Miklós Bergou

CONTACT INFORMATION

Adobe Systems, Inc.
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RESEARCH INTERESTS

Physical simulation of deformable objects; Geometry processing; Computational photography; Physical and mathematical foundations of computer animation and graphics

EMPLOYMENT

Computer Scientist, Advanced Technology Labs, Adobe Systems, Inc. September 2010–present

- Work experience includes image relighting, image editing, geometry processing, and mesh parameterization
- Responsibilities are to conceive research projects, develop prototype solutions, and implement mature projects as product features

EDUCATION

Columbia University, New York, NY Aug 2005 – May 2010

PhD in Computer Science (May 2010) and *MS in Computer Science* (Feb 2007)

- Advisor: Prof. Eitan Grinspun
- Thesis: *Discrete Geometric Dynamics and Artistic Control of Curves and Surfaces*

Carnegie Mellon University, Pittsburgh, PA Aug 2001 – May 2005

BS in Computer Science and *BS in Physics*

- Minor: Mathematics
- GPA: 4.0

PUBLICATIONS

"Discrete Viscous Threads," M. Bergou, B. Audoly, E. Vouga, M. Wardetzky, E. Grinspun. *ACM Transactions on Graphics* (SIGGRAPH), 29(4), July 2010, pp. 116:1–116:10.

"Discrete Elastic Rods," M. Bergou, M. Wardetzky, S. Robinson, B. Audoly, and E. Grinspun. *ACM Transactions on Graphics* (SIGGRAPH), 27(3), August 2008, pp. 63:1–63:12.

"TRACKS: Toward Directable Thin Shells," M. Bergou, S. Mathur, M. Wardetzky, and E. Grinspun. *ACM Transactions on Graphics* (SIGGRAPH), 26(3), July 2007, pp. 50:1–50:10.

"Discrete Quadratic Curvature Energies," M. Wardetzky, M. Bergou, D. Harmon, D. Zorin, and E. Grinspun, *Computer Aided Geometric Design*, 24(8-9), 2007, pp. 499–518.
2010 Most Cited Paper Award for *Computer Aided Geometric Design*

"Discrete Quadratic Curvature Energies," M. Bergou, M. Wardetzky, D. Harmon, D. Zorin, and E. Grinspun, Discrete Differential Geometry: An Applied Introduction, *SIGGRAPH course notes* (2006).

"A Quadratic Bending Model for Inextensible Surfaces," M. Bergou, M. Wardetzky, D. Harmon, D. Zorin, and E. Grinspun. *Symposium on Geometry Processing*, June 2006, pp. 227–230.

PROFESSIONAL EXPERIENCE

Reviewer
SIGGRAPH 2007–2011, SIGGRAPH Asia 2009; Eurographics 2011 and 2012; Transactions on Graphics (TOG) 2011; Transactions on Vision and Computer Graphics (TVGC) 2009; Symposium on Computer Animation (SCA) 2006, 2009 and 2011; Symposium on Geometry Processing (SGP) 2006; Symposium on Interactive 3D Graphics and Games (i3D) 2009; Medical Image Analysis (MedIA) 2009

Researcher, Carnegie Mellon University Summer 2004

- Worked with Prof. Gary Miller on simulation of blood cell flow
- Project entitled "Solving Partial Differential Equations Numerically"
- `http://www.aladdin.cs.cmu.edu/reu/mini_probes/2004/mesh_pde.html`

Teaching Experience

Lecturer, Columbia University — Spring 2009

- Primary lecturer for COMS4167 Physically Based Computer Animation (co-lecturer D. Harmon)
- Designed and taught the course, including lectures, assignments, and exams

Guest lecturer, Columbia University — Spring 2006

- COMS3202 Discrete Mathematics

Teaching Assistant, Carnegie Mellon University — Fall 2003 – Spring 2005

- 15-462 Introduction to Computer Graphics
- 15-212 Principles of Programming
- 15-211 Fundamental Data Structures and Algorithms
- Taught recitations, held office hours, and designed projects

Awards

Intel PhD Fellowship Award, Intel — 2009

Autodesk Research Fellowship, Autodesk — 2008

Presidential Distinguished Fellowship, Columbia University — 2005-2009

Samuel Horelick Scholarship, Carnegie Mellon University — Fall 2004

Andrew Carnegie Society Scholar, Carnegie Mellon University — Fall 2004

Boeing Leadership Scholarship, Carnegie Mellon University — Fall 2003

Honors

Sigma Pi Sigma Honor Society, Carnegie Mellon University — Spring 2005

Senior Leader Recognition, Carnegie Mellon University — Spring 2005

Phi Beta Kappa Honor Society, Carnegie Mellon University — Fall 2004

Phi Kappa Phi Honor Society, Carnegie Mellon University — Fall 2003

National Society of Collegiate Scholars, Carnegie Mellon University — Spring 2002

Dean's List, Carnegie Mellon University School of Computer Science — 2001-2005

Press

"Professor's work leads to animation advances." F. Vigeland, Columbia Spectator. Sep 2010.
`http://www.columbiaspectator.com/2010/09/28/professor-s-work-leads-animation-advances`

"Student granted Intel Fellowship for graphics." T. P. Wood, Columbia Spectator. Nov 2009.
`http://www.columbiaspectator.com/2009/11/20/student-granted-intel-fellowship-graphics`