

ABRIDGED BRIDGES FINLAND 2016 CONFERENCE PROGRAM

August 9-13, 2016, University of Jyväskylä, Finland (see last page for event locations)

JYU REGISTRATION: August 8, 2016, 10am – 6pm and August 9, 2016, 8:00am – 9:30am	
Tuesday August 9, 2016	
JYU Aud 1 9:30am – 10:20am Welcome Remarks and the Reza Sarhangi Memorial	
Break 10:20am – 10:30am	
JYU Aud 1 Morning 10:30am – 12:30pm SESSION 1 (Plenary) Chair: Eve Torrence	
10:30	The Subtlety of Influence: Math, Art, and Black Mountain College <i>Marjorie Wikler Senechal</i>
11:30	Squares that Look Round: Transforming Spherical Images <i>S. Schleimer & H. Segerman</i>
2016 Art Exhibition Opening & Lunch Break 12:30pm – 1pm, 1pm – 2:30pm <i>Lea Pulkkinen Hall</i>	
JYU Room 2 Midday 2:30pm – 4:00pm SESSION 2 (Regular) Chair: Carlo H. Séquin	
2:30	The Elevation of Coxeter's Infinite Regular Polyhedron 444444 <i>Rinus Roelofs</i>
3:00	Hypocycloid Juggling Patterns <i>Craig S. Kaplan</i>
3:30	From Klein Bottles to Modular Super-Bottles <i>Carlo H. Séquin</i>
JYU Room 3 Midday 2:30pm – 4:00pm SESSION 3 (Regular) Chair: Donald Spector	
2:30	Geometric Circles in Aleksis Kivi's Texts <i>Tiina Katriina Kukkonen</i>
3:00	The Rhythm of a Pattern <i>Sama Mara</i>
3:30	Colors and Incomputability <i>Donald Spector</i>
JYU Room 4 Midday 2:30pm – 4:00pm SESSION 4 (Short) Chair: Kenneth Brecher	
2:30	Possibilities of the Parabola <i>Robyn Gibson and Melissa Silk</i>
2:45	A Fast Algorithm for Creating Turing-McCabe Patterns <i>Markus Schwehm</i>
3:00	3D Score: Seeing Music, Hearing Sculpture <i>Miika Karttunen & Atte Tenkanen</i>
3:15	The "Dual Nature" of the Point <i>János Szász Saxon</i>
3:30	Mathematics Meets Cinema: La Figure de la Terre <i>Osmo Pekonen and Axel Straschnoy</i>
3:45	Polyhedral Tableaux <i>Kenneth Brecher</i>
JYU Room 5/6 Midday 2:30pm – 4:00pm SESSION 5 (Workshop)	
R5	Mathematics Through the Matrix of Poetry <i>Tom Petsinis</i>
R6	Elliptic Paraboloids in Circumpolar Vernacular Architecture <i>Nancy Mackin</i>
Coffee Break 4:00pm – 4:30pm	
JYU Room 2 Afternoon 4:30pm – 6:00pm SESSION 6 (Regular) Chair: Tom Verhoeff	
4:30	A Graph-Theoretic Approach to the Analysis of Contra Dances <i>M. Thomas & C. Peebles</i>
5:00	Planes & Frames: Spatial Layering in Josef Albers' Homage to Square Paintings <i>J. Mai</i>
5:30	Three Mathematical Sculptures for the Mathematikon <i>Tom Verhoeff and Koos Verhoeff</i>
JYU Room 3 Afternoon 4:30pm – 6:00pm SESSION 7 (Regular) Chair: Gary R. Greenfield	
4:00	Tuti Weaving <i>Abdalla G. M. Ahmed and Oliver Deussen</i>
4:30	Modeling Braids, Cables & Weaves with Stranded Cellular Automata <i>Joshua & Lana Holden</i>
5:00	Turing-like Patterns from Cellular Automata <i>Gary R. Greenfield</i>
JYU Room 4 Afternoon 4:30pm – 6:00pm SESSION 8 (Short) Chair: Nikita Mamedov	
4:30	Teaching... Basic Group Theory Through... Polyhedra <i>S. Archava, L. Goel and E. Traister</i>
4:45	Molecular Modeling... with Mathematical Beading <i>Chia-Chin Tsou and Bih-Yaw Jin</i>
5:00	A Zometool Model of the B-DNA <i>László Vörös</i>
5:15	Phylogenetic Analysis of the Ancient Greek Paeonic Rhythms <i>Godfried T. Toussaint</i>
5:30	A Musical Polyhedron Updated for the 21st Century <i>Cathleen O'Neil</i>
5:45	Prelude Op. 11, No. 1 by A. Scriabin: ICVSIM Relations <i>Nikita Mamedov and Robert Peck</i>
JYU CLab1/Room 5 Afternoon 4:30pm – 6:00pm SESSION 9 (Workshop)	
C1	Exploring the Arts Online with the Wolfram Language <i>Christopher Carlson</i>
R5	Rhombic Triacanthedron Puzzle <i>George Hart and Elisabeth Heathfield</i>
Welcome Reception 7:00pm – 8:30pm	

Wednesday August 10, 2016

JYU Room 2 Morning 9:30am – 11:00am SESSION 10 (Regular) Chair: Douglas M. McKenna			
9:30	Hex Rosa <i>Markus Rissanen</i>	10:00	... Wang Tiles in... Non-Periodic Patterns <i>Tuomas Nurmi</i>
10:30	Tendrils Motifs for Space-Filling, Half-Domino Curves <i>Douglas M. McKenna</i>		
JYU Room 3 Morning 9:30am – 11:00am SESSION 11 (Regular) Chair: Jay Zimmerman			
9:30	The Conformal Hyperbolic Square and Its ilk <i>Chamberlain Fong</i>		
10:00	Almada Negreiros and the Geometric Canon <i>Simão Palmeirim Costa and Pedro J. Freitas</i>		
10:30	Portraits of Groups on Bordered Surfaces <i>Jay Zimmerman</i>		
JYU Room 4 Morning 9:30am – 11:00am SESSION 12 (Short) Chair: Samuel Verbiese			
9:30	Scales/Temperament... <i>Bleiler & Kummel</i>	10:15	Pentagonal & Choose-4... <i>James Morrow</i>
9:45	Constructing Meaning... <i>Tang & Tollefson</i>		
10:00	Two Non-Octave Tunings... <i>R. Smethurst</i>	10:45	... Collaborative Works II <i>Bayens et al.</i>
JYU Room 5/CLab1 Morning 9:30am – 11:00am SESSION 13 (Workshop)			
R5	Origami... Platonic Solids <i>N. Budinski</i>	C1	... Figure Skating <i>Berezovski, Cheng & Damiano</i>
Coffee Break 11:00am – 11:30am			
JYU Aud 1 Morning 11:30am – 12:30pm SESSION 14 (Plenary) Chair: Bruce Torrence			
11:30	Immersion in Mathematics <i>Judy Holdener</i>		
Coffee and Lunch Break 12:30pm – 2:30pm JMA Board Meeting			
JYU Room 2 Midday 2:30pm – 4:00pm SESSION 15 (Regular) Chair: Craig Kaplan			
2:30	Size & Shape of Utopia <i>A. Simoson</i>	3:30	Combinatorial Poppies <i>Kattchee & Kaplan</i>
3:00	Geometry and Aesthetics of Pentagonal Structures in the Art of Gerard Caris <i>C. Leopold</i>		
JYU Room 3 Midday 2:30pm – 4:00pm SESSION 16 (Regular) Chair: Dan G. Brown			
2:30	A Math. Approach to Obtain Isoperimetric Shapes for D-Form Construction <i>Orduño et al.</i>		
3:00	A Taxonomy of Generative Poetry Techniques <i>Caryolyn Lamb, Dan Brown & Charlie Clarke</i>		
JYU Room 4 Midday 2:30pm – 4:00pm SESSION 17 (Short) Chair: Sharol Nau			
2:30	The Fourth Dimension... <i>Jean Constant</i>	3:00	Blogging Math Art <i>Susan Happersett</i>
2:45	Golden Ratio & Diagonal... <i>Gabriele Gelatti</i>	3:15	Successful Art/Math... <i>DeMeur & Verbiese</i>
3:30	The Math and Art of Folded Books <i>Sharol & Richard Nau</i>		
JYU CLab1/Room 5 Midday 2:30pm – 4:00pm SESSION 18 (Workshop)			
C1	Legerdemain: Exploring Tessellation... <i>D. Easterly</i>	R5	(Pattern) ² <i>L. Shreeve & M. Silk</i>
Coffee Break 4:00 – 4:30			
JYU Room 2 Afternoon 4:30pm – 6:00pm SESSION 19 (Regular) Chair: Ron Asherov			
4:30	Another Look at Pentagonal Persian Patterns <i>Jean-Marc Castera</i>		
5:00	... The Making of Seljuk Patterns on Curved Surfaces <i>Begüm Hamzaoğlu and Mine Özkar</i>		
5:30	Underlying Tiles in a 15th Century Mamluk Pattern <i>Ron Asherov</i>		
JYU Room 3 Afternoon 4:30pm – 6:00pm SESSION 20 (Regular) Chair: S. J. Spencer			
4:30	... Digital Making <i>Burnard et al.</i>	5:00	... Generative Visual Worlds <i>Barrière & Carreras</i>
5:30	Not only Art but also Rocket Science <i>S. J. Spencer</i>		
JYU Room 4 Afternoon 4:30pm – 6:00pm SESSION 21 (Short) Chair: David A. Reimann			
4:30	... Poly-Universe <i>E. Stettner & G. Emese</i>	5:15	... Icosahedral Scale <i>Curtis Palmer</i>
4:45	...Coxeter Orbihedra <i>Valiunas, Zappa & Thomas</i>	5:30	... Another Braid <i>Kuiper & van Ballegooijen</i>
5:00	... Islamic Patterns... <i>Y. Lu & E. Demaine</i>	5:45	Snub Polyhedral Form... <i>D. Reimann</i>
JYU Room 5/6 Afternoon 4:30pm – 6:00pm SESSION 22 (Workshop)			
R5	... Movement and Mathematics... <i>E. Stern & J. Chan</i>	R6	Dual Models... <i>M. Draghicescu</i>
JYU Room 7 Afternoon 4:30pm – 6:00pm SESSION 23 (Abstract) Chair: Rebekah Rousi			
4:30	Digital Literacy... <i>Jennifer Stokes</i>	5:00	Hypercross... <i>Drewchin, Higli, Saxon-Szasz</i>
4:45	Animated GIF... <i>Alagic & Rimmington</i>	5:15	... Vision Creation <i>Rebekah Rousi</i>
Elevations and Stellations 7:00pm – 7:30pm			
Bridges 2016 Public Event: Leonardo's Bridge in Ice Aud 1 8:30pm – 10:00pm			

Thursday August 11, 2016 Finnish Day

JYU Aud 1 Morning 9:30am – 11:00am SESSION 24 (Plenary) Chair: Kristóf Fenyvesi			
9:30	Interdisciplinary Research, Learning and Innovation at Univ. of Jyväskylä <i>Kaisa Miettinen</i>		
10:00	Mathematics of Juggling: A Personal View <i>Harri Varpanen</i>		
10:30	World as Numbers: Living in an Algorithmic Culture <i>Raine Koskimaa</i>		
Coffee Break 11:00am – 11:30am			
JYU Aud 1 Morning 11:30am – 12:30pm SESSION 25 (Plenary) Chair: Osmo Pekonen			
11:30	Crystal Flowers in Halls of Mirrors: Math Meets Art and Architecture <i>Kirsi Peltonen</i>		
11:30	Math Learning through Arts and Collaborative Problem-Solving... <i>Hähkiöniemi et al.</i>		
Coffee and Lunch Break 12:30pm – 2:30pm			
JYU Room 2 Midday 2:30pm – 4:00pm SESSION 26 (Regular) Chair: Roger Burrows			
2:30	Artefacts to Enhance Geometrical Thinking <i>Zekeriya Karadag</i>		
3:00	Shape-Changing Polyhedra <i>Roger Burrows</i>		
JYU Room 3 Midday 2:30pm – 4:00pm SESSION 27 (Regular) Chair: Javier Barrallo Calonge			
2:30	Dancing Math: Teaching and Learning... Aesthetic and Mathematical Literacy <i>P. Moerman</i>		
3:00	Fostering Creativity... with Project Based Learning <i>J. Barrallo Calonge & L. Martín Yagüe</i>		
JYU Room 4 Midday 2:30pm – 4:00pm SESSION 28 (Short) Chair: David Chappell			
2:30	Pointillist Graphing of IFS <i>R. Paju</i>	3:15	Polygon Spirals <i>Nick Mendler</i>
2:45	... Schottky Groups <i>Nakamura & Ahara</i>	3:30	Flatscape of Measure Polytopes <i>G. Smith</i>
3:00	L-System Nomographs... <i>Roschier & Doerfler</i>	3:45	Thoughts on Generative Art <i>D. Chappell</i>
JYU Room 7 Midday 2:30pm – 4:00pm SESSION 29 (Short) Chair: Katie McCallum			
2:30	Organic 3D Mesh Creation... <i>S. Jenson</i>	3:15	Baton Rollin... <i>A. Matsuura & Y. Yamada</i>
2:45	Digital Mechanic... <i>Bjarne Jespersen</i>	3:30	... Finnish Mathematician <i>Ilmavirta & Stén</i>
3:00	Chladni Figure Revisited... <i>Skrodzki et al.</i>	3:45	... Math Presentations... <i>Katie McCallum</i>
JYU CLab1/Room 5 Midday 2:30pm – 4:00pm SESSION 30 (Workshop)			
C1	Euclid's Digital Elements: Straightedge and Compass Software... <i>Vladmir Sicca</i>		
R5	Modelling Environmental Problem-Solving through STEAM... <i>Fenyvesi, Park, Choi, Song, Ahn</i>		
Coffee Break 4:00pm – 4:30pm			
JYU Room 2 Afternoon 4:30pm – 6:00pm SESSION 31 (Regular) Chair: Paul Gailiunas			
4:30	Interlinking Polyhedral Wire-Frames <i>Walt van Ballegooijen and Carlo H. Séquin</i>		
5:00	Euler-Cayley Formula for "Unusual" Polyhedra <i>Dirk Huylebrouck</i>		
5:30	Helical Petrie Polygons <i>Paul Gailiunas</i>		
JYU Room 3 Afternoon 4:30pm – 6:00pm SESSION 32 (Short) Chair: Robert Bosch			
4:30	Prime Portraits <i>Zachary Abel</i>	5:15	...Discover the Art of Math... <i>Saks & Baumer</i>
4:45	... Random Walks <i>Max Grusky</i>	5:30	Math on TV? Yes, We Can! <i>R. Martins</i>
5:00	Texturing Coloured Images in B/W <i>Guss</i>	5:45	Lights Out Animations <i>Robert Bosch</i>
JYU Room 5/6 Afternoon 4:30pm – 6:00pm SESSION 33 (Workshop)			
C1	Fractal Flipbooks <i>Andrea Hawksley and Scott Kominers</i>		
R5	Lumifold: a STEAM Activity <i>Melissa Silk and Jane Martin</i>		
JYU Room 4 Afternoon 4:30pm – 6:00pm SESSION 34 (Short) Chair: Susan Goldstine			
4:30	Mathematikon... <i>B. Violet & A. Matt</i>	5:15	Novel Textile Knot... <i>Nimkulrat & Matthews</i>
4:45	Pattern Design... <i>J.K. Shin & S.R. Choi</i>	5:30	Pied de Pulse... <i>L. Feijs & M. Toeters</i>
5:00	Sculpturing Surface... <i>Raffaelli et al.</i>	5:45	A Recursion in Knitting <i>Susan Goldstine</i>
JYU Room 7 Afternoon 4:30pm – 6:00pm SESSION 35 (Abstract) Chair: Leena Turja			
4:30	Innovation of Math... <i>Kawakubo & Nagaoka</i>	5:15	Volumetric Golden Ratio Spiral <i>D. Koski</i>
4:45	Magic Squares... <i>Hossein Behforooz</i>	5:30	Play-Based Workshops <i>Turja et al.</i>
5:00	A Teaching and Learning Approach...to Overcome...Mathematical Anxiety <i>Björkman et al.</i>		
Athenis Finlandiae Cultural Event 6:00pm			

Friday, August 12, 2016

JYU Room 2 Morning 9:30am – 11:00am SESSION 36 (Regular) Chair: Robert Fathauer	
9:30	Visual Arts and Math Education... Integrative Phenomena <i>Havinga & Portaankorva-Koivisto</i>
10:00	Koch-Like Fractal Images <i>Vince J. Matsko</i>
10:30	Fractal Gaskets: Reptiles, Hamiltonian Cycles, and Spatial Development <i>Robert Fathauer</i>
JYU Room 3 Morning 9:30am – 11:00am SESSION 37 (Short) Chair: Gregg Helt	
9:30	Repeating Fractal Patterns with 4-Fold Symmetry <i>Douglas Dunham and John Shier</i>
9:45	A Rose By Any Other Name... <i>Gregg Helt</i>
JYU Room 4 Morning 9:30am – 11:00am SESSION 38 (Short) Chair: Mike Naylor	
9:30	The Hendecagonal Stars in the Alhambra <i>Dirk Huylebrouck and Antonia Redondo</i>
9:45	Classifying Hexagonal Tilings in Islamic Architecture... <i>Peter J. Lu and Eric Broug</i>
10:00	Generalized Brunes Stars and System of Pythagorean Triples <i>Dmitri Kozlov</i>
10:15	Extracting Unit Cells from Tilings with Color Symmetries... <i>Venera Adanova & Sibel Tari</i>
10:30	Plane-Filling Curves on Transitive Grids <i>Jörg Arndt and Julia Handl</i>
10:45	Knight Mazes <i>Mike Naylor</i>
JYU Room 5/6/7 Morning 9:30am – 11:00am SESSION 39 (Workshop)	
R5	Mathematical and Physical Properties of Rope... <i>Alexander Åström and Christoffer Åström</i>
R6	How to Draw Perspective Directly on a 3D Plane <i>Tomás García Salgado</i>
R7	Similarity Drawn Freehand <i>Teresa Downard</i>
Coffee Break 11:00am – 11:30am	
JYU Aud 1 Morning 11:30am – 12:30pm SESSION 40 (Plenary) Chair: George Hart	
11:30	TBA <i>Corey Cerovsek</i>
12:20	Bridges 2017 <i>Craig Kaplan</i>
Coffee and Lunch Break 12:30pm – 2:00pm	
Bridges Public Day Aud 1 2:00pm – 6:00pm Chair: Kristóf Fenyvesi www.familyday.hu	
JYU Room 2 Midday/Afternoon 2:00pm – 6:00pm	
2:00 / 4:30	Bridges 2016 Short Movie Festival <i>Robert Bosch</i>
JYU Room 3 Midday/Afternoon 2:00pm – 6:00pm	
2:00	Poetry Afternoon <i>Sarah Glaz</i>
4:15	2016 Mathematical Theater: Hypatia's Circle <i>Tom Petsinis</i>
JYU Evening 7:00pm – 7:30pm	
7:00	Vivid Spirit and Tangram <i>István Orosz and Lajos Szilassi</i>
JYU Aud 1 Evening 8:30pm – 10:00pm	
8:30	Informal Music Night <i>Mike Naylor</i>

Saturday, August 13, 2016 Bridges Excursion Day & Music Night

Excursion 9:00am – 11:00pm (EUR 63 includes bus, lunch, museum, and concert)

Bridges Music Night 6:30pm – 8:30pm Concert by Corey Cerovsek and Paavali Jumppanen

Room Legend	Event Locations
Aud 1 = Auditorium 1	University of Jyväskylä (JYU), Finland <i>Mattilanniemi 2, Agora building</i>
Room 2 = Auditorium 2	Welcome Reception <i>City Hall, Vapaudenkatu 32</i>
Room 3 = Auditorium 3	Elevations & Stellations <i>Art Gallery of Central-Finland's Natural History</i>
Room 4 = Beeta	<i>Museum, Jyväskylä, Vesilinna, Ihantolantie 5</i>
Room 5 (R5) = Alfa	Athenis Finlandiae Cultural Event <i>Jyväskylä University of Applied</i>
Room 6 (R6) = Gamma	<i>Sciences, Lutakko campus, Piippukatu 2</i>
Room 7 (R7) = Delta	Vivid Spirit <i>Näyttelykeskus Soihtu (Soihtu Exhibition Center at JYU</i>
CLab 1 (C1) = B211.1	<i>Campus), Jyväskylä, Seminaarinmäki, S-rakennus (S-building)</i>