

Renaissance Banff II

BRIDGES BANFF

Mathematics, Music, Art, Architecture, Culture

Banff International Research Station

The Banff Centre

Banff, Alberta, Canada

A COLLABORATIVE EFFORT BY

Banff International Research Station

Bridges: Mathematical Connections in Art, Music, and Science

The Banff Centre

July 26-29, 2009

Excursion Day: July 30

THE CONFERENCE

The Bridges Conferences, running annually since 1998, brings together practicing mathematicians, scientists, artists, educators, musicians, writers, computer scientists, sculptors, dancers, weavers, model builders in a lively atmosphere of exchange and mutual encouragement. Important components of these conferences, in addition to formal presentations, are hands-on workshops, gallery displays of visual art, working sessions with artists who are crossing the mathematics-arts boundaries, and musical/theatrical events in the evening.

THE 2009 EVENTS

In addition to a set of extraordinary speakers and many intellectually stimulating sessions in the connections of mathematics, science, and the arts, the 2009 conference also offers the following events:

Bridges Workshops for Creativity and Learning

As well as the normal lecture-type presentations, the Bridges conference also includes longer workshop sessions. These provide participants with opportunities to engage in some practical activities, which they can go on to use, or develop, as artists, classroom practitioners, or leaders of their own workshops.

Musical Event

There will be a night of music performed by a combination of Bridges conference participants and professionals.

Visual Art Exhibit

The Conference will be complemented by an exhibit of mathematical art. There are opportunities for participants and contributors to show their work in the exhibition (see instructions below).

The Excursion

The excursion starts from the conference site and takes the participants to several scenic places around Banff. The details will be announced later.

THE PLACE

The Banff Centre is internationally recognized as:

- a leader on the local, national and international stages in the development and promotion of creative work in the arts, sciences, business, and the environment
- a catalyst for creative thought, lifelong learning, the development and showcasing of new work, and the advancement of applied research
- a resource for individual and group renewal and transformation, and an enabler of innovation and creativity for participants and staff to question assumptions, explore ideas, embrace change, and exemplify excellence
- a destination of choice for conferences

For almost 75 years, the impact of the inspiring mountain location, the creative atmosphere, the diverse group of participants from many backgrounds and disciplines, and the strong support from Centre staff have combined to make a powerful experience that is intellectually, physically, and emotionally stimulating.

The Banff International Research Station (BIRS) is a joint Canada-US-Mexico initiative that provides an environment for creative interaction and the exchange of ideas, knowledge, and methods within the Mathematical Sciences, and with related sciences and industry. BIRS is located on the site of the world-renowned Banff Centre in Alberta. It has its own building (Corbett Hall) and facilities which allow mathematical scientists a secluded environment, complete with accommodation and board, and the necessary facilities, for uninterrupted research activities in a variety of formats, all in a magnificent mountain setting.

ACCOMMODATION AND FACILITIES

Participants have a choice of staying in the Banff Centre or staying off-campus. There are two types of on-campus accommodations. The availability of accommodation at the Banff Centre is limited.

For On-Campus Accommodation:

High-Quality Accommodations in the Banff Centre for Participants and Family Members: High-quality hotel rooms with superior amenities are available that are reserved specifically for occupancy by the Bridges Conference participants. See the Banff Centre's [accommodations page](#) for more information about the facilities. Then to make reservations, e-mail Reservations@banffcentre.ca or phone 1-800-884-7574, identifying yourself as being with *Renaissance Banff*. The meal package described below is required for participants staying on campus and optional for accompanying families and companions. (<http://www.banffcentre.ca/conferences/accommodation>).

For Off-Campus Accommodation:

Participants are on their own. However Banff has numerous accommodations of all types and most places are within comfortable walking distance of the Banff Centre. There is also the possibility of camping fairly close by at the Tunnel Mountain campsites.

Meals: The Banff Centre has a beautiful dining room with a magnificent panoramic view of the Rockies and extensive deluxe buffet style meals. The Banff Centre can accommodate special dietary requirements provided requests are made in advance. Conference participants staying at the Banff Centre have all meals included as a per night rate from breakfast on July 26th through dinner on July 29th. The families of these participants and also those participants not staying on campus may use the Dining Room and pay out of pocket (on a walk-in basis) or charge the costs to their room. In the town itself there is an extensive collection of restaurants offering international cuisine of many types, varying from simple to luxurious. In addition, there are a couple of small coffee shops on the campus.

For more on BIRS (<http://www.birs.ca>) and the Banff Centre (<http://www.banffcentre.ca>) visit their websites. **Regarding the BIRS website, note that Renaissance Banff is not a regular BIRS workshop and not all information there applies to this conference, although Renaissance Banff will use Corbett Hall and its lounge area.**

CALL FOR PAPERS

The conference will feature presentations of regular, plenary, and short papers, as well as several workshops. The program for the conference is composed from a combination of submitted and invited presentations.

Regular Papers: submissions are due by February 1, 2009 for the reviewing process of the Regular Papers. (4, 6, 8 pages)

Short Papers: submissions are due by March 15, 2009 for the reviewing process of the Short Papers. (2 pages)

Regular and plenary presentations require a regular paper with a maximum length of eight pages; short presentations require a two page short paper. For submitting Workshop papers please visit the workshop page.

Detailed submission information for REGULAR PAPERS (4, 6, or 8 pages) is available [here](#).

Detailed submission information for SHORT PAPERS (2 Pages) is available [here](#).

All papers are to be submitted properly formatted as they would appear in the conference proceedings (see the formatting instructions and template on the Bridges website). Papers that ignore the formatting guidelines or the length limits will not be entered into the reviewing process.

In order to have as diverse a representation of authors as possible and to keep the proceedings to a reasonable size, conference participants can be the main author and presenter on only one paper. The main author on each submitted paper should be identified with an asterisk: “*”. This rule includes all contributions: short and regular papers as well as workshop papers.

The regular presentations will be given a 30 minute time slot; short presentations will be given a 15-minute time slot.

SCHEDULE

The Conference plans to distribute the refereed Proceedings at the conference. Thus, there is a tight and firm schedule:

Deadline for paper submissions for review (Regular Paper): February 1, 2009

Deadline for paper submissions for review (Short Paper): March 15, 2009

Notification of acceptance of Papers: March 25, 2009.

Deadline for submission of final electronic manuscript: April 25, 2009.

All papers must follow the format specified on the Bridges website. You must also complete your registration by this date. Please note that one non-refundable full registration is required for one author of each paper.

Please note that if you plan to use the Banff Centre accommodations, you also need to register for your accommodations by this deadline. Of course, you may still seek accommodations outside of the Banff Centre after this deadline.

The 1998-2008 Bridges Proceedings are available through the online store mathartfun.com

http://mathartfun.com/shopsite_sc/store/html/index.html

WORKSHOPS

The key theme is: **Bridges Workshops: Creativity and Learning**

http://www.education.wichita.edu/alagic/bridges_conference/BTTB.asp

As well as the normal lecture-type presentations, the Bridges conference also includes longer workshop sessions (60 to 75 minutes). These provide participants with opportunities to engage in some practical activities, which they can go on to use, or develop, as artists, classroom practitioners, or leaders of their own workshops.

Submissions can be 2, 4, 6, or 8 pages proposal describing the practical activity, or detailed explanation and/or discussion of content that has not appeared before.

Detailed submission information for WORKSHOP PAPERS (2, 4, 6, or 8 Pages) is available [here](#).

Deadline for Workshop Papers regardless of their number of pages is March 1, 2009.

Notification of acceptance of Workshop Papers: March 25, 2009.

Deadline for submission of final electronic manuscript: April 25, 2009.

The workshop could be organized as a presentation followed by some quite prescriptive, planned practical activity, or by more open-ended explorations of the theme, or it could be organized around worksheets with support from the leader, without the need for a detailed introduction. Other less conventional structures are possible, and one of the objectives of the session might be to model, or develop, such new approaches.

There are no constraints on workshop content provided that it falls within the general aims of Bridges, and demonstrates some link between mathematics and art, but submissions are sought in particular that would be of value to teachers. There could be less emphasis on mathematical or artistic originality if instead there were some innovative teaching approach.

MATHEMATICAL ART EXHIBIT

At the conference, there will be an exhibition room for 2D and 3D mathematical art, ranging from computer graphics to quilts to geometrical sculptures. This art exhibit will be curated by Robert Fathauer. All submitted artwork will undergo a refereeing process. There is a limit of four submissions per artist. Images of accepted artworks will also be published on the conference CD.

The primary intent of the art exhibit is to foster active interaction between exhibiting artists and conference participants. Thus we expect all exhibitors to attend the conference and require them to register once they obtain the notification that their work has been accepted. Work of non-registered participants will not be exhibited and will not appear on the conference CD. Submissions and questions related to the art exhibit should be addressed by e-mail to:

Dr. Robert Fathauer, Tessellations Company, tessellations@cox.net.

If you would like to submit your work, please follow the instructions below. Nonconforming submissions will not be entered into the review process.

Please note that all the artworks should be hand delivered to the exhibit room **by 3:00 PM on July 25, 2009**. The exhibit participants are also responsible for picking up their works at the end of the conference. The artworks will not be insured while on display, so the artist assumes all risk for damage or theft.

The exhibit space will only accommodate a limited number of works, which may necessitate rejecting some good quality pieces. Review criteria include:

- Math content (This is a mathematically sophisticated audience.)
- Esthetic appeal (This is admittedly highly subjective.)
- Medium (A variety of media will make for a more dynamic exhibit.)
- Craftsmanship (The level of skill and effort that goes into making an effective presentation of the idea.)

Due to space constraints, flat works will be limited in size to 24" x 36" (including frame), and 3-D works will be limited to 24" x 24" x 24".

Please note that the works should be presented in a manner that would be appropriate for a mainstream art gallery. This is to be contrasted to a poster session or technical illustration look, which most mathematicians are more accustomed to.

For examples of the sort of works that are appropriate, see the [recent art exhibits from the Bridges Conference and Joint Mathematics Meetings](#).

Images of any submitted artwork and accompanying descriptive data and technical description (see below) **should be submitted between February 15 and March 15, 2009**, to: Robert Fathauer (tessellations@cox.net). **Notification of acceptance will be made via e-mail by April 15, 2009.**

For each piece of artwork (limited to 5 per artist) please submit the following:

An Image of the Work. Images should be e-mailed as JPEG files with a dimension of between 500 and 600 pixels in the larger direction. Color images should be in RGB format. Black and white images should be in grayscale format, not RGB, in order to minimize file size. The file names for the images must conform to the following format – “Lastname1.JPG”. E.g., if John Doe submitted 2 works, the image for his second work would be called Doe2.JPG. Artist Information and Descriptive Text for each Submission:

In the body of your e-mail, please include the following, including the numbers and headings exactly as shown here:

1. Name (e.g., "John Doe")
2. Title of Submission #1.
3. Medium for Submission #1.
4. Dimensions of Submission #1.
5. Year of completion for Submission #1.
6. Description Submission #1, focusing on the math content (100 words maximum)
7. Title of Submission #2 (if applicable)
8. Medium for Submission #2 (if applicable)
9. Dimensions of Submission #2 (if applicable)
10. Year of completion for Submission #2 (if applicable)
11. Description of Submission #2, focusing on the math content (if applicable; 100 words maximum)
12. Title of Submission #3 (if applicable)
13. Medium for Submission #3 (if applicable)
14. Dimensions of Submission #3 (if applicable)
15. Year of completion for Submission #3 (if applicable)
16. Description of Submission #3, focusing on the math content (if applicable; 100 words maximum)
17. Title of Submission #4 (if applicable)
18. Medium for Submission #4 (if applicable)
19. Dimensions of Submission #4 (if applicable)
20. Year of completion for Submission #4 (if applicable)
21. Description of Submission #4, focusing on the math content (if applicable; 100 words maximum)
22. Name again, followed by a description of your position/job/etc. (e.g. "Freelance artist", "Associate Professor of Mathematics")
23. Institution or affiliation (e.g. "None", "Physics Department, University of Arizona")
24. Where you live or work (city and state or country)

25. Statement about your art (150 words maximum; can include the techniques you use, why you create mathematical art, what you're trying to express with your work)
26. e-mail address if you would like it to appear on your page in the exhibition website
27. Your website url if you would like it to appear on your page in the exhibition website

CONFERENCE REGISTRATION

There is a registration fee of US \$180 that includes a copy of the Proceedings. Extra proceedings will be available during the conference with a price of US \$50.

There is a special discounted rate (US \$130) for students, artists whose expenses are not otherwise supported, and K-12 teachers. Please visit the Registration page at the conference website.

IMPORTANT NOTE ABOUT VISAS

Visitors from outside of Canada should make themselves aware of the visa requirements for entering Canada. US citizens do not need a visa. Please note that if you need a visa to enter Canada you should register and pay by **April 25, 2009** before receiving any conference invitation letter. Please note that this registration fee is nonrefundable.

CONFERENCE ORGANIZING COMMITTEE

SCIENTIFIC ORGANIZERS

Nassif Ghoussoub, Scientific Director, Banff International Research Station, University of British Columbia, Canada

Mary E. Hofstetter, President and Chief Executive Officer, the Banff Centre, Alberta, Canada

Craig Kaplan, David R. Cheriton School of Computer Science, University of Waterloo, Canada

Reza Sarhangi, Department of Mathematics, Towson University, Maryland, USA

LOCAL ORGANIZERS

Kerry Stauffer, Director, Creative Electronic Environment, The Banff Centre, Canada
(Kerry_Stauffer@banffcentre.ca)

Brenda Williams, Station Manager, Banff International Research Station, Canada
(birsmgr@birs.ca)

ADVISORY BOARD

George W. Hart, Stony Brook University, Stony Brook, NY, USA

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BRIDGES WORKSHOPS FOR CREATIVITY AND LEARNING

Mara Alagic, Department of Curriculum and Instruction, Wichita State University,
Wichita, Kansas, USA

Paul Gailiunas, Newcastle, England

BRIDGES VISUAL ART EXHIBIT

Robert W. Fathauer, Curator, Tessellations Company, Phoenix, Arizona, USA

Ann Burns, Juror, Web and CD Designer, Department of Mathematics, Long Island
University, New York, USA

Nat Friedman, Juror, Department of Mathematics and Statistics, University At Albany,
New York, Albany, USA

CONFERENCE REGISTRATION

Robert W. Fathauer, Tessellations Company, Phoenix, Arizona, USA,
(tessellations@cox.net)

CONFERENCE WEB SITE

George W. Hart, Department of Computer Science, Stony Brook University, New York,
USA

ELECTRONIC CORRESPONDENCE

Craig Kaplan, David R. Cheriton School of Computer Science, University of Waterloo,
Canada

OTHER INQUIRIES

If you want to add your e-mail address to the conference mailing list visit the conference
website: <http://www.bridgesmathart.org>

For any other information not available on the web page, please contact:

Professor Reza Sarhangi, Department of Mathematics, Towson University, 8000 York
Road, Towson, MD 21252, (410) 704-4922, E-mail: rsarhangi@towson.edu