone and hand-hewn logs in a modernist design, the McMichael houses thirteen exhibition galleries where floor-to-ceiling windows enable visitors to enjoy views of the densely wooded Humber River Valley. Beyond the galleries are 100 acres of forested land, from a ridgetop ‘wilderness garden,’ planted by the McMichaels to echo the northern forest beloved of the Group of Seven, to the heritage wetlands and waterways.

Rattlesnake Point is one of the scenic stops along the Niagara Escarpment, and a popular spot for camping, hiking, rock climbing. There are easily accessible walking trails to panoramic views of the region.

Niagara Falls

In the afternoon, we will take in the incredible power and beauty of Niagara Falls, one of the world’s most famous tourist attractions.

Schedule

8:30 a.m: Buses leave from University of Waterloo
10:00 a.m: Arrive at McMichael Gallery
12:00 p.m: Depart McMichael Gallery
12:50 p.m: Arrive at Rattlesnake Point
2:00 p.m: Depart Rattlesnake Point
3:00 p.m: Arrive at Niagara Falls
4:00 p.m: Depart Niagara Falls
6:00 p.m: Return to Waterloo (with optional drop-off Uptown Waterloo)
Reza Sarhangi Fund Art Auction
RezaFund.org

Donations will fund Bridges Conference travel scholarships for students, the Reza Sarhangi memorial lecture, and the Reza Sarhangi student scholarship at Towson University

Please go to RezaFund.org to bid on pieces by the artists listed below. Pieces in the Art Exhibition that are in the auction are marked with a small green dot. Bidding will end at exactly 2 pm on July 29. Winning bidders will be notified by email. Winning bidders must pick up artwork during the dismantling of the Art Exhibition on July 30, 4 - 5 pm and are responsible for transporting or shipping artwork home. Payments will be made by credit or debit card through a contribution to the Reza Sarhangi fund online and must be made before picking up artwork. We are not able to accept cash payments.

A Huge Thank You to all our Generous Art Auction Donors!

If you have any questions contact Eve Torrence in person or at etorrenc@rmc.edu
General Information

Travel
The conference is located at the University of Waterloo with events based in Federation Hall, Math and Computing (MC) and the Davis Centre (DC). On campus accommodations are in Ron Eydt Village (REV). See map on page 26.

Airways Transit shuttles (1-800-691-3045) can bring you directly to the Toronto Pearson International Airport (YYZ).

For local travel, Grand River Transit (GRT) buses can bring you almost anywhere within the region for $3.25. They frequently make stops around campus, including right outside of the Davis Centre.

Waterloo Taxi (519-888-7777) is providing a 15% discount on all rides for participants of the Bridges conference.

Internet Access
1. On your device select “uw-wifi-setup-noencryption”
2. When you try to connect to the internet a page will pop up. Select the third option “click here if you are attending an event”
3. Fill out your personal information and the password loo356!#wat
4. You should receive an email confirmation code. Type that code in the field provided.

Shipping & Mailing

FedEx
170 University Ave W
Waterloo, ON N2L 3E9

Canada Post
256 King St N #25067
Waterloo, ON N2J 2Z0

Cash Machines
There is an ATM located in the Davis Centre as well as in the Student Life Centre (SLC).
Recommended Places to Eat

*Lunches and dinners are not provided. Here are some recommended eateries.*

<table>
<thead>
<tr>
<th>Restaurant Name</th>
<th>Description</th>
<th>Address</th>
<th>Discount Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROOF KITCHEN &amp; LOUNGE</strong></td>
<td>An upscale dining experience coupled with a menu that reflects a dedication to using ingredients with a local and world conscious initiative.</td>
<td>110 Erb St W, Waterloo, ON N2L 1T5</td>
<td>Free dessert when you show your Bridges 2017 name tag</td>
</tr>
<tr>
<td><strong>ABE ERB</strong></td>
<td>Brewery, bar &amp; Canadian eatery featuring modern grub, a late-night menu &amp; weekly live music.</td>
<td>15 King St S, Waterloo, ON N2J 1N9</td>
<td>15% off when you show your Bridges 2017 name tag</td>
</tr>
<tr>
<td><strong>SOLÉ</strong></td>
<td>Mediterranean cuisine complimented with an extensive wine list.</td>
<td>83 Erb St W, Waterloo, ON N2L 6C2</td>
<td>10% off when you show your Bridges 2017 name tag</td>
</tr>
<tr>
<td><strong>AUNTY’S KITCHEN</strong></td>
<td>Casual Pakistani fusion cuisine with a kick!</td>
<td>160 University Ave W, Waterloo, ON N2L 3E9</td>
<td>10% off when you show your Bridges 2017 name tag</td>
</tr>
<tr>
<td><strong>MEL’S DINER</strong></td>
<td>Casual diner conveniently located near the University.</td>
<td>140 University Ave W, Waterloo, ON N2L 6J3</td>
<td>10% off when you show your Bridges 2017 name tag</td>
</tr>
<tr>
<td><strong>SEVEN SHORES</strong></td>
<td>A simple and ethical cafe that serves fresh, local food through a healthy menu offered to eat in or take out.</td>
<td>10 Regina St N, Waterloo, ON N2J 2Z7</td>
<td>10% off when you show your Bridges 2017 name tag</td>
</tr>
<tr>
<td><strong>SETTLEMENT &amp; CO. COFFEE</strong></td>
<td>Eatery • meeting place • coffee roaster</td>
<td>23 King St N, Waterloo, ON N2J 2W6</td>
<td>15% off when you show your Bridges 2017 name tag</td>
</tr>
<tr>
<td><strong>ALMADINA EGYPTIAN CUISINE</strong></td>
<td>Fresh baked goods, hand rolled baklava, gourmet shawarma and award winning hummus</td>
<td>150 University Ave W, Waterloo, ON N2L 6J3</td>
<td>10% off when you show your Bridges 2017 name tag</td>
</tr>
<tr>
<td><strong>ALMADINA WOODSTONE OVEN &amp; GRILL</strong></td>
<td>Experience the taste of Gourmet Middle Eastern cuisine inspired by the flavours of Egypt.</td>
<td>330 The Boardwalk #2, Waterloo, ON N2J 3Z4</td>
<td>10% off when you show your Bridges 2017 name tag</td>
</tr>
</tbody>
</table>
Maps
Mathematics and Computer floor plans

MC 3rd floor

MC 5th floor
Maps
Campus map

1. Ron Eydt Village (REV)
2. Mathematics & Computing (MC)
3. Mathematics 3 (M3)
4. Davis Centre (DC)
5. Hagey Hall - Humanities Theatre (HH)
6. Federation Hall (Fed Hall)
7. Conrad Grebel University College
8. East Campus Hall - University of Waterloo Art Gallery (ECH)
Maps
Davis Centre floor plans

DC 1st floor

DC 2nd floor
Notes
Notes