

Ioannis Ivrissimtzis, *PhD*  
**Curriculum Vitae**

**PERSONAL DATA**

Full Name: Ioannis Ivrissimtzis (Yannis Ivrissimtzis)  
Date of Birth: July 19, 1970  
Nationality: Greek

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**EDUCATION**

*PGCert in Teaching and Learning in Higher Education*, Durham University, 2007.  
*PhD in Mathematics*, University of Southampton, Southampton, UK, 1998.  
*BSc in Mathematics*, University of Thessaloniki, Thessaloniki, Greece, 1995.

**BIOGRAPHY**

**2006 -** Lecturer in Computer Science at Durham University.  
**2005 - 2006** Lecturer in Computer Science at Coventry University.  
**2001 - 2005** Researcher at the Computer Graphics Department of the Max-Planck Institute for Informatics.  
**2000 - 2001** Research Associate at the Computer Laboratory the University of Cambridge.  
**1999 - 2000** National Service in the Greek Army.  
**1995 - 1998** PhD in mathematics, University of Southampton.  
**- 1995** BSc in mathematics, Aristotle University of Thessaloniki.

## TEACHING EXPERIENCE

Undregraduate Level 1: Fundamental Mathematics, Data Structures and Algorithms

Undregraduate Level 2: Digital Imaging, Image Processing

Undregraduate Level 3: Image Processing, Computer Vision, supervision of 24 final year projects

Postgraduate Level 4: Digital Imaging, Web Technologies, Distributed Systems, supervision of 13 MSc projects

## RESEARCH STUDENTS

PhD: Ahmad Ramli, successful viva in July 2012

PhD: Ying Yang, successful viva in July 2013

PhD: David Roberts, expected to submit in 2016

PhD: Matthew Bates, expected to submit in 2017

PhD part time: David Kaye, expected to submit in 2014

PhD part time: Sean McCabe, expected to submit in 2015

MSc: David Williams, successful examination in July 2011

MSc: Alastair Barber, successful examination in October 2013

## HONOURS

National Award of the Greek Mathematical Society, 1986-1988.

Third prize in the 27<sup>th</sup> International Mathematical Olympiad, Havana, Cuba, 1987

## PROJECTS

**MINGLE:** EU Research Training Network: HPRN-CT-1999-00117, 2000-2003.

*Role:* Coordinator on the MPI side (September 2002 – January 2004).

**AIM@SHAPE:** EU Network of Excellence: FP6 IST NoE 506766

*Role:* Participation in harmonization meetings: Darmstadt, Germany, March 2004.

Grenoble, August 2004. Genova, October 2004. Writing State-of-the-Art Reports.

I certify that the information contained in this CV and the attached list of publications is correct to the best of my knowledge.

Date: 31 January 2013

Signed

Ioannis Ivrissimtzis

## List of publications

### JOURNALS

#### **Generalization of the incenter subdivision scheme**

*Victoria Hernández-Mederos, Jorge Estrada-Sarlabous and Ioannis Ivrissimtzis*

Graphical Models, 2013 (to appear)

#### **Spectral representations of vertex transitive graphs, Archimedean solids and finite Coxeter groups**

*Ioannis Ivrissimtzis and Norbert Peyerimhoff*

Groups, Geometry and Dynamics, 2013 (to appear)

#### **Linear correlations between spatial and normal noise in triangle meshes**

*Ying Yang, Norbert Peyerimhoff and Ioannis Ivrissimtzis*

IEEE Transactions on Visualization and Computer Graphics, **19**, **1**, 45-55, 2013

#### **Efficient construction of the Čech complex**

*Stefan Dantchev and Ioannis Ivrissimtzis*

Computers & Graphics, **36**, **6**, 708-713, 2012

#### **Polygonal mesh watermarking using Laplacian coordinates**

Ying Yang and Ioannis Ivrissimtzis

Computer Graphics Forum, **29**, **5**, 1585-1593, 2010

#### **Curve subdivision with arc-length control**

*Victoria Hernández-Mederos, Jorge Estrada-Sarlabous, Silvio Morales and Ioannis Ivrissimtzis*

Computing, **86**, **2**, 151-169, 2009

#### **Multi-pen sketch recognition in a learning environment**

*Liam Don and Ioannis Ivrissimtzis*

Journal of Multimedia, 4 (2), 80-86, 2009

#### **Variational Bayesian noise estimation of point sets**

*Mincheol Yoon, Ioannis Ivrissimtzis and Seungyong Lee*

Computers & Graphics, **33**, **3**, 226-234, 2009

#### **Surface and normal ensembles for surface reconstruction**

*Mincheol Yoon, Yunjin Lee, Seungyong Lee, Ioannis Ivrissimtzis and Hans-Peter Seidel*

Computer-Aided Design, **39**, **5**, 408-420, 2007

#### **Regular maps and principal congruence subgroups of Hecke groups**

*Ioannis Ivrissimtzis and David Singerman*

European Journal of Combinatorics, **26**, **3-4**, 287-541, 2005.

**On the support of recursive subdivision**

*Ioannis Ivrissimtzis, Malcolm Sabin and Neil Dodgson*  
ACM Transactions on Graphics, **23, 4**, 1043-1060, 2004.

**Evolutions of Polygons in the Study of Subdivision Surfaces**

*Ioannis Ivrissimtzis and Hans-Peter Seidel*  
Computing **72, 1-2**, 93-104, 2004.

**A generative classification of mesh refinement rules with lattice transformations**

*Ioannis Ivrissimtzis, Neil Dodgson and Malcolm Sabin*  
Computer Aided Geometric Design, **21, 1**, 99-109, 2004 .

**Curvature behaviours at extraordinary points of subdivision surfaces**

*Malcolm Sabin, Neil Dodgson, Mohamed Hassan and Ioannis Ivrissimtzis*  
Computer Aided Design, **35**, 1047-1051, 2003.

**An Interpolating 4-point  $C^2$  Ternary Stationary Subdivision Scheme**

*Mohamed Hassan, Ioannis Ivrissimtzis, Neil Dodgson and Malcolm Sabin*  
Computer Aided Geometric Design **19, 1**, 1-18, 2002.

**The refinability of the 4-point scheme**

*Ioannis Ivrissimtzis, Neil Dodgson, Mohamed Hassan and Malcolm Sabin*  
Computer Aided Geometric Design **19, 4**, 235-238, 2002.

**On the Geometry of Recursive Subdivision**

*Ioannis Ivrissimtzis, Neil Dodgson, Mohamed Hassan and Malcolm Sabin*  
International Journal Shape Modeling **8, 1**, 23-42, 2002.

*REFEREED CONFERENCES*

**Correspondences of Persistent Feature Points on Near-Isometric Surfaces**

*Ying Yang, David Guenther, Stefanie Wuhler, Alan Brunton, Ioannis Ivrissimtzis, Hans-Peter Seidel and Tino Weinkauff*

In: NORDIA, Florence, Italy, Springer LNCS, 2012 (to appear)

**Bootstrap-Based Normal Reconstruction**

*Ahmad Ramli and Ioannis Ivrissimtzis*

In: Curves and Surfaces Fitting, Avignon, France, Springer LNCS, 2012, 575-585

**A Logistic Model for the Degradation of Triangle Mesh Normals**

*Ying Yang and Ioannis Ivrissimtzis*

In: Curves and Surfaces Fitting, Avignon, France, Springer LNCS, 2012, 697-710

### **Effects of noise on quantized triangle meshes**

Ioannis Ivrissimtzis

In: Curves and Surfaces Fitting, Tromso, Norway, Springer LNCS, 2010, 274-284

### **Bootstrap test error estimations of polynomial fittings in surface reconstruction**

*Ahmad Ramli and Ioannis Ivrissimtzis*

In: Vision, Modeling, and Visualization, Braunschweig, Germany, 101-112, 2009

### **Multicolour sketch recognition in a learning environment**

*Liam Don and Ioannis Ivrissimtzis*

In: Ubi-Media Computing, IEEE Press, 441-443, 2008

### **Overfitting Control for Surface Reconstruction**

*Yunjin Lee, Seungyong Lee, Ioannis Ivrissimtzis and Hans-Peter Seidel*

In: Symposium on Geometry Processing, Sardinia, ACM Press, 231-235, 2006.

### **Ensembles for Normal and Surface Reconstructions**

*Yunjin Lee, Mincheol Yoon, Seungyong Lee, Ioannis Ivrissimtzis and Hans-Peter Seidel*

In: Geometric Modeling and Processing, Pittsburgh, Springer LNCS, 17-33, 2006.

### **Ensembles for Surface Reconstruction**

*Yunjin Lee, Mincheol Yoon, Seungyong Lee, Ioannis Ivrissimtzis and Hans-Peter Seidel*

In: Pacific Conference on Computer Graphics and Applications, Macao, 125-127, 2005.

### **Geometry Prediction for High Degree Polygons**

*Martin Isenburg, Ioannis Ivrissimtzis, Stefan Gumhold, Hans-Peter Seidel*

In: Spring Conference on Computer Graphics, Budmerice, ACM Press, 2005, 147-152.

### **Surface Reconstruction with Neural Meshes**

*Ioannis Ivrissimtzis, Won-Ki Jeong, Seungyong Lee, Yunjin Lee, Hans-Peter Seidel*

In: Mathematical Methods for Curves and Surfaces, Nashboro Press, 2005, 223-242.

### **Neural Mesh Ensembles**

*Ioannis Ivrissimtzis, Yunjin Lee, Seungyong Lee, Won-Ki Jeong and Hans-Peter Seidel*

In: 3DPTV 2004, Thessaloniki, Greece, IEEE, 2004.

### **Polygonal decomposition of the 1-ring neighborhood of the Catmull-Clark scheme**

*Ioannis Ivrissimtzis, Rhaleb Zayer and Hans-Peter Seidel*

In: Proceedings of the Shape Modeling International, Genoa, Italy, IEEE, 2004, 101-109.

### **Polygonal decompositions of quadrilateral subdivision meshes**

Ioannis Ivrissimtzis, Rhaleb Zayer and Hans-Peter Seidel

Computer Graphics & Geometry (e-journal), Scientific Electronic Library eLibrary.Ru, **1**, 2005, (extended version of the SMI'04 paper).

### **Characteristics of dual-sqrt(3) subdivision schemes**

*Neil Dodgson, Ioannis Ivrissimtzis and Malcolm Sabin*

In: *Curve and Surface Fitting*, Saint-Malo, France, Nashboro Press, 2003, 119-128.

### **Combinatorial Properties of Subdivision Meshes**

*Ioannis Ivrissimtzis and Hans-Peter Seidel*

In: *Mathematics of surfaces*, Leeds, UK, Springer LNCS, 2003, 73-84.

### **Neural Meshes: Statistical Learning based on Normals**

*Won-Ki Jeong, Ioannis Ivrissimtzis and Hans-Peter Seidel*

In: *Pacific Graphics*, Canmore, Canada, IEEE Press, 2003, 404-408.

### **Subdivision Rules for General Meshes**

*Ioannis Ivrissimtzis, Kanishka Shrivastava and Hans-Peter Seidel*

In: *Curve and Surface Fitting*, Saint-Malo, France, Nashboro Press, 2003, 229-238.

### **Tree-based Triangle Mesh Connectivity Encoding**

*Christian Roessl, Ioannis Ivrissimtzis and Hans-Peter Seidel*

In: *Curve and Surface Fitting*, Saint Malo, France, Nashboro Press, 2003, 345-354.

### **Using growing cell structures for surface reconstruction**

*Ioannis Ivrissimtzis, Won-Ki Jeong and Hans-Peter Seidel*

In: *Shape Modeling International*, Seoul, Korea, IEEE, 2003, 78-86.

### **A Divide and Conquer Algorithm for Triangle Mesh Connectivity Encoding**

*Ioannis Ivrissimtzis, Christian Roessl and Hans-Peter Seidel*

In: *Pacific Graphics*, Beijing, China, IEEE Press, 2002, 294-303.

### **Polyhedra Operators for Mesh Refinement**

*Ioannis Ivrissimtzis and Hans-Peter Seidel*

In: *Geometric Modeling and Processing*, Wako, Japan, IEEE Press, 2002, 132-137.

### **Recursive Subdivision and Hypergeometric Functions**

*Ioannis Ivrissimtzis, Neil Dodgson and Malcolm Sabin*

In: *Shape Modeling International 2002*, Banff, Canada, IEEE Press, 2002, 29-34.

## *BOOK CHAPTERS, REVIEWS AND EDITORIALS*

### **Book review: Subdivide and conquer**

*Ioannis Ivrissimtzis*

*Computer-Aided Design* **43**, **12**, 2011, 1914

**Guest Editors' Introduction: Advances in Interactive Digital Entertainment Technologies**

*Frederick Li, Ioannis Ivrissimtzis, Rynson Lau and Benjamin Wah*

Journal of Multimedia, **4, 2**, 2009, 47-48

**Subdivision Surfaces and Applications**

*Chiara Catalano, Ioannis Ivrissimtzis and Ahmad Nasri*

In: Shape Analysis and Structuring, Springer, 2008, 115-143

**Cube Decompositions by Eigenvectors of Quadratic Multivariate Splines**

*Ioannis Ivrissimtzis and Hans-Peter Seidel*

In: Geometric Modeling and Algebraic Geometry, Springer, 2008, 100-115

**sqrt5-subdivision**

*Ioannis Ivrissimtzis, Neil Dodgson and Malcolm Sabin*

In: *Advances in Multiresolution for Geometric Modelling*, Springer, 2004, 285-300

**Tree-based Data Structures for Triangle Mesh Connectivity Encoding**

*Ioannis Ivrissimtzis, Christian Roessl and Hans-Peter Seidel*

In: *Geometric Modeling for Scientific Visualization*, Springer, 2003, 171-187

*NATIONAL JOURNALS AND CONFERENCES*

**Memory efficient surface reconstruction based on self-organising maps**

*David Kaye and Ioannis Ivrissimtzis*

Theory and Practice of Computer Graphics, Warwick, UK, EG Press, 25-32, 2011

**Implicit surface reconstruction and feature detection with a learning algorithm**

David Kaye and Ioannis Ivrissimtzis

Theory and Practice of Computer Graphics, Sheffield, UK, EG Press, 127-130, 2010

**Distance based feature detection on 3D point sets**

*Ahmad Ramli and Ioannis Ivrissimtzis*

Theory and Practice of Computer Graphics, Cardiff, UK, EG Press, 53-56, 2009

**Distance based feature detection on 3D point sets**

*Mincheol Yoon, Ioannis Ivrissimtzis and Seungyong Lee*

Theory and Practice of Computer Graphics, Manchester, UK, EG Press, 83-90, 2008

**Overfitting Control for Surface Reconstruction**

*Yunjin Lee, Seungyong Lee, Ioannis Ivrissimtzis and Hans-Peter Seidel*

Korea-China Joint Conference on Geometric and Visual Computing, Seoul, Korea, 2007

### **Surface Reconstruction Using Statistical Techniques**

*Mincheol Yoon, Yunjin Lee, Seungyong Lee, Ioannis Ivrissimtzis and Hans-Peter Seidel*  
Journal of Korean Computer Graphics Society, **11, 2**, 47-55, 2005.

### *TECHNICAL REPORTS*

#### **Trivalent expanders and hyperbolic surfaces**

*Ioannis Ivrissimtzis, Norbert Peyerimhoff and Alina Vdovina*  
Arxiv preprint arXiv:1202.2304, 2012

#### **Neural Meshes: Surface reconstruction with a Learning Algorithm**

*Ioannis Ivrissimtzis, Won-Ki Jeong, Seungyong Lee, Yunjin Lee, Hans-Peter Seidel*  
Technical Report: MPI-I-2004-4-005, Max-Planck-Institut fuer Informatik, October, 2004.

#### **Neural Meshes: Statistical Learning Methods in Surface Reconstruction**

*Ioannis Ivrissimtzis, Won-Ki Jeong and Hans-Peter Seidel*  
Technical Report: MPI-I-2003-4-007, Max-Planck-Institut fuer Informatik, April, 2003.

#### **Tree-based triangle mesh connectivity encoding**

*Christian Roessl, Ioannis Ivrissimtzis and Hans-Peter Seidel*  
Technical Report: MPI-I-2003-4-008, Max-Planck-Institut fuer Informatik, April, 2003.

#### **On the support of recursive subdivision**

*Ioannis Ivrissimtzis, Malcolm Sabin and Neil Dodgson*  
Technical Report: UCAM-CL-TR-544, University of Cambridge, September, 2002.

#### **A generative classification of mesh refinement rules with lattice transformations**

*Ioannis Ivrissimtzis, Neil Dodgson and Malcolm Sabin*  
Technical Report: UCAM-CL-TR-542, University of Cambridge, September, 2002.

### *TALKS*

#### **Information hiding in 3D models**

UK-Korea workshop on Geometric Modeling, Cardiff, UK, July 2012

#### **Adaptive quantizations of triangle meshes**

UK-Korea workshop on Geometric Modeling, Seoul, Korea, September 2011

#### **The discrete support of subdivision**

International Symposium in Approximation Theory, Nashville, USA, May 2011



**Variational Bayesian Noise Estimation of Point Sets**

Signal and Image Processing Joint Seminar, Heriot Watt, UK, January 2010

**Variational Bayesian Noise Estimation of Point Sets**

Tsinghua University, China, July 2008

**Cube decompositions by eigenvectors of multivariate splines**

COMPASS II Workshop, Oslo, Norway, September, 2005.

**Geometric applications of the Discrete Fourier Transform**

Graphics Lab, POSTECH, Pohang, Korea, March 2005.

**Neural mesh ensembles: a Learning algorithm for surface reconstruction**

German Israeli Foundation, Project 672/99 on '*Compact Representations and Efficient Processing of Very Large Triangle Meshes*', Concluding Symposium, Bonn, Germany, July 2004.

**Using Growing Cell Structures for surface reconstruction**

Algorithms seminar, University of Athens, Greece, May 2004.

**Using Growing Cell Structures for surface reconstruction**

Aegean University, Syros, Greece, May 2004.

**Statistical Learning in Surface Reconstruction**

Computer Science Colloquia, University of Wales Swansea, UK, September 2003.

**Evolving  $n$ -gons in subdivision schemes with small support**

Workshop on Geometric Modeling, Dagstuhl, Germany, May 2002.

**Subdivision schemes for polygonal meshes**

Workshop on Mesh Processing Techniques, Dagstuhl, Germany, February 2002.