

Cindy Marie Grimm

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Professional experience

- 9/2015 – present **Associate Professor**, Oregon State University
School of Mechanical, Industrial, and Manufacturing Engineering

Adjunct faculty, School of Electrical Engineering and Computer Science

Adjunct faculty, College of Liberal Arts
- 9/2012 – 9/2015 **Research Associate Professor**, Oregon State University
School of Mechanical, Industrial, and Manufacturing Engineering
- 6/2012 – 9/2012 **Research Associate**, Washington University in St. Louis
Department of Computer Science and Engineering
- 7/2007 – 6/2012 **Associate Professor**, Washington University in St. Louis
Department of Computer Science and Engineering
- 8/2000 – 7/2007 **Assistant Professor**, Washington University in St. Louis
Department of Computer Science and Engineering
- 2/1999 – 7/2000 **Post-Doctoral Researcher**, Brown University
Research topic: Surface reconstruction for biomedical visualization
- 10/1996 – 1/1999 **Post-Doctoral Researcher**, Microsoft Research
Research topic: Capturing and modeling facial animation
- 5/1996 – 10/1996 **Post-Doctoral Researcher**, Brown University
Research topic: Automatic surface fitting
- 9/1995 – 12/1995 **Lecturer**, Brown University
Course: Advanced graphics research using splines, wavelets, and Fourier transforms
- 6/1993 – 9/1995 **Research assistant**, Brown University
Research topics: Surface modeling, collaboration with the University of Utah on user interfaces for surface modeling
- 9/1990 – 5/1993 **Teaching assistant**, Brown University
Courses: Beginning and advanced graphics, Intro to Computer Science

Summers '85 – '88 **Programmer**, Apple Computer
Projects: Researching and producing metrics for source code analysis

Education

Spring 1996 **Ph.D. Computer Science** Brown University
Thesis: *Modeling Surfaces of Arbitrary Topology using Manifolds*
Advisor: John Hughes, Brown University
Committee: Andries van Dam (Brown), Tony deRose (University of Washington, now at Pixar)

Spring 1992 **Sc.M. Computer Science** Brown University

Fall 1990 **B.A. Computer Science** University of California at Berkeley
B.A. Art University of California at Berkeley

Awards

NSF Career Award (2002-2006)
[Dar Reese Excellence in Advising Award](#) (2016)

Professional activities

- **Associate editor [4]**
ACM Transactions on Graphics, 2002-2011
ELSEVIER Computers and Graphics, 2007-2011
Journal of Graphics Tools, 2008-present (note, now [Journal of Computer Graphics Techniques](#))
IEEE Computers and Graphics Applications, 2010-2015
- **Guest editor special issue [2]**
Elsevier Computers and Graphics 34(5), 2010, Extended papers from the 2009 Sketch-Based Interfaces and Modeling Conference (with Joe Laviola)
IEEE Computers and Graphics Applications Biomedical Applications: From Data Editing to Modeling, Sept 2012, (with G. Elizabeta Marai)
- **Papers Chair [3]**
Non-Photorealistic Animation and Rendering, 2012
Sketch-Based Interfaces and Modeling, 2009
ACM Student Research Competition, 2005
- **Conference and workshop organizer [5]**
ACM Symposium on Applied Perception 2018, Conference Organizer
Human Robot Interaction 2017, Workshop organizer, Privacy-Sensitive Robotics, (co-organizers Matthew Rueben, William Smart, Maya Cakmak)
Expressive 2013 (Joint symposium on Computational Aesthetics and Sketch-Based Interfaces and Modeling and Non-Photorealistic Animation and Rendering), General chair
Siggraph 2009, 2010 Conference Committee
Sketch-based Interfaces and Modeling (SBIM) 2009 co-papers chair
Midgraph [founder], (Mid-west graphics conference, co-chair Bobby Bodenheimer, Vanderbilt University, 2003), (co-chair Tao Ju), 2008

SIAM Committee member 2017-2019

- **Committee member [21]**
 - AWM SIAM Subcommittee, 2017-2019
 - SIGGRAPH papers, 2017
 - Graphite 2005, 2006, 2007
 - Symposium on Geometry Processing, 2006-2014
 - Siggraph Sketches (now Unified Jury), 2003, 2004, 2007, 2008, 2013, 2014, 2015, 2016
 - Siggraph Asia Posters and Technical briefs, 2012-2014
 - ACM Student Research Competition, 2004
 - Computer Graphics International, 2005, 2006, 2009
 - Eurographics, 2010, 2014
 - Interactive 3D Graphics 2005-2009
 - CAD/Graphics 2005-2009
 - Pacific Graphics 2002, 2003, 2007, 2008, 2013-2015
 - Non-photorealistic Animation and Rendering (NPAR, now Expressive) 2007-2012
 - 10th International Conference on CAD/Graphics, 2007
 - IEEE CVPR workshop “Beyond Multiview Geometry: Robust Estimation and Organization of Shapes from Multiple Cues”, 2007
 - IEEE Conference on Visualization, 2007, 2008
 - GRAPP, 2007-2008
 - Shape Modeling International 2008-2015
 - MICCAI MeshMed 2013-2015
 - SIAM Conference on Geometric and Physical Modeling (GD/SPM13-15)
 - ACM Symposium on Applied Perception 2014
 - Expressive 2013-2015
 - [CompImage](#) 2014
 - Grace Hopper Conference (Gaming/Graphics/Animation track, 2013,2016)
- **Reviewer [40]**
 - IEEE International Symposium on Robot and Human Interaction (RO-MAN), ACM Human Robot Interaction (HRI), IEEE Transactions on Human-Machine Interaction, IEEE Transactions on Medical Imaging, Marsden Fund in New Zealand, Grace Hopper, Medical and Biological Engineering and Computing (MBEC), Siggraph papers (1993-present), Computer Aided Geometric Design, IEEE Transactions on Graphics and Visualization, ACM Transactions on Graphics, Journal of Computing and Information Science in Engineering, IEEE Visualization, IEEE Information Visualization, IEEE Computer Graphics and Applications, AI EDAM, Shape Modeling International, Eurographics Visualization, The Visual Computer, Graphics Interface, Siggraph courses, Siggraph posters, ACM student research competition, International Journal of Robotics Research, Eurographics, Grace Hopper fellowship, IEEE PAMI, Siggraph Asia papers, Sketch-based Interfaces and Modeling, IEEE Signal Processing, ACM SigChi, SPIE Journal of Electronic Imaging, IEEE Transactions on Image Processing, ACM Solid and Physical Modeling, Non-

photorealistic Animation and Rendering (NPAR), Leonardo, Computer Graphics Forum, Tomorrow Project, Virtual Reality in Brazil, Differential Geometry

- **Advisory board (3)**
 - Computer Graphics Year in Review, AK Peters LTD, 2003-2005
 - Expressive 2012-2014
 - ACM Small Conferences
- **Invited research presentations [26]**
 - Association of Women Mathematicians (SIAM), Apr 2019, Symposium on Applied Perception, Germany, Sept. 2017, Association of Women Mathematicians, Baltimore MD Jan 2014, SIAM conference, Jan 2014, 2013 Center for Genome Research, OSU, Spring conference (6/3), Rochester Institute of Technology (5/13), Oregon State Mechanical Engineering (4/12), [Trimester program on computational manifolds](#), Impa, Rio de Janeiro, (10/11). [BIRS Workshop 11w5018 Geometry for Anatomy](#), Banff, (8/11), Dreamworks, (6/11), [2011 Bellairs Workshop on Computer Animation: GRAND Challenges, Animation and Geometry](#), Barbados, (3/11), University of Oregon (5/11), Oregon State (5/11), Adobe (1/11), Drexel College (4/10), BIRS workshop on Geometric modeling (5/09), University of Missouri (5/08), SIAM Conference on Geometric Design and Computing [plenary talk] (10/05), University of California at Berkeley (5/05), Northwestern University (10/04), Carnegie-Melon university (4/03), University of Utah (10/02), University of Wisconsin (4/00), George Washington University (4/00), University of Calgary (4/00), University of Toronto (3/00), Princeton University (9/00), Harvard University (9/99), University of Christchurch (2/96), Stanford University (4/95)
- **Conference courses [2]**
 - Biomedical Applications: What You Need to Know, half-day course Siggraph 2010, Co-authors Rolf Mueller, Stephen Larson
 - Manifolds and Modeling, half-day course Siggraph 2005, 2006, Co-author Denis Zorin, NYU [Acceptance rate 50%]
- **Guest class lectures**
 - OSU, Spring '13, Harvard University, Fall '99, Brown University, Fall '94
- **Ph.D. or M.S. committee member (Non-OSU)**
 - Mihail Tudoreanu, Ds.C., Washington University, 7/02
 - Christine Julien, Ds.C., Washington University, 6/04
 - Dawei Gui, Ph.D., Washington University, 1/05
 - David Warner, M.S., Washington University, 5/03
 - Evan Kiebler, M.S., Washington University, 5/03
 - Tatdow Pansombut, M.S., Washington University, 5/03
 - Jianhua Ruan, M.S., Washington University, 5/04
 - Joel Brandt, M.S., Washington University, 5/05
 - Daniel Schoebel, M.S., Washington University, 5/04
 - Eric Baron Shobe, M.S., Washington University, 5/06
 - Sasakthi Abeysinghe, M.S., continuing on to PhD, Washington University, 5/07
 - Qilong Zhang, Ph.D., Washington University, 5/07

Manfred Georg, PhD., 8/10
 Lu Liu, M.S., Washington University, 12/08
 Lu Liu, Ph.D., Washington University, 12/11
 Andrew Knutsen, Ph.D., Washington University, 5/10
 Gazihan Alankus, Ph.D., Washington University, 12/11
 Devorah Langsam, M.S., Washington University, 5/12
 Fatemeh Abbasinejad, Ph.D., UC Davis (Dr. Nina Amenta, advisor), 8/13
 Christopher Schultz, M.S. EECS OSU 3/16
 Eyal Zadicario, PhD, CS Blavatnik, Tel Aviv University. External examiner
 6/2016

- Master's Thesis committees (OSU)
 - Rithika Kiran Naik, (EECS 2016, Carlos Jensen)
 - Christopher Schultz, (EECS 2016, Mike Bailey)
 - Sogol Balali (EECS 2018, Anita Sarma)
 - Alex Zatopa, (Robotics 2017, Yigit Menduc)
 - Laura Milliken (Robotics 2018, Geoff Hollinger)
 - John Morrow (Robotics, 2017, Yigit Menguc)
 - Ben Narain (Robotics, 2018, Bill Smart)
 - Jacqueline Remaley (Robotics 2018, Ross Hatton)
 - Makenzie Brian (Robotics 2019, Bill Smart)
- PhD committees (OSU)
 - Kranti Kumar Potanapalli (EECS PhD, 2013, Prasad Tadepalli)
 - Xinze Guan, (EECS PhD, 2017, Dr. Weng-keen Wong)
 - Carrie Rebhuhn, (MIME/Robotics graduated 2017, Dr. Kagan Tumer)
 - Hossein Faraji, (Robotics expected 2019, Dr. Ross Hatton)
 - Rana Abdullah Almushed, (EECS, Winter 2018, Dr. Carlos Jensen)
 - Robert Alphonso De Bortoli, (Robotics, expected 2019, Dr. Geoff Hollinger)
 - Marjan Adeli, PhD. EECS OSU, adviser Amir Nayyeri
 - Suresh Ramasamay, PhD, Robotics OSU, adviser Ross Hatton
 - Rawan Alshajji, PhD, Human Systems Engineering OSU, adviser Chinweike Eseonu
 - Shingo Tajima, PhD, Mechanical Engineering (Robotics, expected 2019, adviser Burak Sencer)
 - Andrew Otto, PhD, Robotics OSU, adviser Ross Hatton
 - Shannon Gyles, PhD in Engineering Psychology, OSU, adviser Jason McCarley
 - Dogan Osman Yirmibesoglu, PhD Robotics OSU, adviser Yigit Menguc
 - Sruti Srinivasa Ragavan, PhD EECS OSU, adviser Anita Sarma
 - Scott Chow, PhD Robotics/CS OSU, adviser Geoff Hollinger
- **Membership**
 - Association for Computing Machinery (ACM), ACM Special Interest Group in Graphics (SIGGRAPH), Institute of Electrical and Electronics Engineers (IEEE)

- **Other**
 - NSF Panelist: CAREER, ITR, Computer Vision and Robotics, Graphics and Visualization
 - Marsden Fund reviewer (New Zealand), 2014
 - Organizer and Lecturer, SIGGRAPH 2005, 2006 Course: Manifolds and Modeling (course proposal was refereed)
 - Computer Research Association Distributor Mentor Program CRAW DREU (2004-2015)

Courses taught (number of students in parenthesis)

- OSU: ROB599 [Robot perception], Spring 2018 (~20 students)
- OSU: ROB514 [Intro to robotics], Fall 2017 (~40 students)
- OSU: ROB456 [Intelligent robots], Fall 2016, Fall 2018 (~20 students)
- OSU: ROB567 [Human-robot interaction], Spring 2016 (~10 students)
- OSU: ENGR/ART 399 (now 352), [Design and Create Public Art] (8-30 students) Spring 2014, 2015, 2017, 2018
- OSU: Engineering Orientation II [Engineering computation] ENGR112 (~80-220, ECampus ~20-40, Honor's ~20), Fall 2012-2015, Winter 2013/2014/2017/2018 (Honor's Winter 2013), Spring 2013, Spring 2014, ECampus all terms since Spring 2014
- Engineering and Scientific Computing [Introductory Matlab] (CSE200), Fall 2008 (~60)
- Software design and development studio ([CSE220/CSE320](#)) Fall 2006, Spring 2008, 2009 (~20-30)
- Computer Graphics (CSE452, formerly CS453), Fall 2000, 2001, 2002, 2003, 2004, 2005, Spring 2012 (~20-40)
- Advanced Computer Graphics (CSE552, formerly CS552), Spring 2001, 2002, 2003, 2004, 2006, [Fall 2007](#), Fall 2011 (~10-20)
- Mathematical Tools for Computer Science (CS402), Spring 2001, Fall 2001, 2002, 2003 (~20)
- Video Game Programming I & II (CSE450, CSE451) Fall 2004, Spring 2005 (~30)
- Research Seminar on Human Visual Perception (CSE7521), Fall 2004 (~10)
- Algorithms and Data Structures (CSE241) Spring 2005, 2010 (~30-50)
- Research Seminar on Mathematical Modeling (CSE7541) Spring 2005 (~10)
- Special topics: Advanced mathematical tools for computer graphics (Brown University, CS295) Fall 1995 (~20)

Departmental and university service

- Reviewing for Olin fellowship (2006-2009)
- Undergraduate board (2001-2006)
- Association for Woman Faculty board member 2008-2009
- Director of Media and Machines lab 2000-2011
- Engineering school representative at the Faculty Assembly 2011-2012
- Leadership committee (department level) 2009-2011

- OSU Technology Resources Fund review Spring 2013
- CAREER Workshop for Engineering, Spring 2013-2016
- Strategic plan diversity committee Fall 2014
- Robotics Faculty Search (Chair) 2018, 2019
- Peer teaching evaluation committee (2016-2018)
- Tenure/promotion committees
 - Ross Hatton, 2017
 - Ravi Balasubramanian, 2017
 - Chris Hoyle, 2017
- Mid and Tenure promotion committee chair
 - Chinweike Eseonu, 2018
 - Kyle Niemeyer, 2018
 - John Parmigiani, 2014
- Graduate Council Representative, OSU
 - Yaofei Feng (EECS M.S. 6/13, Sinisa Todorovic)
 - Sheng Chen (EECS PhD, 2014, Margaret Burnett)
 - Amin Alipour (MIME PhD, 2017, Alex Groce)
 - Taj Morton (EECS Master's, 2014, adviser Weng-Keen Wong and Molly Megraw)
 - Kimberly Jean Kaaz (EECS PhD)
 - Amirhosein Azarbakht (EECS PhD)
 - Mahsa Saeidi (CS PhD, Dr. Bobba & Dr. Sarma)
- Honor's College Thesis committees (OSU)
 - Matthew Unrath (EECS, Ween-Keen Wong)
 - Max Galudin Tag (Art, Kerry Skarbakka)
 - Dustin Diep (IE, Chinweike Esenou, 2018)

Ph.D students advised

- Timothy David Gatzke¹, Fall 2000-2007. Graduation date: May 2007. Thesis title: *Comparing Features of Three-Dimensional Object Models Using Registration Based on Surface Curvature Signatures Mapped to a Plane*
- Lei Wang, Spring 2001-2003 (Left for personal reasons)
- Reynold Bailey, Fall 2001-2007. Graduation date: August 2007. Thesis title: *Techniques for perception-guided image editing*
- Nisha Sudarsanam, Fall 2003-fall 2006. Graduated August 2006 (Master's). Research topic: Camera control for linear and non-linear projection
- Amy Hawkins, Summer 2005-summer 2006. Graduated with a Master's. (Left for personal reasons)
- Ross Sowell, Fall 2005-2012, Thesis title: *Modeling Surfaces from Volume Data using non-Parallel Contours*
- Ly Phan, Fall-2006-2013, Thesis title: *Shape Correspondence for Biological Applications*, co-adviser Dr. Sandra Rugonyi, Oregon Health and Sciences Institute

¹ Timothy worked full-time at Boeing.

- Ruosi Li, Fall 2009-2011. Graduated with a master's, 2011. Co-adviser Dr. Tao, CSE Washington University in St. Louis
- Anahita Sanandaji, 2013-2018 (EECS, OSU), Co-adviser Ruth West, University of North Texas, Thesis title: *Developing a 2D Cross-section Training Strategy for 3D Volume Segmentation by Analyzing Human Perception and Cognitive Tasks*

Ph.D students co-advised

- Michelle Vaughan, Fall 2010-2017 (CSE, Wash U), co-adviser Dr. Tao Ju, CSE Washington University in St. Louis
- Matthew Rueben, Fall 2012-Fall 2018. Thesis topic: *Privacy sensitive robotics*, co-adviser Dr. Smart, Robotics
- John Morrow IV, Spring 2017-current, co-adviser Dr. Ravi Balasubramanian MIME
-

M.S. students advised

- Ying Huang, 2001, Master's project: Bi-directional texture synthesis
- Nicholas Haddad, 2002, Master's project: Sound mosaicing
- Mark Schroering, May 2003, Master's thesis: [A Thesis on a 3D Input Device for Sketching Characters](#)
- Martin Hassett, 2003, Master's project: 3D Implicit surface interaction
- Andrew Schoewe, 2004, Master's project: Genetic textures on the GPU
- Nathan Dudley, 2005, Master's thesis: [Non-photorealistic rendering of algorithmically generated trees](#)
- Amy Hawkins, 2005, Master's project: Key frame interpolation using exponential matrices
- William Niebruegge, 2006, Master's project: Spherical texture mapping
- Rachael Bujans, 2006, Master's thesis: [Sketch-based techniques for mesh deformation and editing](#)
- Nisha Sudarsanam, Summer 2006, Master's thesis: [A Thesis on a View-based Deformation Tool-kit](#)
- Carol Brickman, Spring 2007, Master's project: [A Fingerspelling Sign Language Visualization](#)
- Mamta Datwami, Fall 2009, Master's project: Subtle Gaze Direction in Videos
- Dilruba Showkat, Spring 2017, Master's project: Gender differences in human robot interaction
- Taylor Courier, Summer 2018, Robotics Master's project: Perception System for a Formula SAE Self-Driving Car
- Sogol Balali, expected Spring 2019, Robotics Master's project: Object Categorization for Privacy in Robotics Applications
- Kyle O'Brien, expected Spring 2019, Robotics Master's project: Robot perception for SAE autonomous car
- Bradley Anderson, expected spring 2019, Master's thesis: Autonomous car

M.S. students co-advised

- Sai Krishna Allani, Winter 2016, Master's thesis: *Analyzing Human Gaze Patterns during Grasping Tasks to Improve Performance of Robotic Grasping*, co-adviser Dr. Ravi Balasubramanian, MIME
- Saurabh Milind Dixit, Summer 2016, Master's thesis: *Advancing Robotic Grasp Planning using Human Heuristics for Grasp Similarity*, Dr. Ravi Balasubramanian, MIME
- Samantha Hemleben, Spring 2017, Master's thesis: *Modeling a Spectrum of 3D Printed Materials for Soft Robotics*, Dr. Yigit Menguc, MIME
- Ammar Kothari, Summer 2018, Master's project: *Data collection and analysis of human preference for robotic grasping*, Dr. Ravi Balasubramanian, Robotics
- Julia Khoury, expected Spring 2019, Master's project: Soft materials for robots
- Yi Heng Ong, expected Spring 2019, Master's topic: Robotic grasping, Dr. Ravi Balasubramanian, Robotics
- Yu Qui, expected Winter 2019, Master's topic: Robotic grasping, Dr. Ravi Balasubramanian, Robotics

Honor's college students

- Keith Lippincott, (Spring 2016), [Aesthetics of curvature](#)
- Nick Agalzoff (Spring 2017), [Investigation of the Relationship Between Abdominal Aortic Aneurysm Rupture and Mechanical Stress](#) (Joint Dr. Sandra Rugonyi, OHSU)
- Blair Cox (2012-2015), Bat ears for robots
- Brian

Research support

- Daimler, PI Cindy Grimm, Co-PI Robert Pausch
- PCC Structural, PI Bill Smart
- OMIC, PI, "Surface treatment", Co-PIs Ravi Balasubramanian and Burak Sencer, 1/1/2019-12/31/2019, 150K,
- National Science Foundation, PI, "CI_P: Physical robotic manipulation test facility", CNS 1730126, \$99,999, 9/15/2017-12/15/2018, REU supplement Summer 2018 \$18K
- Navy, Senior personnel, William Smart PI, "JMPS Automated Planning", \$400,000, 1/1-2017-9/30/2018
- National Science Foundation, PI, "REU Site Renewal: Robots for the Real World", CNS 1659746, \$360,000, 6/16-5/20
- HP/OSU Seed funding, "Using HP's Sprout to capture a soft robotics workflow", \$20K, Cindy Grimm, Chinweike Eseonu, and Yigit Menguc (OSU), Will Allen and Lonnie Mandigo (HP) 10/15-6/16
- National Science Foundation, Co-PI, "REU Site: Robots for the Real World", CNS 1359480, \$339,981, 6/14-5/17
- National Science Foundation, PI, "CGV: Medium: Collaborative Research: Developing conceptual models for navigation, marking, and inspection in the context of 3D image segmentation", IIS 1302142 \$286,300 6/12/2013

- National Science Foundation, Co-PI, “Collaborative Research: ImageQuest: Citizens Advancing Biology with Calibrated Imaging and Validated Analysis”, (PI Robert Pless) DEB 1053554 \$518,332 9/10-9/13
- National Science Foundation, PI, “Collaborative Research: Biological Shape Spaces, Transforming Shape into Knowledge”, DBI 1053171, \$213,923, 9/10-9/13
- National Science Foundation, Co-PI, “Geometric Modeling for Spatial Analysis of Bio-medical Data”, (PI Tao Ju) CCF 0702662 \$367,424, 9/07-9/10 (12% funding rate), extended to 10/11
- National Science Foundation, Co-PI 07-06/08, PI 07/08 “CPATH T: Active Learning for Transformation of the Undergraduate Experience”, (PI 07-06/08 Ken Goldman, took over as PI July 2008) CNS 0722328, \$562,987, 8/07-8/11 (25% funding rate)
- National Science Foundation, PI, “Surface Construction and Comparison using Manifolds”, CCF 0429856, \$402,053, 10/04-10/07, extended to 10/08 (10% funding rate)
- National Science Foundation, PI, “CAREER: A Composition System for Computer Graphics”, CCF 0238062, \$497,780, 3/03-3/08, extended 3/09
- National Science Foundation, Co-PI, “REU Sites: Summer Undergraduate Research Program”, CNS 0139576, \$169,600, 4/02-4/04
- National Institute for Health, Sub-contract, “Normal and Abnormal in vivo carpal bone motion”, PI Rhode Island Hospital, full grant \$498,287, Washington University subcontract \$14,585
- National Science Foundation, PI, “Manifolds and Lumigraphs”, \$150,363, 8/99-8/01

Supplements

- National Science Foundation, PI, “CGV: Medium: Collaborative Research: Developing conceptual models for navigation, marking, and inspection in the context of 3D image segmentation”, IIS 1540232, \$12,000 Summer 2016
- National Science Foundation, PI, “CGV: Medium: Collaborative Research: Developing conceptual models for navigation, marking, and inspection in the context of 3D image segmentation”, IIS 1540232, \$12,000 Summer 2015
- National Science Foundation, PI, “Collaborative Research: Biological Shape Spaces, Transforming Shape into Knowledge”, DBI 1332276, REU Supplement, \$9000, Summer 2013
- National Science Foundation, PI, “CPATH T: Active Learning for Transforming Shape into Knowledge”, REU Supplement, \$12,800
- National Science Foundation, PI, “Surface Construction and Comparison using Manifolds”, REU Supplement, \$6400, Summer 2006
- National Science Foundation, PI, “Surface Construction and Comparison using Manifolds”, REU Supplement, \$6400, Summer 2005
- National Science Foundation, PI, “CAREER: A Composition System for Computer Graphics”, REU Supplement, \$6400, Summer 2005

- National Science Foundation, PI, “CAREER: A Composition System for Computer Graphics”, REU Supplement, \$12,000, Summer 2004

Internal OSU funding

- DeLoach Work Scholarship for Keith Lippincott, \$1000K, Summer 2013
- DeLoach Work Scholarship for Blair Cox, \$1500K, Winter-spring 2014

Journal publications

- J1. Rolf Mueller, Nicole Abaid, Jonathan Boreyko, Charless Fowlkes, Ashok Goel, Cindy Grimm, Sunghwan Jung, Brook Kennedy, Christin Murphy, Nathan Cushing, and Jin-Ping Han, “Biodiversifying Bioinspiration”, [Bioinspiration and Biomimetics](#) [accepted, awaiting publication]
- J2. Erin Chambers, Tegan Emerson, Cindy Grimm, and Kathryn Leonard, “Exploring 2D shape complexity”, Research in Shape Analysis, WiSh2 Proceedings, Association for Women in Mathematics Series
- J3. Margot E. Kaminski, Matthew Rueben, William D. Smart, Cindy M. Grimm, “Averting Robot Eyes”, Maryland Law Review, University of Maryland School of Law, June 2017, Maryland Law Review 76:983-1024, nominated for the [Privacy Papers for Policymakers](#)
- J4. Stephane Walker, Jacob Rueben, Tessa Van Volkenbrg, Samantha Hemleben, Cindy M. Grimm John Simonsen and Yigit Menguc, “Using an Environmentally Benign and Degradable Elastomer in Soft Robotics”, [International Journal of Intelligent Robotics and Applications](#), June 2017, Volume 1, Issue 2, pp 124-142, doi: 10.1007/s41315-017-0016-8
- J5. Ly Phan, Sandra Rugonyi, and Cindy Grimm, “Visualization of chicken embryo heart motion”, [Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization](#), 8/6/2016, pp 1-15
- J6. Michelle Holloway, Cindy Grimm, and Tao Ju, “Template-based Surface Reconstruction from Contours”, Computers and Graphics, 58, 6/16, 10.1016/j.cag.2016.05.012, pp 84-91
- J7. Ly Phan, Katherine Courchaine, Amir Azarbal, David A. Vorp, Cindy Grimm, and Sandra Rugonyi, “A Geodesics-based Surface Parameterization to Assess Aneurysm Progression”, Journal of Biomechanical Engineering, 3/2016, doi: 10.1115/1.4032918 5/16, 138(5) ([web version](#))
- J8. Sebastian Kurtek, Jingyong Su, Cindy Grimm, Michelle Vaughan, Ross Sowell, Anuj Srivastava, “Statistical Analysis of Manual Segmentations of Structures in Medical Images”, Computer Vision and Image Understanding, Special issue on Shape Modeling in Medical Image Analysis 117(9), 1036-1050, September, 2013
- J9. Shahriar Hossain, Praveen Kumar, Reddy Ojili, Cindy Grimm, Rolf Mueller, Layne Watson, Naren Ramakrishnan, “Scatter/Gather Clustering: Flexibly Incorporating User Feedback to Steer Clustering Results”, [IEEE Conference on Visual Analytics Science and Technology \(VAST\)](#), IEEE TCGV, 18(12), 2829-2838, October, 2012

- J10. Paul Heider, Alain Pierre-Pierre, Ruosi Li, Rolf Mueller, and Cindy Grimm, “Comparing Local Shape Descriptors”, [The Visual Computer](#), special issue ([3DOR 2010](#)), 28(9) 919-929, September 2012
- J11. Rolf Mueller, Lyvin Cai, Cindy Grimm, and Washington Mio, “Shape Space Analysis of Structures in Bat Biosonar”, [The Journal of the Acoustical Society of America](#), 129(4), 2507, April, 2011
- J12. Cindy Grimm and William D. Smart, “Shape Classification and Normal Estimation for Non-uniformly Sampled, Noisy Point Data”, [Elsevier Computers and Graphics](#), 35(4), 904-915, March 2011
- J13. Andrew Knutsen, Yulin Chang, Cindy Grimm, Ly Phan, Larry Taber, Philip Bayly, “A New Method to Measure Cortical Growth in the Developing Brain”, [Journal of Biomechanical Engineering](#), 132(10), 101004-101015 Oct 2010, PMID 20887014
- J14. Ross Sowell, Christopher Gill, Roger D. Chaimberlain, Cindy Grimm, Kenneth J. Goldman, and Mark Tranel, “The active-learning transformation: a case study in software development and systems software courses”, [Journal of Computing in Small Colleges](#), 25(5), 165-172, May 2010
- J15. Ross Sowell, Yixen Chen, Jeremy Buhler, Sally Goldman, Cindy Grimm and Kenneth J. Goldman, “Experiences with active learning in CS 3”, [Journal of Computing in Small Colleges](#), 25(5), 173-179, May 2010
- J16. Reynold Bailey, Ann McNamara, and Cindy Grimm, “Improving Search Task Performance Using Subtle Gaze Direction”, [Transactions on Applied Perception](#), 6(3), 1-19, August 2009
- J17. Reynold Bailey, Ann McNamara, Nisha Sudarsanam, and Cindy Grimm, “Subtle Gaze Direction”, [Transactions on Graphics](#), 28(4), 1-14, August 2009
- J18. Cindy Grimm, Ly Phan, Tao Ju, and John Hughes, “Adaptive Smooth Surface Fitting with Manifolds”, [The Visual Computer](#), special issue ([Computer Graphics International](#)), 25(5), 589-597, May 2009
- J19. Sangwon Lee, David Feng, Bruce Gooch, and Cindy Grimm, “A Perception-based User Interface for Reconstructing Architecture Drawings”, [Computer Graphics Forum](#), 27(1), 81-90, Mar 2008
- J20. Fujian Qu, Crystal M. Ripplinger, Vladimir P. Nikolski, Cindy Grimm, and Igor R. Efimov, “Three Dimensional Panoramic Imaging of Cardiac Arrhythmias in the Rabbit Heart”, [Journal of Biomedical Optics](#), 12(4), CID(044019) Jul-Aug 2007
- J21. Reynold Bailey and Cindy Grimm, “Perceptually Meaningful Image Editing: Manipulating Perceived Depth and Creating the Illusion of Motion in 2D Images”, [The Visual Computer](#), 23(9), 813-821, Aug 2007
- J22. G. Elisabeta Marai, Cindy Grimm, and David Laidlaw, "Arthrodiol Joint Markerless Cross-Parameterization and Biomechanical Visualization", [IEEE Transactions on Graphics and Visualization](#), 13(5), 1095-1104, September 2007

- J23. Bill Niebruegge and Cindy Grimm, "Continuous Cube Mapping", [Journal of Graphics Tools](#), 12(4), 25-34, Apr 2007
- J24. Ankit Mohan, Reynold Bailey, Johathan Waite, Jack Tumblin, Cindy Grimm, and Bobby Bodenheimer, "Table-top Computed Lighting for Practical Digital Photography", [IEEE Computer Graphics and Visualization](#), 13(4), 652-662, August 2007
- J25. Amy Hawkins and Cindy Grimm, "Keyframing using Linear interpolation of Matrices", [Journal of Graphics Tools](#), 12(13), 55-69, Oct 2007
- J26. Ryan Schmidt, Cindy Grimm, and Brian Wyvill "Interactive Decal Compositing with Discrete Exponential Maps", *ACM Transactions on Graphics* ([Siggraph](#)), 25(3), 605-613, July 2006
- J27. Timothy D. Gatzke and Cindy Grimm, "Estimating Curvature on Triangular Meshes", *International Journal of Shape Modeling*, [International Journal of Shape Modeling](#), 12(1), 1-29, June 2006
- J28. Cindy Grimm, Karan Singh, "Implementing the IBar camera widget", [Journal of Graphics Tools](#), 10(3), 51-64, September 2005
- J29. Cindy Grimm, "Parameterization using Manifolds", [International Journal of Shape Modeling](#), 10(1), 51-80, June 2004
- J30. Georgeta Elizabeth Marai, David Laidlaw, Cagatay Demiralap, Stuart Andrews, Cindy Grimm, and Joseph Crisco, "Estimating Joint Contact Areas and Ligament Lengths from Bone Kinematics and Surfaces", [IEEE Transactions on Biomechanical Engineering](#), 51(5), 790-799, May 2004
- J31. Zachary Byers, Michael Dixon, William Smart, and Cindy Grimm, "Say Cheese!: Experiences with a Robot Photographer", [AAAI Magazine](#), 25(3), 37-46, Fall 2004 (Cover story)
- J32. Cindy Grimm, David Laidlaw, and Joseph Crisco, "Fitting Manifold Surfaces To 3D Point Clouds", [Journal of Biomechanical Engineering](#), Vol. 124,(1) 136-140, Feb. 2002
- J33. Cindy Grimm and Matthew Ayers, "A Framework for Synchronized Editing of Multiple Curve Representations", *Computer Graphics Forum*, 17(3), 31-40, September 1998 (acceptance rate 34.7%)

Journal and conference publications under review

- R1. Anahita Sanandanji, Max Parola, Meghan Kajihara, Kathryn Hays, Luke Hillard, Brandon Lane, Molly Beyer, Cindy Grimm, Ruth West, "Analyzing 3D Volume Segmentation by Low-Level Perceptual Cues and High-Level Cognitive Tasks", Submitted to *Journal of Cognitive Engineering and Decision Making*
- R2. Yi Heng Ong, John Morrow, Yu Qiu, Cindy Grimm, and Ravi Balasubramanian, "Near-contact grasping strategies from awkward poses: When simply closing your fingers is not enough", Submitted to *IROS 2019*

- R3. Anahita Sanandaji, Christopher Sanchez, Cindy Grimm, and Ruth West, “Developing an Interactive Training Tool for Inverting 2D Cross-section of 3D Structures”, Submitted to Journal of Cog-Sci

Refereed conference publications (peer reviewed, 6-10 pages)

- C1. Eadom Dessalene, Yi Hern Ong, John Morrow, Ravi Balasubramanian, and Cindy Grimm, “Using Geometric Features to Represent Near-contact Behavior in Robotic Grasping”, Accepted (ICRA 2019)
- C2. John Morrow, Ammar Kothari, Yi Hern Ong, Nathan Harlan, Ravi Balasubramanian, and Cindy Grimm, “Using Human Studies to Analyze Capabilities in Underactuated and Compliant Hands in Manipulation Tasks”, [IEEE/RSJ International Conference on Intelligent Robotics and Systems \(IROS 2018\)](#), Oct. 2018 (accepted)
- C3. Ammar Kothari, John Morrow, Victoria Thrasher, Kadon Engle, Ravi Balasubramanian, and Cindy Grimm, “Grasping objects big and small: Human heuristics relating grasp-type and object size”, IEEE International Conference on Robotics and Automation (ICRA), May 2018
- C4. Cindy Grimm, William Smart, Woodrow Hartzog, “Using Education as a Model to Capture Good-Faith Effort for Autonomous Systems”, [AAAI/ACM conference on Artificial Intelligence, Ethics, and Society](#), Feb. 2018
- C5. Anahita Sanandaji, Cindy Grimm, Ruth West, “Inferring Cross-sections of 3D Objects: A 3D Spatial Ability Test Instrument for 3D Volume Segmentation”, Symposium on Applied Perception, Cottbus, Germany, Sept. 2017
- C6. Margaret Krupp, Matthew Rueben, Cindy Grimm, and William Smart, “A Focus Group Study of Privacy Concerns about Telepresence Robots”, 26th IEEE International Symposium on Robot and Human Interactive Communication, Lisbon, August 2017
- C7. Matthew Rueben, Frank Bernieri, Cindy Grimm, and William Smart, “Framing Effects on Privacy Concerns about a Home Telepresence Robot”, [HRI '17](#) Proceedings of the Companion of the 2017 ACM/IEEE International Conference on Human-Robot Interaction, pp 435-444
- C8. William Smart, Cindy Grimm, and Woody Hartzog, “A framework for implementing meaningful human control of autonomous systems”, [We Robot](#), March 2017 [acceptance rate: 11%]
- C9. Brendan John, Jackson Carter, Javier Ruiz, Sai Krishna Allani, Saurabh Dixit, Cindy Grimm, Ravi Balasubramanian, “Human-planned robotic grasp ranges: Capture and validation”, November, 2016 AAAI Fall Symposium Series: Artificial Intelligence for Human-Robot Interaction
- C10. Leo Bowen-Biggs, Suzanne Dazo, Yili Zhang, Alexander Hubers, Matthew Rueben, Ross Sowell, William D. Smart, and Cindy M. Grimm, “A Method for Establishing Correspondences between Hand-Drawn and Sensor-Generated Maps”, International Conference on Social Robotics ([ICSR 2016](#)), 10/2016

- C11. Sai Krishna Allani, Brendan John, Javier Ruiz, Saurabh Dixit, Jackson Carter, Ravi Balasubramanian, and Cindy Grimm, "Evaluating human gaze patterns during grasping tasks: robot versus human hand", 2016 ACM Symposium on Applied Perception ([SAP 2016](#)), July 2016, pp 45-52
- C12. Ruth West, Meghan Kajihara, Max Parola, Kathryn Hays, Luke Hillard, Anne Carlew, Jeremy Deutsch, Brandon Lane, Michelle Holloway, Brendan John, Anahita Sanandaji, and Cindy Grimm, "Eliciting Tacit Expertise in 3D Volume Segmentation", The 9th International Symposium on Visual Information and Communication and Interaction ([VINCI 2016](#)), September 2016, pp 59-66
- C13. Matthew Rueben, Frank J. Bernieri, Cindy M. Grimm, and William D. Smart, "Evaluation of Physical Marker Interfaces for Protecting Visual Privacy from Mobile Robots", IEEE International Symposium on Robot and Human Interactive Communication ([RO-MAN 2016](#)), August 2016, (acceptance rate 47%)
- C14. Matthew Sundberg, Walter Litwinczyk, Cindy Grimm, and Ravi Balasubramanian, "Visual Cues used to Evaluate Grasps from Images", International Conference on Robotics and Applications ([ICRA 2016](#)), May 2016, pp 1865-1971 (Nominated for best paper)
- C15. Anahita Sanandaji, Jeremy Deutsch, Max Parola, Meghan Kajihara, Anne Carlew, Ruth West, and Cindy Grimm, "Where do Experts Look while doing 3D Image Segmentation", Proceedings of the Ninth Biennial ACM Symposium on Eye Tracking Research & Applications Pages ([ETRA 2016](#)), March 2016, pp 171-174
- C16. Michelle Holloway, Anahita Sanandaji, Deniece Yates, Amali Krigger, Ross Sowell, Ruth West, and Cindy Grimm, "Guided Structure-Aligned Segmentation of Volumetric Data", 11th International Symposium ([ISVC](#)) 2015, published in Advances in Visual Computing, December 2015, pp 307-317 (Winner best paper award)
- C17. Ly Phan, Cindy Grimm, and Sandra Rugonyi, "Visualization Techniques for the Developing Chicken Heart", 11th International Symposium ([ISVC](#)) 2015, published in Advances in Visual Computing, December 2015, pp 35-44
- C18. Alexander Hubers, Emily Andrulis, Levi Scot, Tanner Stirrat, Ruonan Zhang, Ross Sowell, Matthew Rueben, Cindy Grimm, and William Smart, "Using Video Manipulation to Protect Privacy in Remote Presence Systems", [International Conference on Social Robotics](#), October 2015, pp 245-255
- C19. Thomas Booth, Srinivas Sridharan, Ann McNamara, Cindy Grimm, and Reynold Bailey, "Guiding Attention in Controlled Real-World Environments", SAP '13, [Proceedings of the ACM Symposium on Applied Perception](#), Aug 2013, pp 75-82
- C20. Fatemeh Abbasinejad, Pushkar Joshi, Cindy Grimm, Nina Amenta, and Lance Simons, "Surface Patches for 3D Sketching", [SBIM '13: Proceedings of the International Symposium on Sketch-Based Interfaces and Modeling](#), 53-60, July 2013

- C21. Ann McNamara, Stephen Caffey, Thomas Booth, Cindy Grimm, Srinivas Sridharan, and Reynold Bailey, “Directing Gaze in Narrative Art”, [Symposium on Applied Perception](#), 63-70, August 2012
- C22. Cindy Grimm and Pushkar Joshi, “JustDrawIt: A 3D Sketching System”, [Sketched-based Interfaces and Modeling \(SBIM\)](#), 121-130, July 2012
- C23. Reynold Bailey, Aaron Costello, Ann McNamara, Srinivas Sridharan, and Cindy Grimm “Impact of Subtle Gaze Direction on Short-Term Spatial Information Recall”, [Symposium: Eye Tracking Research and Applications](#), 67-74, March, 2012
- C24. Srinivas Sridharan, Reynold Bailey, Ann McNamara, and Cindy Grimm “Subtle Gaze Manipulation for Improved Mammography Training”, [Symposium: Eye Tracking Research and Applications](#), 112, March, 2012
- C25. Rolf Mueller, Jianguo Ma, Zhen Yan, Washington Mio, and Cindy Grimm, “Bioinspiration from Biodiversity in Sensor Design”, [ASME 2011 International Mechanical Engineering Congress and Exposition](#), November 2011, IMECE2011-64487
- C26. Paul Heider, Alain Pierre-Pierre, Ruosi Li, and Cindy Grimm, “Local Shape Descriptors, A Survey and Evaluation”, [Eurographics Workshop on 3D Object Retrieval](#), April 2011, pp 49-57
- C27. Ly Phan, Andrew Knutsen, Philip Bayly, Sandra Rugonyi, and Cindy Grimm, “Refining Shape Correspondence for Similar Objects using Strain”, [Eurographics Workshop on 3D Object Retrieval](#), April 2011, pp 17-24
- C28. Rolf Mueller, Lyvin Cai, Cindy Grimm, and Washington Mio, “Shape Space Analysis of Structures in Bat Biosonar”, *Journal of the Acoustical Society of America*, 2011, 129(4), 2507
- C29. Ruosi Li, Liu Lu, Ly Phan, Sasakthi Abeysinghe, Cindy Grimm and Tao Ju, “Polygonizing Extremal Surfaces with Manifold Guarantees”, [Symposium on Solid and physical Modeling](#), Sep 2010, pp 189-194
- C30. Christopher Abraham, Ross Sowell, Lu Liu, Tao Ju, Cindy Grimm, Garima Gokhroo, and Daniel Low, “Volume Viewer: A Tool for Examining the Use of Non-Axial Image Planes in Treatment Planning”, [XVth International Conference on the Use of Computers in Radiation Therapy](#), June 2010
- C31. Manolya Eyiurekli, Cindy Grimm, and David Breen, “Editing Level-Set Models with Sketched Curves”, [Sketch-based Interfaces and Modeling](#), Aug 2009, pp 45-52
- C32. Ross Sowell, Lu Liu, Tao Ju, Cindy Grimm, Christopher Abraham, Garima Gokhroo, and Daniel Low, “Volume Viewer: an Interactive Tool for Fitting Surfaces to Volume Data”, [Sketch-based Interfaces and Modeling](#), Aug 2009, pp 141-148
- C33. Cindy Grimm, “Adding Lighting and Viewing Effects to Digital Images”, [Computational Aesthetics](#), May 2009, pp 99-105

- C34. Nisha Sudarsanam, Cindy Grimm, and Karan Singh, “CubeCam: A Screen-Space Camera Manipulation Tool”, [Computational Aesthetics](#), May 2009, pp 65-71
- C35. Reynold Bailey, Ann McNamara, and Cindy Grimm, “Improving Search Task Performance Using Subtle Gaze Direction”, [Symposium on Applied Perception in Graphics and Visualization](#), Aug 2008, pp 51-56
- C36. Nisha Sudarsanam, Karan Singh, and Cindy Grimm, “Non-linear Perspective Widgets for Creating Multiple-View Images”, [Symposium on Non-photorealistic Animation and Rendering](#), June 9-11, 2008, pp 69-79
- C37. Nathan Dudley and Cindy Grimm, “Non-Photorealistic Rendering of Algorithmically Generated Trees”, [GRAPP 2007](#), March 2007, pp 197-204
- C38. Michael Kowalski and Cindy Grimm, “Painting Lighting and Viewing Effects”, [GRAPP 2007](#), March 2007, pp 204-212
- C39. Tim Gatzke and Cindy Grimm, “Feature Detection using Curvature Maps and the Min-cut/Max-flow Algorithm”, [Geometric Modeling and Processing](#), 2006, pp 578-584 [Winner best poster award]
- C40. Leon Barrett, Patrick Coleman, Nisha Sudarsanam, Karan Singh and Cindy Grimm, “3D Screen-space Widgets for Non-linear Projection”, [Graphite 2005](#), Nov 2005, pp 221-228
- C41. Cindy Grimm, “Spherical Manifolds for Adaptive Resolution Surface Modeling”, [Graphite 2005](#), Nov 2005, pp 161-168
- C42. Nisha Sudarsanam, Cindy Grimm and Karan Singh, “Interactive Manipulation of Projections with a Curved Perspective”, [Eurographics](#) Short papers, 24(3), 105-108, September 2005
- C43. Timothy Gatzke, Steve Zelinka, Cindy Grimm and Michael Garland, “Curvature Maps for Local Shape Comparison”, [Shape Modeling International](#), 244-256, June 2005
- C44. Karan Singh, Cindy Grimm, and Nisha Sudarsanam, “The IBar: A Perspective-based Camera Widget”, [User Interfaces Science and Technology \(UIST\)](#), October 2004, pp 95-98
- C45. Christopher Kulla, James Tucek, Reynold Bailey, and Cindy Grimm, “Using Texture Synthesis for Non-Photorealistic Shading from Paint Samples”, [Pacific Graphics](#), 477-481, October 2003 (acceptance rate 19.8%)
- C46. Zachary Byers, Michael Dixon, Kevin Goodier, William Smart, and Cindy Grimm, “An Autonomous Robot Photographer”, Proceedings of the 2003 (IEEE/RSJ) International Conference on Robots and Systems ([IROS 2003](#)), Vol. 3, 2636-2641, October 2003
- C47. Cindy Grimm and John Hughes, “Parameterizing N-holed Tori”, [Mathematics of Surfaces X](#), Leeds, UK, 14-29, September 2003, re-published in “Mathematics of Surfaces”, ISBN 3540200533, Springer, Nov 1, 2003, pp 14-30

- C48. Zachary Byers, Michael Dixon, Cindy Grimm, and William Smart, "Say Cheese!: Experiences with a Robot Photographer", Innovative Applications of Artificial Intelligence ([IAAI '03](#)), Acapulco, Mexico, 65-70, August 2003
- C49. Mark Schroering, Cindy Grimm, and Robert Pless, "A New Input Device for 3D Sketching", [Vision Interface](#), Halifax, Canada, 311-318, June 2003
- C50. Lei Wang, Cindy Grimm, and Robert Pless, "A 3D Pattern for Pose Estimation for Object Capture", [Vision Interface](#), Halifax, Canada, 395-401, June 2003
- C51. G. Elisabeta Marai, David H. Laidlaw, Cagatay Demiralp, Cindy Grimm, Joseph J. Crisco, Douglas Moore, and E. Akelman. "Contact Areas and Ligament Lengths are Abnormal in Patients with Malunited Distal Radius Fracture Despite Normal Radioulnar Kinematics", [World Congress Biomechanics](#), August 2002
- C52. Cindy Grimm, "Simple Manifolds for Surface Modeling and Parameterization", [Shape Modeling International](#), Banff, Canada, 237-245, May 2002
- C53. Cagatay Demiralp, Georgeta Marai, Stu Andrews, David Laidlaw, Joseph Crisco, and Cindy Grimm, "Modeling and Visualization of Inter-Bone Distances in Joints", [Proceedings of IEEE Visualization 2001](#), 21-26, October 2001
- C54. Cindy Grimm, "Post-rendering Composition for 3D Scenes", [Eurographics](#) Short Papers, Manchester, United Kingdom, 20(3), 19-23, September 2001
- C55. Cindy Grimm, "Implicit Generalized Cylinders using Profile Curves", Proceedings Implicit Surfaces, Bordeaux, Fr, 33-41, September 1999
- C56. Brian Guenter, Cindy Grimm, Daniel Wood, Henrique Malvar and Frédéric Pighin, "Making Faces", Computer Graphics, Annual Conference Series 1998 ([SIGGRAPH '98](#)), Orlando, FL, 51-66, July 1998 (acceptance rate 14.9%, 221 citations) [Note: Siggraph is now published as an issue of ACM Transactions on Graphics]
- C57. Cindy Grimm, David Pugmire, John Hughes, Mark Bloomenthal, and Elaine Cohen, "Visual Interfaces for Solids Modeling", [Proceedings User Interface Software and Technology \(UIST '95\)](#), 51-61, October 1995
- C58. Cindy Grimm and John Hughes, "Modeling Surfaces of Arbitrary Topology", Computer Graphics, Annual Conference Series 1995 (SIGGRAPH '95), Los Angeles, CA, 359-369, August, 1995 (acceptance rate 21.8%, citations 67)
- C59. Cindy Grimm and John Hughes, "Smooth Iso-Surface Approximation", Implicit Surfaces, 57-77, June 1995

Refereed workshop publications (peer reviewed, 2-8 pages)

- W1. Kristan Hilby, John Morrow, Yi Heng Ong, Ravi Balasubramanian, and Cindy Grimm, "Instrumented Door and Drawer for Comprehensive Robot-Object Kinematic and Force Data", Accepted to the IROS Experimental Robotic Grasping and Manipulation Workshop, 2018

- W2. Matthew Sundberg, Ryan Sherman, Ammar Kothari, Ravi Balasubramanian, Ross Hatton, and Cindy Grimm, “[A Grasping Metric based on Hand-Object Collision](#)”, ICRA Workshop on Multimodal Robot Perception: Perception, Inference, and Learning for Joint Semantic, Geometric, and Physical Understanding, ([ICRA-MRP 2018](#)), May 2018
- W3. Ammar Kothari, Yi Ong, John Morrow, Ravi Balasubramanian and Cindy Grimm, “Dataset for Near Contact Grasping Trajectories”, [Robotics: Science and Systems, New Benchmarks Metrics, and Competitions for Robot Learning Workshop](#), June 26-30 2018
- W4. Cindy Grimm, Alicia Lyman-Holt, and William Smart, “A summer research experience in robotics”, [The Seventh Symposium on Educational Advances in Artificial Intelligence](#), Feb 2017,
- W5. Matthew Rueben, Frank J. Bernieri, Cindy M. Grimm, and William D. Smart, “Interpreting Survey Items using Exploratory Factor Analysis”, Second International Workshop on Evaluation Methods Standardization in Human-Robot Interaction, in conjunction with RO-MAN 2016, ([EMSHRI 2016](#)) (accepted 8/5/2016)
- W6. Matthew Rueben, Frank J. Bernieri, Cindy M. Grimm, and William D. Smart, “Evaluation of Physical Marker Interfaces for Protecting Visual Privacy from Mobile Robots”, The Eleventh ACM/IEEE International Conference on Human Robot Interaction ([HRI 2016](#)), March 2016, pp 507-508
- W7. Ly Phan and Cindy Grimm, “Sketching Reaction Diffusion Texture”, [Eurographics Symposium on Sketch Based interfaces and Modeling](#), September 2006, pp 107-114
- W8. Reynold Bailey, Cindy Grimm, and Christopher Davoli, “The Effect of Warm and Cool Colors on Depth Ordering”, [Applied Perception in Graphics and Visualization](#), p 161, July 2006
- W9. Ankit Mohan, Jack Tumblin, Bobby Bodenheimer, Cindy Grimm and Reynold Bailey, “Table-top Computed Lighting for Practical Digital Photography”, [Eurographics Symposium on Rendering](#), 165-172, June 2005 (acceptance rate 33.3%)
- W10. William Smart and Cindy Grimm, “(Not) Interacting with a Robotic Photographer”, [AAAI Spring Symposium](#), Stanford, CA, 181-186, April 2003

Book chapters

1. Dr. Beverly Browning, "Winning Strategies for Developing Grant Proposals", chapter “Why proposals aren’t funded” (Published 2005)
2. Bruce Gooch, Amy Gooch, Mario Costa Sousa (editors), "Non-photorealistic rendering II” (Published 2006)

Thesis

- Cindy Grimm, “Modeling Surfaces of Arbitrary Topology using Manifolds”, 1996, Ph. D. Thesis Brown University
- Cindy Grimm, “Converting Solid Objects to Surface Objects”, Master’s thesis, Brown University 1992

Technical reports

- T1. Alexander Hubers, Emily Andrulis, Levi Scott, Tanner Stirrat, Duc Tran, Ruonan Zhang, Ross Sowell, Cindy Grimm, William D. Smart, “Video Manipulation Techniques for the Protection of Privacy in Remote Presence Systems”, [arXiv 1501.03188](#), January 2015
- T2. Michelle Vaughan, Cindy Grimm, Ruth West, Ross Sowell, Robert Pless, and Stephen Kobourov, “Specializing Interfaces for Citizen Science Segmentation of Volumetric Data, Tech report WUCSE-2012-42, Washington University in St. Louis, 2012
- T3. Cindy Grimm, “JustDrawIt! A 3D Sketching System”, Tech report WUCSE-2012-02, Washington University in St. Louis, 2012
- T4. Cindy Grimm, “[Results of an Observational Study on Sketching](#)”, Tech report WUCSE-2011-57, Washington University in St. Louis, 2011
- T5. Ross Sowell, Lu Liu, Tao Ju, Cindy Grimm, Christopher Abraham, Garima Gokhroo, and Daniel Low, “[VolumeViewer: An Interactive Tool for Fitting Surfaces to Volume Data](#)”, Tech report WUCSE-2009-13, Washington University in St. Louis, 2009
- T6. Cindy Grimm and William Smart, “[Local Neighborhoods for Shape Classification and Normal Estimation](#)”, Tech report WUCSE-2008-15, Washington University in St. Louis, 2008
- T7. Reynold Bailey and Cindy Grimm and Christopher Davoli and Richard Adams, “[The Effect of Object Color on Depth Ordering](#)”, Tech report WUCSE-2007-18, Washington University in St. Louis, 2007
- T8. Cindy Grimm and Tao Ju, “[Smooth Surface Reconstruction using Charts for Medical Data](#)”, Tech report WUCSE-2006-29, Washington University in St. Louis, 2006
- T9. Leon Barrett and Cindy Grimm, “[Smooth Key-framing using the Image Plane](#)”, Tech report WUCSE-2006-28, Washington University in St. Louis, 2006
- T10. Timothy Gatzke and Cindy Grimm, “[Feature Detection using Curvature Maps and the Min-Cut/Max-Flow Graph Cut Algorithm](#)”, Tech report WUCSE-2006-22, Washington University in St. Louis, 2006
- T11. Fujian Qu, Nikolski Vladimir, Cindy Grimm, and Igor Efimov, “[Three Dimensional Panoramic Fast Fluorescence Imaging of Cardiac Arrhythmias in the Rabbit Heart](#)”, Tech report WUCSE-2006-44, Washington University in St. Louis, 2006

- T12. Reynold Bailey, Cindy Grimm, and Chris Davoli, “[The Real Effect of Warm-Cool Colors](#)”, Tech report WUCSE-2006-17, Washington University in St. Louis, 2006
- T13. Reynold Bailey and Cindy Grimm, “[Perceptually Meaningful Image Editing: Depth](#)”, Tech report WUCSE-2006-11, Washington University in St. Louis, 2006
- T14. Patrick Coleman, Leon Barrett, Cindy Grimm and Karan Singh, “[Sketching 3D Scene Projections](#)”, Tech report WUCSE-2005-13, Washington University in St. Louis, 2005
- T15. Nisha Sudarsanam, Cindy Grimm and Karan Singh, “[Intuitive tools for camera manipulation](#)”, Tech report WUCSE-2004-84, Washington University in St. Louis, 2004
- T16. Reynold Bailey, Raquel Bujans and Cindy Grimm, “[Towards a Perception Based Image Editing System](#)”, Tech report WUCSE-2004-65, Washington University in St. Louis, 2004
- T17. Cindy Grimm, Karan Singh and Nisha Sudarsanam, “[The IBar: A Perspective-based Camera Widget](#)”, Tech report WUCSE-2004-32, Washington University in St. Louis, 2004
- T18. Tim Gatzke and Cindy Grimm, “[Improved Curvature Estimation on Triangular Meshes](#)”, Tech report WUCSE-2004-9, Washington University in St. Louis, 2004
- T19. Chris Kulla, James Tucek, Reynold Bailey, and Cindy Grimm, “[Using Texture Synthesis for Non-Photorealistic Shading from Paint Samples](#)”, Tech report WUCSE-2003-54, Washington University in St. Louis, 2003
- T20. Cindy Grimm, “[Painting Lighting and Viewing Effects](#)”, Tech report WUCSE-2003-53, Washington University in St. Louis, 2003
- T21. Michael Dixon, William Smart, and Cindy Grimm, “[Picture Composition for a Robot Photographer](#)”, Tech report WUCSE-2003-52, Washington University in St. Louis, 2003
- T22. Cindy Grimm, John Hughes, and William Smart, “[View-dependent texture maps](#)”, Tech report WUCSE-2002-10, Washington University in St. Louis, 2002
- T23. Cindy Grimm and Michael Kowalski, “[Creating View-dependent Texture Maps](#)”, Tech report WUCSE-2002-9, Washington University in St. Louis, 2002

Refereed events

- E1. William D. Smart, Zachary Byer, Michael Dixon, Jacob Cynamon, Hui Zhang, and Cindy Grimm, “Lewis the Robotic Photographer”, [Siggraph 2002 Emerging technologies](#)

Refereed abstracts

- A1. Anahita Sanandaji, Cindy Grimm, and Ruth West, “Analyzing Experts’ Low-level Perception Tasks While Doing 3D Image Segmentation”, 2017 ACM Richard Tapia Celebration of Diversity in Computing, September 2017

- A2. Matthew Rueben, William Smart, Cindy Grimm, Maya Cakmak, “Privacy-Sensitive Robotics”, [Note, workshop description], [HRI '17](#) Proceedings of the Companion of the 2017 ACM/IEEE International Conference on Human-Robot Interaction, pp 425-426
- A3. Margaret Krupp, Matthew Rueben, Cindy Grimm, and William Smart, “Privacy and Telepresence Robotics: What do Non-scientists Think?”, [HRI '17](#) Proceedings of the Companion of the 2017 ACM/IEEE International Conference on Human-Robot Interaction, pp 175-176
- A4. Jeffrey Klow, Jordan Proby, Matthew Rueben, Ross T. Sowell, Cindy Grimm, William Smart, “Privacy, Utility and Cognitive Load in Remote Presence Systems”, [HRI '17](#) Proceedings of the Companion of the 2017 ACM/IEEE International Conference on Human-Robot Interaction, pp 167-168
- A5. Anahita Sanandaji, Cindy Grimm, and Ruth West, “How Experts' Mental Model Affects 3D Image Segmentation”, 2016 ACM Symposium on Applied Perception ([SAP 2016](#)) poster, July 2016
- A6. Michelle Holloway, Tao Ju, Cindy Grimm, “Contour guided surface deformation for volumetric segmentation”, [ACM SIGGRAPH 2015 Posters](#), July 2015
- A7. Alexander Hubers, Emily Andruilis, William Smart, Levi Scott, Tanner Stirrat, Duc Tran, Ruonan Zhang, Ross Sowell, Cindy Grimm, “Video Manipulation Techniques for the Protection of Privacy in Remote Presence Systems”, [Human Robot Interaction](#) (Extended Abstracts), March 2015, pp 59-60
- A8. Michelle Holloway, Cindy Grimm, Ruth West, Ross Sowell, “A guided approach to segmentation of volumetric data”, [ACM SIGGRAPH 2014 Posters](#), July 2014
- A9. Cindy Grimm, “Results of an observational study on sketching”, [SBIM 2011 posters](#), July 2011
- A10. Reynold Bailey, Aaron Costello, Ann McNamara, Cindy Grimm, “Impact of Subtle Gaze Direction on Short-Term Spatial Information Recall”, [Siggraph 2011 talks](#), August 2011 (Acceptance rate: 20%)
- A11. Srivnivas Sridharan, Ann McNamara, Reynold Bailey, Cindy Grimm, “Subtle Gaze Manipulation for Improved Mammography Training”, [Applied Perception and Graphics](#), August 2011
- A12. Paul Heider, Alain Pierre-Pierre, Ruosi Li, Rolf Mueller, and Cindy Grimm, “Poster: A Comparison of Local Shape Descriptors for Biological Applications”, [1st IEEE International Conference on Computational Advances in Bio and Medical Sciences \(ICCABS\)](#), Feb 2011
- A13. Rolf Mueller, Washington Mio, and Cindy Grimm, “Shape Space Analysis of Structures in Bat Biosonar”, [Meeting of the Acoustical Society of America](#), April 2010
- A14. Ross Sowell, Tom Erez, Emily Feder, Jianqi Xing, Leon Barret, and Cindy Grimm, “Image-space Constraints for Controlling Camera Interpolation”, [Symposium on Interactive 3D Graphics and Games](#), March 2011, p 205

- A15. Ross Sowell, Lu Liu, Tao Ju, Cindy Grimm, Christopher Abraham, Garima Gokhroo, and Daniel Low, “User Studies on the Feasibility of Oblique Contouring”, [Siggraph 2009](#) posters
- A16. Ross Sowell, Lu Liu, Tao Ju, Cindy Grimm, Christopher Abraham, Garima Gokhroo, and Dan Low, “VolumeViewer: an Interactive Tool for Fitting Surfaces to Volume Data”, [Symposium on Interactive 3D Graphics and Games](#), Feb 2009
- A17. Christopher Abraham, Dan Low, Ross Sowell, Garima Gokhroo, M. Michaletz-Lorenz, J. Olsen, and K. Creach, “Inter-observer Variability in Non-transverse Segmentation”, *Radiotherapy and Oncology*, 92(1), 2009 S186
- A18. Christopher Abraham, Dan Low, Ross Sowell, Garima Gokhroo, Tao Ju, Liu Lu, “VolumeVewer: A Segmentation and Surface Reconstruction Toolset for Non-transverse Image Planes”, [Medical Physics](#), 26, 2009 p 2459
- A19. Ly Phan, Lu Liu, Sasakthi Abyesinghe, Tao Ju and Cindy Grimm, “Surface Reconstruction from Point Set using Projection Operator”, [Siggraph 2008](#) posters and informal talks, second place in the ACM Student Programming Competition
- A20. Ross Sowell, Lu Liu, Tao Ju, and Cindy Grimm, “An Interactive Tool for Fitting Surfaces to Volume Data”, [SIGGRAPH 2008](#) poster. Selected for the ACM Student Programming Competition
- A21. Ross Sowell and Cindy Grimm, “Smooth Key Framing Using the Image Plane”, [Siggraph 2007](#) posters. Selected for the ACM Student Programming Competition.
- A22. Reynold Bailey, Ann McNamara, and Cindy Grimm, “Subtle Gaze Direction”, [Siggraph 2007](#) sketches. Selected for the ACM Student Programming Competition.
- A23. Ross Sowell and Cindy Grimm, “A Tool for Fitting Surfaces to Medical Image Data”, [Siggraph 2006](#) posters
- A24. Reynold Bailey and Cindy Grimm, “Creating the Illusion of Motion in 2D Images”, [Siggraph 2006](#) posters
- A25. Ankit Mohan, Jack Tumblin, Bobby Bodenheimer, Reynold Bailey, and Cindy Grimm, “Tabletop Computed Lighting for Practical Digital Photography”, *Siggraph 2005* sketches (acceptance rate: 25%)
- A26. Amy Hawkins and Cindy Grimm, “Keyframing Using Linear Interpolation of Matrices”, *Siggraph 2005* posters
- A27. Nisha Sudarsanam and Cindy Grimm, “CubeCam: A Screen-Space Camera Manipulation Tool”, *Siggraph 2005* posters
- A28. Reynold J. Bailey and Cindy M. Grimm, “Using Value Images to Adjust Intensity in 3D Renderings and Photographs”, *Siggraph 2004* posters
- A29. Nisha Sudarsanam, Leon Barrett, Patrick Coleman, Karan Singh, and Cindy Grimm, “Sketching Non-Linear Projections”, *Siggraph 2004* posters
- A30. Cindy Grimm, “Painting Lighting and Viewing effects”, *Graphics Interface 2003* posters

A31. William D. Smart, Zachary Byer, Michael Dixon, Jacob Cynamon, Hui Zhang, and Cindy Grimm, “Lewis the Robotic Photographer”, Siggraph 2002 sketch (invited)

Other publications

- O1. Pushkar Joshi, Cindy Grimm, “Methods and Apparatus for Three-Dimensional (3D) Sketching”, Patent 6067-71801 B1404, full filing 5/27/2012, Provisional Application Serial No. 61/491,078 applied for May 27, 2011, Adobe Corporation
- O2. Cindy Grimm, Rolf Mueller, Stephen Larson, “Biomedical applications: what you need to know”, Siggraph course notes 2010
- O3. Seeing the Future with Imaging Science, The National Academies and the Keck Futures Initiative joint publication, 2011.
- O4. Open Problems in Topology 2, Tom Peters and Denis Blackmore
- O5. Cindy Grimm and Denis Zorin, “Manifolds and Modeling”, Siggraph course notes 2005, 2006
- O6. Emerging Challenges in Computational Topology, Marshall Bern, David Eppstein, et. Al, Workshop sponsored by the NSF, available at: <http://xxx.lanl.gov/abs/cs/9909001>
- O7. Brian Guenter, Cindy Grimm, and Henrique Malvar, “Method and System for Capturing and Representing 3D Geometry, Color and Shading of Facial Expressions and other Animated Objects”, Patent 3382-49676