

DEPARTMENT OF COMPUTER SCIENCE • CALPOLY.  
SAN LUIS OBISPO, CA 93407  
PHONE 805.756.5540 • E-MAIL ZWOOD@CALPOLY.EDU

## ZOË J. WOOD

### RESEARCH INTERESTS

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geometric modeling, computational topology, real-time graphics for games and scientific visualization

### EDUCATION

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|                    |  |                       |
|--------------------|--|-----------------------|
| <b>2000 – 2003</b> | <b>California Institute of Technology</b>                          | <b>Pasadena, CA</b>   |
|                    | Ph.D. Computer Science   |                       |
|                    | Thesis: Computational Topology Algorithms for Discrete 2-manifolds |                       |
| <b>1997 – 2000</b> | <b>California Institute of Technology</b>                          | <b>Pasadena, CA</b>   |
|                    | M.S. Computer Science  |                       |
|                    | Thesis: Semi-regular Mesh Extraction from Volumes                  |                       |
| <b>1994 – 1997</b> | <b>University of California</b>                                    | <b>Santa Cruz, CA</b> |
|                    | B.S. Computer Science  |                       |
| <b>1988 – 1992</b> | <b>University of California</b>                                    | <b>Santa Cruz, CA</b> |
|                    | B.A. Women's Studies and American Studies                          |                       |

### PUBLICATIONS

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#### **Semi-regular Mesh Extraction from Volumes**

Zoë Wood, Mathieu Desbrun, Peter Schröder and David Breen  
*Proceedings of IEEE Visualization 2000*

#### **Topological Noise Removal**

Igor Guskov and Zoë Wood  
*Proceedings of Graphics Interface 2001*

#### **Multi-chart Geometry Images**

Pedro Sander, Zoë Wood, Steven Gortler, J. Snyder, H. Hoppe  
*Eurographics Symposium on Geometry Processing 2003*

#### **Isosurface Topology Simplification**

Zoë Wood, Hugues Hoppe, Mathieu Desbrun and Peter Schröder  
*ACM Transactions on Graphics, April 2004*

#### **Energetically Optimal Travel across Terrain: Visualizations and a New Metric of Geographic Distance with Archaeological Applications**

Brian Wood and Zoë Wood  
*SPIE Electronic Imaging, January 2006*

### **Discrete Shells Origami**

Rob Burgoon, Zoë Wood and Eitan Grinspun

*The 21st International Conference on Computers and Their Applications (CATA-2006)*,  
March 2006

### **Interactive Thin Shells - A Model Interface for the Analysis of Physically-based Animation**

James Skorupski, Zoë Wood and Alex Pang

*Proceedings of CAINE, San Francisco, CA, November 2007*

### **Using Hybrid Approaches to Solve the Challenges of Shape from Shading**

Ryan Murphy and Zoë Wood

*Proceedings of SPIE Electronic Imaging, San Jose, CA, January 2007*

### **Locating the Source of Topological Error in Reconstructed 3D Models**

Eric Firestone, Craig Povey and Zoë Wood

*Proceedings of SPIE Electronic Imaging, San Jose, CA, January 2007*

### **Direct Extraction of Normal Mapped Meshes from Volume Data**

Mark Barry and Zoë Wood

*Lecture Notes in Computer Science (Advances in Visual Computing), Springer Verlag, 2007*

### **User Driven Two-dimensional Computer Generated Ornamentation**

Dustin Anderson and Zoë Wood

*Lecture Notes in Computer Science (Advances in Visual Computing), Springer Verlag, 2008*

### **Energetic Path Finding Across Massive Terrain Data**

Andrew Tsui and Zoë Wood

*Proceedings of ISVC, 2009*

## AWARDS RECEIVED

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Microsoft Research Fellowship 2001-2003

Calpoly Computer Science Professor of the Year 2003-2004

## TEACHING

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Cal Poly: CSC 471 **Introduction to Computer Graphics**, 2003 (Fall), 2004 (Winter, Spring), 2005 (Spring), 2006 (Spring), 2007 (Winter), 2009 (Spring)

Cal Poly: CSC 476 **Real-time 3D Computer Graphics Software Systems**, 2004 (Spring), 2007 (Spring), 2008 (Fall), 2009 (Spring)

Cal Poly: CSC 570/572 **Computer Graphics**, 2005 (Winter), 2006 (Winter), 2007 (Winter), 2008 (Fall)

Cal Poly: CSC 101 **Fundamentals of Computer Science**, 2005 (Fall), 2006 (Fall), 2009 (Winter)

Caltech: Instructor CS 101.3 **Topics in Computer Graphics**, 2002 (Spring)

Caltech: Teaching Assistant CS 138ab **Algorithms**, 1999/00 (Fall/Winter)

## SERVICE

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Reviewer for ACM SIGGRAPH, IEEE Visualization, ACM TOG, Pacific Graphics, Shape Modeling International, IEEE Computer Graphics and Applications, IEEE Transactions on Visualizations and Computer Graphics

## INVITED LECTURES AND COLLOQUIA

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Stanford University Graphics Lunch, March 2001

Caltech CACR Seminar, April 2001

Graphics and Visualization Center Televideo Seminar, March 2001

Mills College Colloquium, October 2002

Westmont College, Colloquium, September 2005

COSMOS, California State Summer School for Mathematics and Science at U.C. Santa Cruz, July 2006

## EMPLOYMENT AND RESEARCH EXPERIENCE

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9/2003 – Present California Polytechnic State University San Luis Obispo, CA

***Assistant Professor***

- Research interests include geometric modeling, computational topology and scientific visualization

6 – 9/2002 Microsoft Corporation Bellevue, WA

***Research Intern for Microsoft Research***

- Explored and implemented algorithms to represent geometric models as multi-chart geometry images

6 – 9/2001 Microsoft Corporation Bellevue, WA

***Research Intern for Microsoft Research***

- Explored and implemented new techniques for isosurface topology simplification

6 – 9/1998 Hewlett-Packard Research Labs Palo Alto, CA

***Research Intern***

- Explored and implemented a view-dependant texture mapping algorithm for the image-base modeling group

6 – 9/1997 NASA-Ames Research Center Moffett Field, CA

***Research Intern***

- Explored and implemented comparative visualization tools for wind tunnel data

## REFERENCES

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Peter Schröder  
Department of Computer Science  
California Institute of Technology  
Pasadena, CA 91125  
ps@cs.caltech.edu

Hugues Hoppe  
Microsoft Research  
1 Microsoft Way  
Redmond, WA 98052  
hhoppe@microsoft.com

Mathieu Desbrun  
Department of Computer Science  
University of Southern California  
Los Angeles, CA 90089-0781  
desbrun@usc.edu

Steven Gortler  
Department of Computer Science  
Harvard University MD 243  
33 Oxford St.  
Cambridge MA 02138  
sjg@cs.harvard.edu