



Preface

The Shape Modeling International (SMI) conference series was started by Tosyiasu L. Kunii and was initially hosted in Japan (1997 and 1999). Its objective was to provide an international forum for discussing new theories, techniques and applications of shape modeling, i.e., the set of computational techniques for modeling and processing digital representations of shapes and their properties.

In 2001, SMI merged with the Eurographics/ACM SIGGRAPH Workshop on implicit surfaces and became a regular annual event alternating among Asia, Europe and America. SMI was hosted in Italy (2001), Canada (2002), South Korea (2003), Italy (2004), USA (2005), Japan (2006), France (2007), USA (2008), China (2009) and France (2010).

In 2011, the Shape Modeling International conference was held at the Interdisciplinary Center (IDC), Herzliya, Israel.

SMI'11 is supported (in-cooperation status) by the Eurographics Association and ACM SIGGRAPH, and is run in technical co-sponsorship with the IEEE and the IEEE Visualization and Graphics Technical Committee. For the first time this year all accepted papers at SMI'11 appeared in a special issue of the journal *Computers and Graphics* (Elsevier) containing both long and short papers.

SMI'11 received 67 submissions from various countries including Austria, Canada, China, Czech Republic, France, Germany, Hong-Kong, Israel, India, Italy, Singapore, The Netherlands, UK and USA. This year, according to the recommendations of the Program Committee (PC) members, the special issue of *Computers and Graphics* contains 24 full papers (acceptance rate 36%) and 13 short communications. We would like to thank all the PC members for their hard work during the review process: on average, each paper was examined by four reviewers and underwent a two-stage review process.

SMI'11 hosted three invited talks of renowned experts: Hans-Peter Seidel (Max Planck Institute, Germany), Markus Gross (ETH Zurich, Switzerland) and Eitan Grinspun (Columbia University, USA).

The SMI chairs wish to acknowledge the energetic support of Joaquim Jorge, Editor-in-Chief of *Computers and Graphics*, and the local organizing committee including Roy Amikam, Tammy Berger, Mor Gilad, Ilil Ginzburg, Jonathan Shamir for their hard work in making this event a real success. We gratefully acknowledge the Interdisciplinary Center in Herzliya and the Technion, Israel Institute of Technology for their financial support.



Niloy J. Mitra is an Assistant Professor at the CS Department at KAUST. Previously he was an Assistant Professor at IIT Delhi, prior to which Niloy was a postdoctoral fellow at TU Vienna. He received his M.S. and Ph.D. degrees in Electrical Engineering from Stanford University, and his Bachelor degree from IIT Kharagpur. His research interests include geometric modeling, 3D model acquisition, shape analysis, symmetry detection, shape manipulation, and image understanding. Niloy also loves reading, climbing, hiking, and cooking.



Olga Sorkine is an Assistant Professor of Computer Science at ETH Zurich. Prior to joining ETH she was an Assistant Professor at the Courant Institute of Mathematical Sciences, New York University (2008–2011). She earned her B.Sc. in Mathematics and Computer Science and Ph.D. in Computer Science from Tel Aviv University (2000 and 2006, respectively). Following her studies, Olga received the Alexander von Humboldt Foundation Fellowship and spent two years as a postdoc at the Technical University of Berlin. She is interested in theoretical foundations and practical algorithms for digital content creation tasks, such as shape representation and editing, artistic modeling techniques, computer animation and digital image and video manipulation. She also works on fundamental problems in digital geometry processing, including parameterization of discrete surfaces and compression of geometric data. Olga received the Young Researcher Award from the Eurographics Association (2008) and the Significant New Researcher Award from ACM SIGGRAPH (2011).



Ariel Shamir is an Associate Professor at the Efi Arazi school of Computer Science at the Interdisciplinary Center in Israel. He received his Ph.D. in computer science from the Hebrew University in Jerusalem in 2000. He has spent two years at the computational visualization center at the University of Texas in Austin, and in 2007 held the position of a visiting scientist at Mitsubishi Electric Research Labs in Cambridge MA. During the

years he has been involved in consulting for a number of places such as Lawrence Livermore national laboratory, Walt Disney Research, and a number of high-tech companies in Israel. He also co-authored several patents. His research interests include geometric modeling, computer graphics, visualization, and machine learning. He is a Member of the ACM SIGGRAPH, IEEE Computer, and Eurographics associations.



Ayellet Tal is an Associate Professor in the Department of Electrical Engineering at the Technion and the founder of the Laboratory of Computer Graphics and Multimedia. She holds a Ph.D. in Computer Science from Princeton University, an M.Sc. degree (Summa cum Laude) in Computer Science from Tel-Aviv University and a B.Sc. degree (Summa cum Laude) in Mathematics and Computer Science from Tel-Aviv University.

Her research interests include computer graphics, shape modeling and analysis, information and scientific visualization, and multimedia. She served as the program chair of the ACM Symposium on Virtual Reality, Software, and Technology (VRST) and as the chair of Shape Modeling International (SMI). She has also served in the program committees of all the leading conferences in Computer Graphics. She is an associate editor of Computers & Graphics and on the editorial board of the journal Computer Graphics Forum (CGF). She also edited several special issues of various journals. She is a recipient of the Henry Taub Prize for Academic Excellence, the Google Research Award, as well as several grants from ISF, MOST, the 6th European R&D Program, and others.



**Efi Arazi School
of Computer Science**



Program Committee

Pierre Alliez
 Nina Amenta
 Ergun Akleman
 Oscar Kin-Chung Au
 Hujun Bao
 Gill Barequet
 Alexander Belyaev
 Mirela Ben-Chen
 Miklós Bergou
 Silvia Biasotti
 Volker Blanz
 Mario Botsch
 Tamy Boubekeur
 Alex Bronstein
 Marie-Paule Cani
 Raphaëlle Chaine
 Frédéric Chazal
 James Hung Kuo Chu
 Daniel Cohen-Or
 David Cohen-Steiner
 Leila De Floriani
 Tamal Dey
 Bianca Falcidieno
 Hongbo Fu
 Philip Fu
 Eric Galin
 Eitan Grinspun
 Markus Hadwiger
 David Harmon
 John Hart
 Ying He
 Kai Hormann
 Alexander Hornung
 Shi-Min Hu
 Takeo Igarashi
 Joaquim Jorge
 Tao Ju
 Bert Juettler
 Takashi Kanai
 Zach Karni
 Michael Kazhdan
 Martin Kilian
 Young Kim
 Siome Klein Goldenstein
 Leif Kobbelt
 Toshiyasu L. Kunii
 Seungyong Lee
 Tony Lee
 Bruno Lévy
 Thomas Lewiner
 Yaron Lipman

Ligang Liu
 Takashi Maekawa
 Dinesh Manocha
 Ralph Martin
 Facundo Memoli
 Yutaka Ohtake
 Steve Oudot
 Alexander Pasko
 Giuseppe Patané
 Sylvain Petitjean
 Nico Pietroni
 Hong Qin
 Ewald Quak
 Karthik Raman
 Ari Rappoport
 Jarek Rossignac
 Pedro Sander
 Dietmar Saupe
 Vladimir Savchenko
 Scott Schaefer
 Hans-Peter Seidel
 Andrei Sharf
 Alla Sheffer
 Claudio Silva
 Karan Singh
 Jack Snoeyink
 Michela Spagnuolo
 Gabriel Taubin
 Daniel Thalmann
 Nadia Thalmann
 Yiyi Tong
 Jane Tournois
 Amitabh Varshney
 Luiz Velho
 Remco Veltkamp
 Johannes Wallner
 Michael Wand
 Wenping Wang
 Ofir Weber
 Tino Weinkauff
 Martin Wicke
 Michael Wimmer
 Peter Wonka
 Brian Wyvill
 Geoff Wyvill
 Yongliang Yang
 Eugene Zhang
 Richard (Hao) Zhang
 Kun Zhou
 Afra Zomorodian
 Denis Zorin