

Dr. Bernd Bickel



Assistant Professor
IST Austria
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PROFILE

Date of birth	June 03 1982
Place of birth	Feldkirch, Austria
Citizenship	Austria
Languages	German, English

RESEARCH INTERESTS

Computer graphics and its applications in animation, biomechanics, material science, and computational design for digital fabrication. In particular: Data-driven modeling of material behavior, performance capture, virtual humans, 3D printing.

ACADEMIC AND RESEARCH POSITIONS

Assistant Professor IST Austria	01/2015
Researcher and Research Group Leader Disney Research, Zurich, Switzerland.	02/2012 – 12/2014
Visiting Professor Technische Universität Berlin, School IV Electrical Engineering and Computer Science, Berlin, Germany.	03/2011 – 07/2012
Postdoctoral Researcher Disney Research, Zurich, Switzerland.	11/2010 – 01/2012
Research Assistant Disney Research, Zurich, Switzerland.	07/2009 – 10/2010
Research Assistant ETH Zurich, Zurich, Switzerland.	05/2006 – 06/2009
Research Internship Mitsubishi Electric Research Laboratories (MERL), Boston, MA, USA.	07/2005 – 03/2006

EDUCATION

Ph.D., Computer Science

05/2006 – 11/2010

ETH Zurich, Department of Computer Science

- Thesis: *Measurement-Based Modeling and Fabrication of Deformable Materials for Human Faces*
Advisor: Prof. Markus Gross
Co-Examiners: Prof. Hanspeter Pfister, Dr. Wojciech Matusik

M.Sc., Computer Science

09/2001 – 03/2006

ETH Zurich, Department of Computer Science

- Thesis: *A Measurement-Based Skin Reflectance Model*
- Focus: Scientific Computing

Research Visit

12/2009 – 01/2010

Harvard University, School of Engineering and Applied Sciences
Graphics, Vision and Interaction Group, Prof. Hanspeter Pfister.

Research Internship

07/2005 – 03/2006

Mitsubishi Electric Research Laboratories (MERL), Boston, MA.

- Topic: *Development of a Face Reflectance Scanner*

AWARDS

MICROSOFT Visual Computing Award, awarded 06/2015

EUROGRAPHICS Best PhD Thesis, awarded 05/2012

ETH Medal for outstanding dissertation, awarded 11/2011

TEACHING AND SUPERVISION

Lecturer

- Computational Aspects of Digital Fabrication (IST Austria and TU Wien) SS 16
- Computer Graphics 2 (TU Berlin) SS 12
- Game Programming (Project, TU Berlin) SS 12
- Research Colloquium Computer Graphics (TU Berlin) SS 12
- Computer Graphics 1 (TU Berlin) WS 11/12
- Rapid Prototyping (Project, TU Berlin) WS 11/12
- Processing Digital Camera Images (Seminar, TU Berlin) WS 11/12
- Research Colloquium Computer Graphics (TU Berlin) WS 11/12
- Computer Graphics 2 (TU Berlin) SS 11
- Research Colloquium Computer Graphics (TU Berlin) SS 11
- Game Programming Laboratory (together with Bob Sumner and Alexander Hornung, ETH Zurich) SS 10

Teaching Assistant

- Information Theory HS 08
- Visual Computing SS 08
- Information Theory HS 07
- Visual Computing SS 07
- Information Theory WS 06/07
- Introduction to Computational Science WS 04/05
- Numeric and Symbolic Computation WS 03/04

Supervised PhD Students and Postdocs (formal advisor)

- Ruslan Guseinov (IST Austria) – *Shape Changing Structures and Topology Optimization* since 07/2015

- Ran Zhang (IST Austria) – *Interactive Design of Mechanical Mechanism* since 07/2015
- Eder Miguel (IST Austria) – *Computational Design of Soft-Robots* since 02/2015
- Moritz Bächer (Disney) – *Optimization for Digital Fabrication* 08/2013 – 12/2014

Collaborator and daily mentor of PhD Students (not formal advisor)

- Christian Schumacher (Disney/ETH Zurich) – *Computational Methods for Elasticity in 3D Printing* 04/2013 – 08/2015
- Amit Bermano (Disney/ETH Zurich) – *Realistic Facial Augmentation* 06/2011 – 10/2015
- Krisitan Hildebrand (TU Berlin) – *Geometry Processing and Shape Abstraction* 03/2011 – 07/2012
- Melina Skouras (ETH Zurich) – *Computational Design and Fabrication of Deformable Objects* 02/2010 – 09/2014
- Moritz Bächer (Harvard University) – *From Animation to Fabrication* 01/2010 – 07/2013
- Thabo Beeler (Disney/ETH Zurich) – *Passive Spatio-Temporal Geometry Reconstruction of Human Faces at Very High Fidelity (ETH Medal)* 06/2009 – 09/2012

Supervised Master Students

- Pleschko Nicholas – *Capture and Physics-Based Modeling of Pyro Shells* 10/2013 – 04/2014
- Patrick Busse – *Over-sketching for Interactive Image Search* 03/2012 – 09/2012
- Patrick Sneep – *Mobile and Lightweight BRDF Capture* 02/2012 – 08/2012
- Bengt Rosenberger – *Plane Selection Strategies for Shape Abstraction* 02/2012 – 08/2012
- Peter Müller – *Modeling 3D Shapes with Diffusion Curve Images* 01/2012 – 07/2012
- Moritz Ehlike – *Simulating X-Ray Images From Deformable Shape and Intensity Models on the GPU* 11/2011 – 05/2012
- Roman Scheidegger – *Computational Design and Fabrication of Pneumatically Actuated Soft Characters* 08/2011 – 02/2012
- Lars Mödeker – *3D Face Scanning Through Stereo Vision* 05/2011 – 11/2011
- Silvan Tschopp – *Facial Performance Appearance Capture and Rendering* 04/2011 – 10/2011
- Samuel Muff – *Stereoscopic Surfaces* 11/2010 – 05/2011
- Stefan Wanger – *Material Models for Large Deformations* 09/2010 – 03/2011
- Fabio Zünd – *Learning Facial Expressiveness* 11/2009 – 05/2010
- Thabo Beeler – *Gradient Illumination Based Face Scanner (ETH Medal)* 09/2008 – 03/2009
- Benjamin Berger – *A Physically-Based Face Model* 09/2008 – 03/2009
- Moritz Bächer – *Inverse Modeling of Facial Contact* 05/2008 – 11/2008
- Manuel Lang – *Real-Time Face Animation* 10/2007 – 04/2008

MEMBER OF PHD THESIS COMMITTEES

- Amit Bermano (ETH Zurich): Geometric methods for realistic facial animation. 10/2015
- Eder Miguel (URJC Madrid): Measurement-based model estimation for deformable objects. 11/2014
- Melina Skouras (ETH Zurich): Computational design and fabrication of deformable objects. 09/2014
- Kristian Hildebrand (TU Berlin): Digital fabrication of shape: Abstraction, data structures and optimization. 03/2014

PUBLICATIONS – JOURNALS

- [1.] **DefSense: Computational Design of Customized Deformable Input Devices**
M. Bächer, B. Hepp, F. Pece, P. Kry, B. Bickel, B. Thomaszewski, O. Hilliges
In ACM SIGCHI, May 2016 (to appear)
- [2.] **OmniAD: Data-driven Omni-directional Aerodynamics**
T. Martin, N. Umetani, B. Bickel
In ACM Transactions on Graphics (Proc. SIGGRAPH 2015), vol. 34, no. 4, August 2015.

- [3.] **3D Printing Elasticity using Microstructures**
C. Schumacher, B. Bickel, S. Marschner, J. Rys, C. Daraio, M Gross
In *ACM Transactions on Graphics (Proc. SIGGRAPH 2015)*, vol. 34, no. 4, August 2015.
- [4.] **Detailed Spatio-Temporal Reconstruction of Eyelids**
A. Bermano, T. Beeler, Y. Kozlov, D. Bradley, B. Bickel, M. Gross
In *ACM Transactions on Graphics (Proc. SIGGRAPH 2015)*, vol. 34, no. 4, August 2015.
- [5.] **Design and Fabrication of Flexible Rod Meshes**
J. Perez, B. Thomaszewski, S. Coros, B. Bickel, J Canabal, R. Sumner, M. Otaduy
In *ACM Transactions on Graphics (Proc. SIGGRAPH 2015)*, vol. 34, no. 4, August 2015.
- [6.] **Spin-It: Optimizing Moment of Inertia for Spinnable Objects**
M. Baecher, E. Whitting, B. Bickel, O. Sorkine-Hornung
In *ACM Transactions on Graphics (Proc. SIGGRAPH 2014)*, vol. 33, no. 4, August 2014.
- [7.] **Designing Inflatable Structures**
M. Skouras, B. Thomaszewski, P. Kaufmann, A. Garg, B. Bickel, E. Grinspun, M. Gross
In *ACM Transactions on Graphics (Proc. SIGGRAPH 2014)*, vol. 33, no. 4, August 2014.
- [8.] **Augmenting Physical Avatars using Projector-Based Illumination**
A. Bermano, P. Brünscheiler, A. Grundhöfer, D. Iwai, B. Bickel, M. Gross
In *ACM Transactions on Graphics (Proc. SIGGRAPH Asia 2013)*, vol. 32, no. 6, November 2013.
- [9.] **Modeling and Estimation of Internal Friction in Cloth**
E. Miguel, R. Tamstorf, D. Bradley, S. Schvartzman, B. Thomaszewski, B. Bickel, W. Matusik, S. Marschner, M. Otaduy
In *ACM Transactions on Graphics (Proc. SIGGRAPH Asia 2013)*, vol. 32, no. 6, November 2013.
- [10.] **3D Printing Spatially Varying BRDFs**
O. Roullier, B. Bickel, J. Kautz, W. Matusik, M. Alexa
In *IEEE Computer Graphics and Applications*, vol. 33, no. 6, September 2013.
- [11.] **Orthogonal Slicing for Additive Manufacturing**
K. Hildebrand, B. Bickel, M. Alexa
In *Computers & Graphics (Shape Modeling International SMI 2013)*, vol. 37, no. 6, October 2013.
- [12.] **Facial Performance Enhancement using Dynamic Shape Space Analysis**
A. Bermano, D. Bradley, T. Beeler, F. Zünd, D. Nowrouzezahrai, I. Baran, O. Sorkine-Hornung, H. Pfister, B. Sumner, B. Bickel, M. Gross
In *ACM Transactions on Graphics*, vol. 33, no. 2, March 2014.
- [13.] **Computational Design of Mechanical Characters**
S. Coros, B. Thomaszewski, G. Noris, S. Sueda, M. Forberg, B. Sumner, W. Matusik, B. Bickel
In *ACM Transactions on Graphics (Proc. SIGGRAPH 2013)*, vol. 32, no. 3, July 2013.
- [14.] **Computational Design of Actuated Deformable Characters**
M. Skouras, B. Thomaszewski, S. Coros, B. Bickel, M. Gross
In *ACM Transactions on Graphics (Proc. SIGGRAPH 2013)*, vol. 32, no. 3, July 2013.
- [15.] **Fabricating Translucent Materials using Continuous Pigment Mixtures**
M. Papas, C. Regg, W. Jarosz, B. Bickel, S. Marschner, P. Jackson, W. Matusik, M. Gross
In *ACM Transactions on Graphics (Proc. SIGGRAPH 2013)*, vol. 32, no. 3, July 2013.
- [16.] **Physical Face Cloning**
B. Bickel, P. Kaufmann, M. Skouras, T. Beeler, B. Thomaszewski, D. Bradley, P. Jackson, S. Marschner, W. Matusik, M. Gross
In *ACM Transactions on Graphics (Proc. SIGGRAPH 2012)*, vol. 31, no. 3, August 2012.
- [17.] **Coupled 3D Reconstruction of Sparse Facial Hair and Skin**
T. Beeler, B. Bickel, G. Norris, P. Beardsley, B. Sumner, M. Gross
In *ACM Transactions on Graphics (Proc. SIGGRAPH 2012)*, vol. 31, no. 3, August 2012.

- [18.] **Fabricating Articulated Characters from Skinned Meshes**
M. Baecher, B. Bickel, D. James, H. Pfister
 In *ACM Transactions on Graphics (Proc. SIGGRAPH 2012)*, vol. 31, no. 3, August 2012.
- [19.] **crdbrd: Shape Fabrication by Sliding Planar Slices**
K. Hildebrand, B. Bickel, M. Alexa
 In *Computer Graphics Forum (Eurographics 2012)*, vol. 31, no. 2, May 2012.
- [20.] **Computational Design of Rubber Balloons**
M. Skouras, B. Thomaszewski, B. Bickel, M. Gross
 In *Computer Graphics Forum (Eurographics 2012)*, vol. 31, no. 2, May 2012.
- [21.] **Data-Driven Estimation of Cloth Simulation Models**
E. Miguel, D. Bradley, B. Thomaszewski, B. Bickel, W. Matusik, M. Otaduy, S. Marschner
 In *Computer Graphics Forum (Eurographics 2012)*, vol. 31, no. 2, May 2012.
- [22.] **High-Quality Passive Facial Performance Capture using Anchor Frames**
T. Beeler, F. Hahn, D. Bradley, B. Bickel, P. Beardsley, C. Gotsman, B. Sumner, M. Gross
 In *ACM Transactions on Graphics (Proc. SIGGRAPH 2011)*, vol. 30, no. 3, August 2011.
- [23.] **Design and Fabrication of Materials with Desired Deformation Behavior**
B. Bickel, M. Baecher, M. A. Otaduy, H. R. Lee, H. Pfister, M. Gross, W. Matusik
 In *ACM Transactions on Graphics (Proc. SIGGRAPH 2010)*, vol. 29, no. 3, July 2010.
- [24.] **High-Quality Single-Shot Capture of Facial Geometry**
T. Beeler, B. Bickel, P. Beardsley, B. Sumner, M. Gross
 In *ACM Transactions on Graphics (Proc. SIGGRAPH 2010)*, vol. 29, no. 3, July 2010.
- [25.] **Subsurface Scattering using Splat-Based Diffusion in Point-Based Rendering**
H.J. Kim, B. Bickel, M. Gross, S.M. Choi
 In *Science China Information Science*, 53: 1–9, April 2010.
- [26.] **Capture and Modeling of Non-Linear Heterogeneous Soft Tissue**
B. Bickel, M. Baecher, M. Otaduy, W. Matusik, H. Pfister, M. Gross
 In *ACM Transactions on Graphics (Proc. SIGGRAPH 2009)*, vol. 28, no. 3, August 2009.
- [27.] **Texturing Internal Surfaces from a Few Cross-Sections**
N. Pietroni, M. Otaduy, B. Bickel, F. Ganovelli, M. Gross
 In *Computer Graphics Forum (Proc. Eurographics 2007)*, vol. 26, no. 3, September 2007.
- [28.] **Multi-Scale Capture of Facial Geometry and Motion**
B. Bickel, M. Botsch, R. Angst, W. Matusik, M. Otaduy, H. Pfister, M. Gross
 In *ACM Transactions on Graphics (Proc. SIGGRAPH 2007)*, vol. 26, no. 3, August 2007.
- [29.] **Analysis of Human Faces using a Measurement-Based Skin Reflectance Model**
T. Weyrich, W. Matusik, H. Pfister, B. Bickel, C. Donner, C. Tu, J. McAndless, J. Lee, A. Ngan, H. W. Jensen, M. Gross
 In *ACM Transactions on Graphics (Proc. SIGGRAPH 2006)*, vol. 25, no. 3, July 2006.

PUBLICATIONS – PEER-REVIEWED INTERNATIONAL CONFERENCES

- [30.] **Computational Design of Walking Automata**
G. Bharaj, S. Coros, B. Thomaszewski, J. Tompkin, B. Bickel, H. Pfister
 Proc. ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA), Los Angeles, USA, 2015.
- [31.] **Pose-Space Animation and Transfer of Facial Details**
B. Bickel, M. Lang, M. Botsch, M. Otaduy, M. Gross
 Proc. ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA), Dublin, Ireland, 2008.
- [32.] **Adaptive Simulation of Electrical Discharges**
B. Bickel, M. Wicke, M. Gross
 VMV 2006, Aachen, Germany, 2006.

PUBLICATIONS – BOOKS AND BOOK CHAPTERS

- [33.] **From Sparse Mocap to Highly Detailed Facial Animation**
B. Bickel, M. Lang
GPU Computing Gems, Wen-mei W. Hwu (ed), Morgan Kaufmann, ISBN 9780123849885, 2011.
- [34.] **Measurement-Based Modeling and Fabrication of Deformable Materials for Human Faces**
B. Bickel
ETH Ph.D. Thesis, Nr. 19327, 2010.

PUBLICATIONS – PEER-REVIEWED ABSTRACTS, POSTERS, AND DEMOS

- [35.] **CG and Digital Fabrication: Computational Challenges in Designing Virtual Models for Fabrication**
B. Bickel
Abstract Proc. Symposium on Mathematical Progress in Expressive Image Synthesis, Fukuoka, Japan, November 12-14, 2014.
- [36.] **Throwable Panoramic Ball Camera**
J. Pfeil, K. Hildebrand, C. Gremzow, B. Bickel, M. Alexa
SIGGRAPH Asia 2011 Emerging Technologies, Hong Kong, December 13-15, 2011.
- [37.] **Subsurface Scattering in Point-Based Rendering**
H.-J. Kim, B. Bickel, M. Gross, S.-M. Choi
Poster Proc. Pacific Conference on Computer Graphics and Applications, Jeju, Korea, October 7-9, 2009.
- [38.] **Implementation Sketch: Processing and Editing of Faces using a Measurement-Based Skin Reflectance Model**
B. Bickel, T. Weyrich, W. Matusik, H. Pfister, C. Donner, C. Tu, J. McAndless, J. Lee, A. Ngan, H. W. Jensen, M. Gross
Sketch ACM SIGGRAPH 2006, Boston, USA, July 30 – August 3, 2006.

PUBLICATIONS – TUTORIALS

- [39.] **Computational Tools for 3D Printing**
N. Umetani, B. Bickel, W. Matusik
Course Notes ACM SIGGRAPH 2015, Los Angeles, USA, August 9-13, 2015.
- [40.] **Data-Driven Simulation Methods in Computer Graphics: Cloth, Tissue and Faces**
Miguel A. Otaduy, B. Bickel, D. Bradley
Tutorial Eurographics 2013, Girona, Spain, May 6-10, 2013.
- [41.] **Data-Driven Simulation Methods in Computer Graphics: Cloth, Tissue and Faces**
Miguel A. Otaduy, B. Bickel, D. Bradley, H. Wang
Course Notes ACM SIGGRAPH 2012, Los Angeles, USA, August 5-9, 2012.

PUBLICATIONS – PATENTS AND ONGOING PATENT APPLICATIONS

- [42.] **Three Dimensional (3D) Printer System and Method for Printing 3D Objects with User-Defined Material Parameters**
B. Bickel, C. Schumacher, S. Marschner
USA, Filing 10/2014.
- [43.] **Walking Machines**
G. Bharaj, B. Thomaszewski, S. Coros, B. Bickel
USA, Filing 09/2014.
- [44.] **Modular Design of Complex Tensegrity Structures**
B. Thomaszewski, S. Coros, B. Bickel, S. Mani
USA, Filing 07/2014.
- [45.] **Augmenting Physical Avatars Using Projector Based Illumination**
B. Bickel, A. Bermano, A. Grundhöfer, P. Brünsweiler, D. Iwai, M. Gross
USA, Filing 11/2013.

- [46.] **Posture Guided Design of Deformable Objects**
B. Bickel, M. Skouras, B. Thomaszewski, S. Coros, M. Gross
USA, Filing 09/2013.
- [47.] **3D Printing with Custom Surface Reflectance**
B. Bickel, O. Roullier, W. Matusik, J. Kautz, M. Alexa
USA, Filing 09/2013.
- [48.] **Motion-Based Design of Mechanical Objects**
S. Coros, B. Thomaszewski, W. Matusik, B. Bickel, S. Sueda
USA, Filing 09/2013.
- [49.] **Method of Fabricating Translucent Materials with Desired Appearance**
W. Jarosz, C. Regg, S. Marschner, W. Matusik, P. Jackson, M. Papas, B. Bickel
USA, Filing 07/2013, Publication 07/2014.
- [50.] **Articulated Character Fabrication**
M. Bäcker, B. Bickel, D. James, H. Pfister
USA, Filing 10/2013, Publication 01/2014.
- [51.] **Physical Reproduction of Reflectance Fields**
B. Bickel, M. Alexa, J. Kautz, W. Matusik, F. Pece
USA, Filing 09/2012. Publication 01/2013.
- [52.] **Computational Design of Inflatable Deformable Balloons**
B. Bickel, B. Thomaszewski, M. Skouras
USA, Filing 04/2012, Publication 03/2012.
- [53.] **Coupled Hair and Skin Reconstruction**
T. Beeler, B. Bickel, P. Beardsley, B. Sumner
USA, Filing 04/2012, Publication 12/2012.
- [54.] **Physical Face Cloning**
B. Bickel, P. Kaufmann, T. Beeler, B. Thomaszewski, D. Bradley, P. Jackson, S. Marschner, W. Matusik, M. Gross
USA, Filing 10/2011, Publication 07/2012.
- [55.] **High-Quality Passive Facial Performance Capture using Anchor Frames**
T. Beeler, B. Bickel, F. Hahn, D. Bradley, P. Beardsley, B. Sumner, M. Gross
USA, Filing 01/2012.
- [56.] **Design and Fabrication of Materials with Desired Characteristics from Base Materials Having Determined Characteristics**
B. Bickel, W. Matusik, M. Otaduy, M. Gross, H. Pfister
USA, China, India, Filing 02/2011, Publication 03/2012, Issued 10/2013.
- [57.] **System and Method for Mesoscopic Geometry Modulation**
T. Beeler, B. Bickel, M. Gross, B. Sumner
USA, Filing 01/2010, Publication 07/2011. New Zealand, India, China, Filing 01/2011.
- [58.] **System and Method for Invariant-Based Normal Estimation**
T. Beeler, B. Bickel, M. Gross, B. Sumner
USA, Filing 01/2010, Publication 12/2013, Issued 12/2013.

INVITED TALKS AND PANELS (Selection)

Computational Design of Mechanical Characters

Invited Talk, INRIA, Rennes, France, 12/2015

Computational Design of Mechanical Characters

Invited Talk, Meeting of the International Interdisciplinary Thematic Network (RTP-I), CNRS: From Humans and Non-Human Primates to Robots: Motion, Rousset-sur-Arc, France, 12/2015.

3D Printing: Trends and Emerging Computational Challenges

Invited Talk, *GDC Symposium on Geometry and Computational Design*, Vienna, Austria, 11/2015

Computational Challenges in Designing Virtual Models for Fabrication

Keynote, *CAD/Graphics 2015*, Xi'an, China, 08/2015

3D Druck: Trends, Entwicklungen und neue Herausforderungen für die IKT

Invited Talk, *Themennetzwerk IKT, Deutsche Akademie der Technikwissenschaften*, Düsseldorf, Germany, 04/2015

Computational Challenges in Designing Virtual Models for Fabrication

Keynote, *MEIS Mathematical Progress in Expressive Image Synthesis 2014*, Fukuoka, Japan, 11/2014.

3D Printing: Trends and Developments

Invited Talk and Panel, *MEDIENTAGE MUNICH 2014*, Munich, Germany, 10/2014.

Computer Graphics, BioCAD, and Computational Tissue Fabrication

Invited Panel Discussion, *ISAT/DARPA Workshop on Computational Tissue Fabrication (COTIF 2014)*, MIT Endicott House, Boston, USA, 08/2014.

Computational Design and Fabrication

Invited Talk, *IBT Seminar ETH*, Zurich, Switzerland, 02/2014.

Computational Design and Fabrication

Keynote, *CIMST Summer School on Biomedical Imaging 2013*, Zurich, Switzerland, 09/2013.

Computational Design and Fabrication

Keynote, *MIRAGE 2013*, Berlin, Germany, 06/2013.

Computational Design and Fabrication: From Acquisition to Simulation and Beyond!

Invited Talk, *IST Austria*, Klosterneuburg, Austria, 06/2013.

Bringing Virtual Characters to the Real World

Invited Talk, *SCCG Spring Conference on Computer Graphics*, Smolenice, Slovak Republic, 05/2013.

Bringing Virtual Characters to the Real World

Invited Talk, *FMX 2013 Conference on Animation, Effects, Games and Transmedia*, Stuttgart, Germany, 04/2013.

Computational Design and Fabrication

Invited Talk, *ETH Computer Science Faculty Lunch*, Zurich, Switzerland, 04/2013.

Bringing Virtual Characters to the Real World

Invited Talk, Max-Planck-Institut für Informatik, Saarbrücken, Germany, 2/2013.

Computer Graphics – From Reality to Reality

Invited Talk, *Trinity Week Symposium on Creative Technologies*, Trinity College, Dublin, Ireland, 04/2012.

Computer Graphics – From Reality to Reality

Invited Talk, Berliner Kolloquium für Wiss. Visualisierung, ZIB Konrad-Zuse-Institut, Berlin, Germany, 04/2012.

Computer Graphics and Digital Fabrication

Invited Talk, *Hybrid Talks and Prototyping Symposium*, Universität der Künste, Berlin, Germany, 11/2011.

Human Faces - From Acquisition towards Fabrication

Invited Talk, Vienna University of Technology and Austrian Computer Society, Vienna, Austria, 06/2011.

From Capture and Modeling of Human Faces to Fabrication

Keynote, *FAA ACM / SSPNET 2nd International Symposium on Facial Analysis and Animation in Dublin*, Edinburgh, UK, 10/2010.

Practical Motion Capture Systems

Invited Talk and Panel, *IMAGINA 2008*, Monte-Carlo, Monaco, 01/2008.

Multi-Scale Capture of Facial Geometry and Motion

Invited Talk, *CVMP European Conference On Visual Media Production (CVMP2007)*, London, UK, 11/2007.

PROFESSIONAL ACTIVITIES

Organizer

Co-organizer Dagstuhl Seminar on Computational Aspects of Fabrication, 09/2014

Co-organizer MIT Symposium on Computational Fabrication, 04/2016

Editor

Guest co-editor Computer Graphics and Applications, special issue on Graphics and Fabrication 2013

Journal of Computer Graphics Techniques, since 2014

Program Chair

Eurographics Short Papers 2015
Pacific Graphics Technical Co-Papers Chair 2016

Program Committee

ACM SIGGRAPH Technical Papers 2012, 2013, 2015
ACM UIST Technical Papers 2014
Computer Graphics International 2013
Symposium on Computer Animation 2010, 2011, 2012, 2013, 2014
Eurographics 2015
Eurographics Symposium on Rendering 2013, 2014
Spring Conference on Computer Graphics 2013
Eurographics Short Papers IPC 2013, 2014
International Program Committee for Pacific Graphics 2013, 2014
ACM / SSPNET International Symposium on Facial Analysis and Animation 2012
International Conference and Exhibition on 3D Body Scanning Technologies 2012
International Conference on Computer Graphics Theory and Applications GRAPP 2013, 2014
International Conference on Computer-Aided Design and Computer Graphics 2015

Reviewer

ACM SIGGRAPH 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016
ACM SIGGRAPH Asia 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015
ACM Transaction on Graphics 2010, 2012, 2015, 2016
Eurographics 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015
ACM CHI 2016
ACM UIST 2014, 2015
Computer Graphics International 2012
Graphics Interface 2012
IEEE Visualization Conference 2008
Pacific Graphics 2010, 2012
CVMP 2015
CAD/Graphics 2015
World Haptics Conference 2009
Signal Processing: Image Communication 2010
Sensors 2010, 2013
Computers & Graphics 2011
Funding agency WWTF 2012
IEEE Transactions on Visualization and Computer Graphics 2012, 2013, 2015
IEEE Multimedia 2012
Optical Engineering 2013
Applied Bionics and Biomechanics 2013

Initiator

Hybrid Plattform, a transdisciplinary project-laboratory, network, and initiative of the Berlin University of the Arts and the Technical University of Berlin, to support common projects in research and education.