

## MICHAEL J. BAILEY

Oregon State University Computer Science  
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### EDUCATION

- 1979 Ph.D. in Computer Aided Design and Computer Graphics (through the School of Mechanical Engineering): Purdue University, West Lafayette, IN. Advisor: Dr. David C. Anderson.
- 1976 Master of Science in Computer Graphics and Computer Aided Design (through the School of Mechanical Engineering – MSME): Purdue University.
- 1975 Bachelor of Science in Mechanical Engineering (BSME): Purdue University. Graduated with Highest Distinction.

### PROFESSIONAL EXPERIENCE

- 2004-present Professor, Computer Science, Oregon State University
- 1989-2004 Adjunct Professor, Computer Science Engineering (CSE) and Mechanical Engineering (MAE), University of California at San Diego, San Diego, CA.
- 1989-2004 Director of Visualization Scientist, San Diego Supercomputer Center; San Diego, CA.
- 1985-1989 Director of Advanced Development: Megatek Corporation; San Diego, CA.
- 1981-1985 Associate/Assistant Professor of Mechanical Engineering and Associate Director of the Computer Aided Design and Graphics Laboratory: Purdue University; West Lafayette, IN.
- 1979-1981 Member of Computer Aided Design Technical Staff: Sandia National Laboratories; Albuquerque, NM.

### PROFESSIONAL ACTIVITIES AND AWARDS

- OSU CS Professor Award, 2005.
- UCSD Distinguished Teaching Award, 2002.
- UCSD Computer Science Teacher of the Year award: 1997-98, 1998-99, 1999-2000, 2000-2001, and 2001-02. (Rules changed in 2002 to not allow more than 5 awards...)
- UCSD Connect Athena Pinnacle award for K-12 outreach activities, 1999.
- Chair, national Graphics Performance Characterization (GPC) group, 1993–1997.
- United States Patent 5,185,858: Image Priority Video Switch, 1991.
- Member, Association of Computing Machinery (ACM) and ACM's Special Interest Group on Computer Graphics (ACM-SIGGRAPH).
  - Elected: SIGGRAPH Executive Committee, 1986-1988. Re-elected: 1988-1990.
  - SIGGRAPH Conference Co-Chair, 1991.
  - Member, SIGGRAPH Book Series Editorial Board 1994-
  - Editor, SIGGRAPH Technical Slide Set, 1998-
- Member, IEEE Computer Society and Technical Interest Group on Computer Graphics.
  - IEEE Visualization Conference Chair, 2001.
- Technical Chair, VRML '95 Symposium, December 1995.
- Recipient, SAE Ralph Teetor Award, 1983, for excellence in teaching and student service.

### RESEARCH ACTIVITIES

Research areas of interest include a variety of topics in the general field of scientific computer graphics, with a specific interest in multiresolution techniques for visualizing and searching large volume datasets, solid freeform fabrication for visualization hardcopy, stereographics/virtual reality, geometric modeling, and user interaction. Director of the Center for 3D Hardcopy project.

**Students graduated in last 4 years (and where they went):** Cherilynn Michaels (Orincon), Timothy Wang (?), Steve Lukas (Sony), Wolfgang Bloem (IBM), Daniel New (SPAWAR), Kyle Bulloch (Hewlett-Packard), Dru Clark (SIO), Matt Clothier (OSU PhD program), Nick Gebbie (UCSD PhD program), John Datuin (Hewlett-Packard).

**Currently graduate advisor for:** Matt Clothier, Kyle Hatcher, Ankit Khare, Vasu Lakshmanan, Daniel Moffitt, Avneet Sandhu.

#### **RECENT RELEVANT PUBLICATIONS**

- D. R. Nadeau and M. J. Bailey, "Visualizing Volume Data Using Physical Models", *Proceedings of IEEE Visualization 2000*, October 2000, pp. 497-500.
- Mike Bailey, John Rapp, and Dru Clark, "A Portable Graphics Program for Rapid Prototyping File Display, Repair, and Interchange ", *Proceedings of the Second Annual International Conference on Rapid prototyping*, Beijing, China, August 19-20, 2002, pp. 167-174.
- Matt Clothier and Mike Bailey, "Augmented Reality for Viewing Articulated Structures", IASTED International Conference on Computer Graphics and Imaging (CGIM 2003), Honolulu, HI, August 13-15, 2003.
- Bailey M, Knox K, Kerber C, Singel SA, and Imbesi SG, "Manipulation of volume data to manufacture vascular replicas", *Studies in Health Technology Information*. 2004; Volume 98, pp. 25-27.
- Knox K, Kerber CW, Singel SA, Bailey MJ, Imbesi SG, "Rapid prototyping to create vascular replicas from CT scan data: Making tools to teach, rehearse, and choose treatment strategies", *Catheterization and Cardiovascular Interventions*, May 2005; Volume 65, Number 1, pp. 47-53.
- Mike Bailey, "Using Layered Manufacturing for Scientific Visualization", *Communications of the ACM*, Volume 48, Number 6, June 2005, pp. 43-48.
- Mike Bailey, "Modeling and Imaging Mechanical Chaos", accepted to the ASME 2005 International Design Engineering Technical Conference (IDETC), Long Beach, CA, September 24-28, 2005.
- Mike Bailey, "Visualizing the Motion of Planar Mechanisms with Volume Methods", accepted to the ASME 2005 International Design Engineering Technical Conference (IDETC), Long Beach, CA, September 24-28, 2005.

#### **COLLABORATORS**

Drs. David Benson, Mohan Trevedi, Ramesh Rao, Larry Smarr, Serge Belongie, Sam Buss: UC San Diego  
Drs. Jim Burns, Eric Frost: San Diego State University  
Drs. Mark Henderson, Anshuman Razdan: Arizona State University  
Dr. Steve Cunningham, California State University: Stanislaus

#### **SYNERGISTIC ACTIVITIES**

- Co-chaired ACM SIGGRAPH 1991 conference.
- Chaired IEEE Visualization 2001 conference.
- Technical Chair for VRML 1995 workshop.
- UCSD Computer Science Teacher of the Year 5 times: 1997-1998, 1998-1999, 1999-2000, 2000-2001, and 2001-02; and winner of UCSD Distinguished Teaching Award 2002. I take my research in computer graphics and scientific visualization into the classroom, apparently in a way the students appreciate.
- Chaired the national Graphics Performance Characterization (GPC) group, 1993-1997. This is an industry-wide organization dedicated to creating universal graphics performance benchmarks.
- Co-leader, Girl Scout Science Interest Group, a group for middle and high school girls interested in science.