

ABRIDGED BRIDGES BALTIMORE CONFERENCE PROGRAM

REGISTRATION: July 28, 2015, 4pm – 6pm and July 29, 2015, 8:00am – 9:30am

Wednesday July 29, 2015

UB	Moot Court	Morning 9:30am – 12:00pm	SESSION 1 (Plenary)	Chair: Kelly Delp
9:30	Bridges Baltimore 2015 Organizing Committee Welcoming Remarks (No registration now)			
10:00	The Arts of the Hidden <i>Alan Kay</i>			
11:00	Highly Unlikely Triangles and Other Impossible Figures in Bead Weaving <i>Gwen Fisher</i>			
2015 Art Exhibition Opening & Reception		12:00pm – 12:30pm	Outside Moot Court Lobby	
UB	Room 1	Midday 2:00pm – 3:30pm	SESSION 2 (Regular)	Chair: Tom Verhoeff
2:00	Symmetric yet organic: Fourier Series as an Artist's Tool <i>Frank Farris</i>			
2:30	Figurative Tours and Braids <i>Robert Bosch and Tom Wexler</i>			
3:00	Three Families of Mitered Borromean Ring Sculptures <i>Tom Verhoeff and Koos Verhoeff</i>			
UB	Room 2	Midday 2:00pm – 3:30pm	SESSION 3 (Regular)	Chair: Donald Spector
2:00	Designing 2D ODEs To Obtain Abstract Paintings, Illustrations... <i>E. Akleman & H. Kocak</i>			
2:30	A View of Music <i>Ellen Gethner, Shannon Steinmetz and Joseph Verbeke</i>			
3:00	The Musical Canon Inside Differential Equations <i>Donald Spector</i>			
UB	Room 3	Midday 2:00pm – 3:30pm	SESSION 4 (Short)	Chair: Kenneth Brecher
2:00	Gallery Layout in Borges' Library of Babel <i>Jonathan Millen</i>			
2:15	Theory of Intersection <i>Karl Kattchee</i>			
2:30	Schematic Drawings of the Polychora <i>Taneli Luotoniemi</i>			
2:45	Perspectives on Borges' Library of Babel <i>Cj Fearnley and Jeannie Moberly</i>			
3:00	Design Anamorphosis in the Math Class! <i>Kristóf Fenyvesi and Markus Hähkiöniemi</i>			
3:15	The "ΦTOP": A Golden Ellipsoid <i>Kenneth Brecher</i>			
UB	Room 4 – 5	Midday 2:00pm – 3:30pm	SESSION 5 (Workshop)	
R4	Mathematics Through the Lens of a Kaleidoscope... <i>G. Kaplan, R. Gross and K. McComas</i>			
R5	Math-Infused Art Lessons, Art-Infused Math Lessons <i>Rachelle Guernsey</i>			
Coffee Break		3:30pm – 4:00pm		
UB	Room 1	Afternoon 4:00pm – 5:30pm	SESSION 6 (Regular)	Chair: James Mallos
4:00	Great circles: the analysis of a concept in mathematics and poetry <i>Emily Grosholz</i>			
4:30	3D-Dithered Ortho-Pictures: 3D Models from Independent 2D Images <i>Gershon Elber</i>			
5:00	Knotology Baskets and Topological Maps <i>James Mallos</i>			
UB	Room 2	Afternoon 4:00pm – 5:30pm	SESSION 7 (Regular)	Chair: Stanley Spencer
4:00	Magnetic Circle Packing in Creative Outreach and Refreshment <i>Robin Linhope Willson</i>			
4:30	Integrating Origami Art Mathematics in a College General Studies Course <i>Norma Boakes</i>			
5:00	The Stomachion in Wonderland <i>Stanley Spencer</i>			
UB	Room 3	Afternoon 4:00pm – 5:30pm	SESSION 8 (Short)	Chair: Susan Mcburney
4:00	Flowing, Organic Forms Using Adaptive Line-Drawing <i>David Chappell</i>			
4:15	Building Polyhedra from Polygons with Colored Edges <i>M. Draghicescu & A. Browne</i>			
4:30	A Pattern Tracing System for Generating Paper Sliceform Artwork <i>Y. Lu & E. Demaine</i>			
4:45	Geometric Visual Instruments Having Pinnate Forms <i>S. Akimoto & A. Matsuura</i>			
5:00	Chains of Antiprisms <i>Tom Verhoeff and Melle Stoel</i>			
5:15	From Mathematical Curves to Decorative Ornaments <i>Susan McBurney</i>			
UB	Room 4 – 5	Afternoon 4:00pm – 5:30pm	SESSION 9 (Workshop)	
R4	Composing Mathematical Poetry <i>Carol Dorf</i>			
R5	Thinking like a Pianist/Mathematician/Potter-Designer: Strategies for Tuning Ocarinas <i>Paley</i>			
Reception		6:00pm – 7:00pm		
Bridges Public Event		7:00pm	The Mathematics of Being Human	Wright Theater

Thursday July 30, 2015

UB Room 1 Morning 9:30am – 11:00am SESSION 10 (Regular) Chair: Paul Gailiunas			
9:30	The Curious Creativity of John Horton Conway <i>Siobhan Roberts</i>		
10:00	The Golden Spiral... Misunderstanding <i>P.Gailiunas</i>	10:30	A Divine Error <i>D.Huylebrouck</i>
UB Room 2 Morning 9:30am – 11:00am SESSION 11 (Regular) Chair: Emily Grosholz			
9:30	Can Human Assistance Improve a Computational Poet? <i>C.Lamb, D.Brown, C.Clarke</i>		
10:00	Poetry from Finite Projective Planes <i>Daniel May and Courtney Huse Wika</i>		
10:30	Julia Randall's Poetic Finitude: Mapping the Infinite onto a Poem <i>Emily Grosholz</i>		
UB Room 3 Morning 9:30am – 11:00am SESSION 12 (Short) Chair: Patrick Honner			
9:30	Turing Patterns in Photoshop <i>A. Werth</i>	10:15	... Image Patches <i>Y.Matviychuk, S. Hughes</i>
9:45	Emergent Orange <i>Jim Bumgardner</i>		10:30 Into the Shadows... <i>K. Delp, S. Lloyd</i>
10:00	...Animations in Conway's GoL <i>R.Bosch</i>	10:45	Monte Carlo Art in Scratch <i>Patrick Honner</i>
UB Room 4 – 5 Morning 9:30am – 11:00am SESSION 13 (Workshop)			
R4	The Aesthetics of Scale: Weaving Mathematical... <i>Knoll, Landry, Taylor, Carreiro, Gerofsky</i>		
R5	Lissajus Curves: an Experiment in Creative Coding <i>Lali Barrière</i>		
Coffee Break 11:00am – 11:30am			
UB Moot Court Morning 11:30am – 12:30pm SESSION 14 (Plenary) Chair: Carlo H. Séquin			
11:30	The Symmetries of Things <i>John H. Conway</i>		
Lunch Break 12:30pm – 2:00pm			
UB Room 1 Midday 2:00pm – 3:30pm SESSION 15 (Regular) Chair: James Mai			
2:00	Math Bugs <i>Mike Naylor</i>	2:30	Fun with Whirls <i>Kerry Mitchell</i>
3:00	Permutations of the Octagon: An Aesthetic-Mathematical Dialectic <i>James Mai</i>		
UB Room 2 Midday 2:00pm – 3:30pm SESSION 16 (Regular) Chair: Ergun Akleman			
2:00	"In an Ocean of Ashes": Order and Chaos in Math and Literature <i>Katharine Ahrens</i>		
2:30	Ordinal-Contextual Dissimilarity for Analysis... <i>B. Afsari, K. Mazdapour, B. Jedynek</i>		
3:00	A Theoretical Framework to Represent Narrative Structures... <i>Akleman et al.</i>		
UB Room 3 Midday 2:00pm – 3:30pm SESSION 17 (Short) Chair: Rachel Hall			
2:00	... Möbius-Twisted...Knot <i>Séquin, Larrucea</i>	2:45	Infinite Rhythmic Tiling... <i>C. Callender</i>
2:15	Hypernom <i>Hart, Hawksley, Segerman, Bosch</i>	3:00	A Musical Scale Generated... <i>R. Bain</i>
2:30	... Hyperbolic Disks <i>Liu, Kim, Shiau, Séquin</i>	3:15	Programmable Mathe-Musical <i>R. Hall</i>
UB Room 4 – 5 Midday 2:00pm – 3:30pm SESSION 18 (Workshop)			
R4	Square Seeds... <i>D. Thompson & D. Cheng</i>	R5	Hearing Math & Seeing Music... <i>E. Lamb</i>
UB Room 6 Midday 2:00pm – 3:30pm OPEN SESSION Chair: JoAnne Growney			
R6	An Open Session in Poetry <i>An informal gathering for poets to read & discuss</i>		
Coffee Break 3:30 – 4:00			
UB Room 1 Afternoon 4:00pm – 5:30pm SESSION 19 (Regular) Chair: Darrah Chavey			
4:00	Curved Islamic Star Patterns of Medieval Egypt and Syria <i>B Lynn Bodner</i>		
4:30	The Geometric Studies of Some Mosaic Design Compositions... <i>Reza Sarhangi</i>		
5:00	Double Strip Patterns... <i>Darrah Chavey, Monica Meissen, Todd O'Bryan & Glenn Terry</i>		
UB Room 2 Afternoon 4:00pm – 5:30pm SESSION 20 (Regular) Chair: Karl Schaffer			
4:00	Nonplanar Expansions of Polyhedral Edges in Platonic & Archimedean <i>David Reimann</i>		
4:30	The Platonic Solids: a Three-Dimensional Textbook <i>Martin Levin</i>		
5:00	A Skeleton Key for the Platonic Solids <i>Karl Schaffer</i>		
UB Room 3 Afternoon 4:00pm – 5:30pm SESSION 21 (Short) Chair: Kazmier Maslanka			
4:00	The Shapes of Our Souls... <i>Marion Cohen</i>	4:45	... Scribal Variation... <i>Roger Bilisoly</i>
4:15	... Rhyme Patterns in Sonnet <i>Hartmut Höft</i>	5:00	Linguistic Oddities... <i>Katie McCallum</i>
4:30	Inspire Math-Girls-Women <i>J. Growney</i>	5:15	The Paradigm Poem <i>Kazmier Maslanka</i>
UB Room 4 – 5 Afternoon 4:00pm – 5:30pm SESSION 22 (Workshop)			
R4	Exploring Ratios and Sequences with Mathematically Layered Beverages <i>Andrea Hawksley</i>		
R5	The Shape Snacker: a Bite of Origami and Math <i>Alan Russell</i>		

Friday July 31, 2015 (Family Day, Chair: Kristóf Fenyvesi, http://www.familyday.hu/)			
UB Room 1 Morning 9:30am – 11:00am SESSION 23 (Regular) Chair: Douglas Dunham			
9:30	Real-World Tessellations <i>Robert Fathauer</i>	10:00	Soccer Ball Symmetry <i>David Swart</i>
10:30	Fractal Wallpaper Patterns <i>Douglas Dunham and John Shier</i>		
UB Room 2 Morning 9:30am – 11:00am SESSION 24 (Regular) Chair: Briony Thomas			
9:30	Folding Pseudo-Stars that are Cyclicly Hinged <i>Greg Frederickson</i>		
10:00	Yvon-Villarceau Circles Equivalents on Dupin Cyclides <i>Francesco De Comite</i>		
10:30	Nested Polytopes with Non-crystallographic... <i>B.Thomas, R.Twarock, M. Valiunas, E. Zappa</i>		
UB Room 3 Morning 9:30am – 11:00am SESSION 25 (Short) Chair: Samuel Verbiese			
9:30	Fractal Tiling Illustrations of Geometric Series <i>Lorelei Koss</i>		
9:45	A Concept Map for Book 1 of Euclid's Elements <i>Alexander Boxer and Justace Clutter</i>		
10:00	Graph Theoretic Descriptions of Psalm Literary Structure <i>Russell Jay Hendel</i>		
10:15	A Successful Belgian Art & Math Exhibition with Workshops <i>G. De Meur and S. Verbiese</i>		
10:30	Geometry in the Pocket <i>Mehrdad Garousi</i>		
10:45	Bridges Exhibits as Incentives to Collaborative Artworks <i>Bayens et al.</i>		
UB Room 4 – 5 Morning 9:30am – 11:00am SESSION 26 (Workshop)			
R4	A Workshop Using the Log Cabin Quilt for Teaching Math Concepts... <i>Cristina Packard</i>		
R5	Use of RangoLee Art in Elementary Mathematics Education <i>Madhuri Bapat</i>		
Coffee Break 11:00am – 11:30am			
UB Moot Court Morning 11:30am – 12:30pm SESSION 27 (Plenary) Chair: Carlo H. Séquin			
11:30	Math Helping Art Conservation <i>Ingrid Daubechies</i>		
Coffee and Lunch Break 12:30pm – 2:00pm			
UB Room 3 Midday 2:00pm – 3:30pm SESSION 28 (Short) Chair: Adam Arstall			
2:00	An Exhibition of Exponential Sums: Visualizing Supercharacters <i>Burkhardt et al.</i>		
2:15	Surfaces with Natural Ridges <i>David Brander and Steen Markvorsen</i>		
2:30	A New Way to See Inside Black Holes <i>Richard Henry, James Overduin and Kielan Wilcomb</i>		
2:45	Katzengold: Pyrite, Plato, and a Polynomial <i>Stephan Klaus and Bianca Violet</i>		
3:00	Cayley Cubic and the Visual Arts <i>Jean Constant</i>		
3:15	Expandohedra: Modeling Structural Transitions... <i>A.Arstall, B.Thomas, R.Twarock, E.Zappa</i>		
UB Room 4 – 7 Midday 2:00pm – 3:15pm SESSION 29 (Family Day Workshop)			
R4	Elevations–Stellations <i>Roelofs, Yu, Roelofs</i>	R6	Block Workshop <i>John Hiigli</i>
R5	Riddles and Jokes <i>Marion Deutsche Cohen</i>	R7	... WOW Calendar <i>Doug and Aynn Titchenal</i>
Coffee Break 3:30pm – 4:00pm			
UB Room 4 – 7 Afternoon 3:15pm – 4:30pm SESSION 30 (Family Day Workshop)			
R4	Spherical models... <i>Joseph Clinton</i>	R6	Make Your Own MP3... <i>Vurkaç (need laptop)</i>
R5	...Geometric Art...ITSPHUN <i>M.Draghicescu</i>	R7	String Art in Math Ed. <i>Radojevic, Jakovljevic</i>
UB Room 4 – 6 Late Afternoon 4:30pm – 5:45pm SESSION 31 (Family Day Workshop)			
R4	Experience Workshop Introduces 4Dframe, Jomili and Saxon's Polyuniverse <i>Kristóf Fenyvesi</i>		
R5	...Geometric Art...ITSPHUN <i>Draghicescu</i>	R6	Imaginary Math <i>Constant & Violet (need laptop)</i>
Moot Hall Afternoon 2:00pm – 7:00pm Family Day Shows			
2:00 / 5:30	Robert Bosch <i>Bridges 2015 Short Movie Festival</i>		
3:30	Sarah Glaz <i>An Afternoon of Mathematical Poetry</i>		
The Wright Theater Afternoon 2:00pm – 9:00pm Family Day Shows			
2:00 / 5:30	Karl Schaffer, Saki, and Laurel Shastri <i>Math and Dance</i>		
2:30 / 6:00	Tim and Tanya Chartier <i>Mime-Matics</i>		
3:30	Steve Abbott <i>Mathematical Theater</i>		
7:00	Vi Hart <i>Music Night</i>		

Saturday August 1, 2015

UB Room 1 Morning 9:30am – 11:00am SESSION 32 (Regular) Chair: Christopher Carlson

9:30	Self-Avoiding Random Walks Yielding Labyrinths <i>Gary Greenfield</i>
10:00	A Novel Line Fractal Pied de Poule (Houndstooth) <i>Loe Feijs and Marina Toeters</i>
10:30	Algorithmic Quilting <i>Christopher Carlson, Nina Paley, and Theodore Gray</i>

UB Room 2 Morning 9:30am – 11:00am SESSION 33 (Regular, JMA) Chair: Craig S. Kaplan

9:30	Can zombies write mathematical poetry? ... <i>Gizem Karaali</i>
10:00	Barbers and big ideas: paradox in math and poetry <i>Alice Major</i>

UB Room 3 Morning 9:30am – 11:00am SESSION 34 (Short) Chair: Douglas G Burkholder

9:30	3D Lenticular Imaging for Art <i>Yitzhak Weissman</i>
9:45	Nature as a Strategy for Pattern Formation in Art <i>Irene Rousseau</i>
10:00	Eight-Pointed Star and Precise Construction of 7x7 Square Grid <i>Dmitri Kozlov</i>
10:15	Algorithms for Morphing Escher-Like Tessellations <i>Kevin Lee</i>
10:30	Random Walks on Vertices of Archimedean Tilings <i>Vincent J. Matsko</i>
10:45	Unexpected Beauty Hidden in Radin-Conway's Pinwheel Tiling <i>Douglas G Burkholder</i>

UB Room 4 – 5 Morning 9:30am – 11:00am SESSION 35 (Workshop)

R4	Unit Origami: Star-Building on Deltahedra <i>Heidi Burgiel</i>
R5	Connecting with the Sierpinski Tetrahedron <i>Alice Petillo</i>

Coffee Break 11:00am – 11:30am

UB Moot Court Morning 11:30am – 12:30pm SESSION 36 (Plenary) Chair: Kelly Delp

11:30	Modular Origami Halftoning: Theme and Variations <i>Z. Xiao, R. Bosch, C. Kaplan, R. Lang</i>
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Lunch Break 12:30pm – 2:00pm

UB Moot Court Midday 2:00pm – 4:00pm SESSION 37 (Regular) Chair: Carlo H. Séquin

2:00	The Concept of Elevation applied to Flat Tiling Patterns <i>Rinus Roelofs</i>
2:35	Laser-Cut Plywood and Cable-Tie Sculpture <i>George Hart</i>
3:10	2-Manifold Sculptures <i>Carlo H. Séquin</i>
3:45	Bridges Finland 2016 <i>Osmo Pekonen and Kristóf Fenyvesi</i>

Coffee Break 4:00pm – 4:30pm