THE INSTITUTE OF MATHEMATICS AND ITS APPLICATIONS

Thirteenth IMA Conference on

THE MATHEMATICS OF SURFACES

University of York, UK

7th - 9th September 2009

Computer-based methods for the capture, construction, representation, fitting, and manipulation of complicated surfaces have led to a wide interest in, and need for, surface mathematics. Many applications require the use of surface descriptions, especially in such fields as computer aided design and manufacturing, computer graphics and computer vision. The description of surfaces is also of interest in geographic information systems, multimedia, and many other areas of science and medicine. This diversity and the wide range of applicability of the subject have already enabled the IMA to hold twelve very successful international conferences in the Mathematics of Surfaces series. The 13th such conference has now been scheduled. Several international authorities will be presenting invited papers, and contributed papers are now called for. These will be refereed by an international programme committee.

Three types of papers are sought:

- Research papers presenting new developments in the capture, representation, manipulation, approximation, fitting, and design of surfaces, with an emphasis on computational methods and their underlying mathematical principles.
- Research papers covering novel practical applications of surface mathematics in areas such as CAD, Computer Vision, Computer graphics, GIS, and Architecture, especially those which pose new problems for the research community.
- Survey papers describing the state of the art of an aspect of the mathematics of surfaces.

This combination of topics will make the conference of interest to a wide audience of mathematicians, computer scientists, engineers and others. Contributions are sought covering parametric surfaces, implicit surfaces, mesh surfaces, and other representations. A timely issue is the question of geometric algorithms which exploit the power of multi-core processors and GPUs, and papers addressing this topic would be particularly welcome. A key feature will be the interplay of ideas between the theoreticians in the subject and the users of the techniques. It is hoped that the conference will stimulate research ideas from users and developers of surface modelling systems by presentations of novel problems that may require new theoretical solutions.

We are delighted to have as Keynote Speaker the renowned Field's Medallist:

Shing-Tung Yau Harvard University, USA

We also have a strong line-up of other Invited Speakers:

Freddy Bruckstein Technion, Israel
Massimo Fornasier Johann Radon Institute for Computational and Applied Mathematics, Austria
Tom Funkhauser Princeton University, USA
Bert Jüttler Johannes Kepler University, Austria
Konrad Polthier Free University of Berlin, Germany
Thomas Vetter University of Basel, Switzerland

Contributed papers are invited in any of the categories outlined above. Full papers will be considered and should be sent by email to Prof. Ralph Martin, Cardiff University: ralph@cs.cf.ac.uk by the end of 23rd January 2009.
Authors must prepare and submit their papers using LaTeX2e as the proceedings will be produced directly from authors' LaTeX sources. Appropriate guidance on preparation of the paper can be found at http://www.springer.de/comp/lncs/authors.html, including the necessary style files and an example paper.

It is hoped that the proceedings will be published by Springer Verlag in the Lecture Notes in Computer Science series on behalf of the IMA, and will be available at the conference.

Authors will be notified of acceptance by 27th March 2009, and revised papers will be due by the end of 23rd April 2009. Papers received after this date or not in the correct LaTeX2e form will not be included in the proceedings.

Suggestions for poster sessions and software demonstrations are also welcomed; the same date applies.

Papers will be refereed by an International Programme Committee:

- Pierre Alliez INRIA Sophia Antipolis, France
- Chandrajit Bajaj University of Texas at Austin, USA
- Alexander Belyaev Heriot-Watt University, UK
- Bob Cripps University of Birmingham, UK
- Gershon Elber Technion, Israel
- Gerald Farin Arizona State University, USA
- Rida Farouki University of California, Davis, USA
- Bob Fisher University of Edinburgh, UK
- Mike Floater University of Oslo, Norway
- Leila de Floriani University of Genova, Italy
- Xiao-Shan Gao Chinese Academy of Sciences, China
- Peter Giblin University of Liverpool, UK
- Ron Goldman Rice University, USA
- Laureano Gonzalez-Vega University of Cantabria, Spain
- Xianfang Gu State University of New York at Stony Brook, USA
- Hans Hagen University of Kaiserslautern, Germany
- Kai Hormann Technical University of Clausthal, Germany
- Shimin Hu Tsinghua University, China
- Deok-Soo Kim Hanyang University, Korea
- Myung-Soo Kim Seoul National University, Korea
- Tom Lyche University of Oslo, Norway
- Bernard Mourrain INRIA Sophia Antipolis, France
- Alberto Paoluzzi University of Rome 3, Italy
- Nick Patrikalakis MIT, USA
- Xavier Pennec INRIA Sophia Antipolis, France
- Sonia Pérez-Díaz University of Alcalá, Spain
- Jorg Peters University of Florida, USA
- Helmut Pottmann Technical University of Vienna, Austria
- Hong Qin State University of New York at Stony Brook, USA
- Christophe Rabut INSA Toulouse, France
- Ulrich Reif Technical University of Darmstadt, Germany
- Martin Rumpf University of Bonn, Germany
- Paul Sablonniere INSA Rennes, France
- Hanan Samet University of Maryland, USA
- Will Smith University of York, UK
- Hiromasa Suzuki University of Tokyo, Japan
Conference Location:

The meeting will be held in the King's Manor in the historic centre of York. The manor is one of York's most important and attractive buildings. The manor was originally the Abbots House for St Mary's Abbey and dates back to 1291. Following the Dissolution of the monasteries, it was retained by the Crown and allocated to the Council of the North. It became the official residence of the President of the Council in 1561 and was gradually enlarged and extended during the reign of Elizabeth I. Henry VIII and Catherine Howard stayed in the manor, and it was used as a residence by the Stuarts on their journeys between London and Edinburgh.

The workshop will be held in the Huntingdon Room which contains an impressive plaster frieze with the arms of Henry Hastings, Earl of Huntingdon. The decorative doorway at the main entrance is Jacobean and depicts the Royal Arms.

Accommodation will be available in the modern ensuite bedrooms in the University of York.

Enquiries:

Enquiries regarding possible contributions should be addressed to one of the members of the Organising Committee:

- Prof. R. Martin Cardiff University, Email: ralph@cs.cf.ac.uk
- Dr. M. Sabin Numerical Geometry Ltd, Email: malcolm@geometry.demon.co.uk
- Prof. Edwin Hancock University of York, Email: erh@cs.york.ac.uk

All other enquiries concerning conference arrangements should be sent to Amy Marsh (email: Amy.Marsh@ima.org.uk) The Institute of Mathematics and its Applications, Catherine Richards House, 16 Nelson St., Southend-on-Sea, Essex, England SS1 1EF.