

## Provisional Programme

### IMA Mathematics of Surfaces XIII

Monday 7th September

from 09:00 REGISTRATION and COFFEE

Chairman: Ralph Martin

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|---------|---|------------------------------|
| 10 : 15 | Recent Advances in Computational Conformal Geometry   | X.D. Gu, F. Luo, S.-T. Yau * |
| 11 : 00 | Surface Triangulation and the Downstream Effects on Flattening                                | S.S. Parwana, R.J. Cripps    |
| 11 : 30 | Gradient Approximation on Uniform Meshes by Finite Differences and Cubic Spline Interpolation | P. Sablonnière               |
| 12 : 00 | Metric Methods in Surface Triangulation   | E. Saucan, E. Appleboim      |

12:30 LUNCH

Chairman: Neil Dodgson

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|---------|--|---|
| 14 : 00 | Symmetry-Aware Mesh Processing                           | A. Golovinskiy, J. Podolak, T. Funkhouser * |
| 14 : 45 | Finite Curvature Continuous Polar Patchworks             | K. Karčiauskas, J. Peters                   |
| 15 : 15 | Piecewise Rational Manifold Surfaces with Sharp Features | G. Della Vecchia, B. Jüttler                |

15:45 TEA

Chairman: Jorg Peters

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|---------|--|---|
| 16 : 15 | Computing Isophotes on Free-form Surfaces based on Support Function Approximation  | M. Aigner, L. Gonzalez-Vega, B. Jüttler, M.L. Sampoli   |
| 16 : 45 | Numerical Checking of $C^1$ for Arbitrary Degree Quadrilateral Subdivision Schemes | U.H. Augsdörfer, T.J. Cashman, N.A. Dodgson, M.A. Sabin |
| 17 : 15 | Lie-Sphere Algebra in 3-Space and a Fresh Look at the Cyclides of Dupin            | W.F. Lunnon †   |

18.00–18.30 Reception (wine and nibbles in the Ante Room)  
18.30– Optional walk on city walls followed by dinner at nearby restaurant

\* Denotes an Invited Presentation, † denotes a Non-Published Presentation.

## Tuesday 8th September

Chairman: David Gu

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|---------|---|------------------------------------|
| 09 : 15 | Probabilistic Modeling and Visualization of the Flexibility in Morphable Models | M. Lüthi, T. Albrecht, T. Vetter * |
| 10 : 00 | Two Step Time Discretization of Willmore Flow                                   | N. Olischläger, M. Rumpf           |
| 10 : 30 | The Invariant Functions of the Rational Bi-Cubic Bézier Surfaces                | H.E. Bez                           |

11:00 COFFEE

Chairman: Bert Jüttler

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|---------|---|------------------------------|
| 11 : 30 | Crazy Cuts: Dissecting Planar Shapes into Two Identical Parts | A.M. Bruckstein, D. Shaked * |
| 12 : 15 | On Mesh Editing, Manifold Learning, and Diffusion Wavelets    | R.M. Rustomov                |

13:00 LUNCH

Chairman: Malcolm Sabin

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|---------|---|--|
| 14 : 00 | Swept Volume Parameterization for Isogeometric Analysis           | M. Aigner, C. Heinrich, B. Jüttler, E. Pilgerstorfer, B. Simeon, A.-V. Vuong * |
| 14 : 45 | Deriving Box-Spline Subdivision Schemes                           | N.A. Dodgson, U.H. Augsdörfer, T.J. Cashman, M.A. Sabin                        |
| 15 : 15 | Surface Quasi-Conformal Mapping by Solving Beltrami Equations     | W. Zeng, F. Luo, S.-T. Yau, X.D. Gu  |
| 15 : 45 | A New Approach to Point Membership Classification in B-rep Solids | F. Klein   |

16:15 TEA

19.30 Conference Dinner (Kings Manor Refectory)

### Wednesday 9th September

Chairman: Helmut Bez

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|---------|--|-------------------------------------|
| 09 : 15 | Compressive Algorithms—Adaptive Solutions of PDEs and Variational Problems | M. Fornasier *                      |
| 10 : 00 | Geometric Characterizations of Graphs using Heat Kernel Embeddings         | H. El-Ghawalby, E.R. Hancock        |
| 10 : 30 | Learning a Self-Organizing Map Model on a Riemannian Manifold              | D.J. Yu, E.R. Hancock, W.A.P. Smith |

11:00 COFFEE

Chairman: Edwin Hancock

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|---------|---|--------------------------|
| 11 : 30 | Parameterizing Singularities of Positive Integral Index | M. Nieser, K. Polthier * |
| 12 : 15 | Setback Vertex Blends in Digital Shape Reconstruction   | Z. Terék, T. Várady      |

13:00 LUNCH