

Reynold Bailey

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EDUCATION

- Ph.D. in Computer Science** August 2007
Washington University, St. Louis, MO
Thesis: "Perception-Guided Image Manipulation"
Research Advisor: Cindy Grimm
- M.S. in Computer Science** May 2004
Washington University, St. Louis, MO
Thesis: "A Thesis on Techniques for Non-Photorealistic Shading Using Real Paint"
Research Advisor: Cindy Grimm
- B.S. in Computer Science and Mathematics** May 2001
Midwestern State University, Wichita Falls, TX
Research Advisor: Nelson Passos

PROFESSIONAL APPOINTMENTS AND RESEARCH EXPERIENCE

- Department of Computer Science, Rochester Institute of Technology** August 2007 - present
Tenure-track Assistant Professor
Supervisor: Paul Tymann (Department Chair)
- Media & Machines Laboratory, Washington University in St. Louis** May 2001 – August 2007
Graduate Research Assistant
Supervisor: Cindy Grimm
- Developed novel computer based image editing techniques that exploit the features of the human visual system
 - Developed non-photorealistic techniques for artistic rendering of 3D computer generated models
- Compilers and Enhanced System Architecture Research, Midwestern State University** June 1999 - May 2001
Undergraduate Research Assistant
Supervisor: Nelson Passos
- Performed comparative studies of software pipelining methods for multi-dimensional applications

RESEARCH SUMMARY

My primary research interest is the multi-disciplinary field of applied visual perception in computer graphics.

TEACHING EXPERIENCE

- 4003-571 / 4005-762 (Computer Graphics 2), Rochester Institute of Technology Winter 2011-2
- 4005-983 (MS Project/Thesis Seminar), Rochester Institute of Technology Fall 2011-1
- 4003-570 / 4005-761 (Computer Graphics 1), Rochester Institute of Technology Fall 2011-1
- 4005-769 (Applied Perception in Graphics & Visualization), Rochester Institute of Technology Spring 2010-3
- 4003-571 / 4005-762 (Computer Graphics 2), Rochester Institute of Technology Winter 2010-2
- 4003-570 / 4005-761 (Computer Graphics 1), Rochester Institute of Technology Fall 2010-1
- 4003-233 (Computer Science 3), Rochester Institute of Technology Spring 2009-3

4005-769 (Applied Perception in Graphics & Visualization), Rochester Institute of Technology	Spring 2009-3
4003-232 (Computer Science 2), Rochester Institute of Technology	Winter 2009-2
4003-571 / 4005-762 (Computer Graphics 2), Rochester Institute of Technology	Winter 2009-2
4003-231 (Computer Science 1), Rochester Institute of Technology	Fall 2009-1
4003-570 / 4005-761 (Computer Graphics 1), Rochester Institute of Technology	Fall 2009-1
4003-233 (Computer Science 3 – Learning Community), Rochester Institute of Technology	Spring 2008-3
4003-571 / 4005-762 (Computer Graphics 2), Rochester Institute of Technology	Spring 2008-3
4003-232 (Computer Science 2 – Learning Community), Rochester Institute of Technology	Winter 2008-2
4003-571 / 4005-762 (Computer Graphics 2), Rochester Institute of Technology	Winter 2008-2
4003-231 (Computer Science 1 – Learning Community), Rochester Institute of Technology	Fall 2008-1
4003-570 / 4005-761 (Computer Graphics 1), Rochester Institute of Technology	Fall 2008-1
4003-233 (Computer Science 3), Rochester Institute of Technology	Spring 2007-3
4003-570 / 4005-761 (Computer Graphics 1), Rochester Institute of Technology	Spring 2007-3
4003-232 (Computer Science 2), Rochester Institute of Technology	Winter 2007-2
4003-570 / 4005-761 (Computer Graphics 1), Rochester Institute of Technology	Winter 2007-2
4003-231 (Computer Science 1), Rochester Institute of Technology	Fall 2007-1
4003-570 / 4005-761 (Computer Graphics 1), Rochester Institute of Technology	Fall 2007-1
CSE 402 (Mathematical Tools for Computer Science), Washington University in St. Louis	Fall 2004
CSE 7521 (Research Seminar: Human Visual Perception), Washington University in St. Louis	Fall 2004
CSE 452 (Computer Graphics), Washington University in St. Louis (Guest Lecturer)	2003-2006
CSE 452 (Computer Graphics), Washington University in St. Louis (Teaching Assistant)	Fall 2002
Math Tutor, Midwestern State University	2000-2001

PUBLICATIONS

Book Chapters / Journal Publications

- Ann McNamara, Reynold Bailey, and Cindy Grimm, “*Search Task Performance Using Subtle Gaze Direction with the Presence of Distractors*”, ACM Transactions on Applied Perception, Vol. 6, No. 3, August 2009.
- Reynold Bailey, Ann McNamara, Nisha Sudarsanam, and Cindy Grimm, “*Subtle Gaze Direction*”, ACM Transactions on Graphics, Vol. 28, No. 4, August 2009.
- Reynold Bailey and Cindy Grimm, “*Perceptually Meaningful Image Editing: Manipulating Perceived Depth and Creating the Illusion of Motion in 2D Images*”, The Visual Computer: International Journal of Computer Graphics, Vol. 23, No. 9-11, September 2007.
- Ankit Mohan, Reynold Bailey, Jonathan Waite, Jack Tumblin, Cindy Grimm, and Bobby Bodenheimer, “*Table-Top Computed Lighting for Practical Digital Photography*”, IEEE Transactions on Visualization and Computer Graphics (TVCG), Vol. 13, No. 3, May/June 2007.
- Bruce Gooch, Amy Gooch, Mario Costa Sousa (editors). “*Non-Photorealistic Rendering 2nd edition*”, (publication pending).

Refereed Conference / Workshop Publications

- Reynold Bailey, Ann McNamara, Aaron Costello, Srinivas Sridharan, and Cindy Grimm, “*Impact of Subtle Gaze Direction on Short-Term Spatial Information Recall*”, 7th Symposium on Eye-Tracking Research and Applications (ETRA 2012), to appear.
- Srinivas Sridharan, Reynold Bailey, Ann McNamara, and Cindy Grimm, “*Subtle Gaze Manipulation for Improved Mammography Training*”, 7th Symposium on Eye-Tracking Research and Applications (ETRA 2012), to appear.
- James Coddington, Junxia Xu, Srinivas Sridharan, Manjeet Rege, and Reynold Bailey, “*Gaze-based Image Retrieval System using Dual Eye-trackers*”, 1st International Conference on Emerging Signal Processing Applications (ESPA 2012), to appear.

- Joel Ogden, Jabari Jordan, Chelsey Krol, Tanya Papazain, Hans-Peter Bischof, and Reynold Bailey, “*Photorealistic Rendering of Scientific Data*”, International Conference on Information Visualization Theory and Applications, (IVAPP 2012), to appear.
- Anthony Blatner, James Ferwerda, Ben Darling, and Reynold Bailey, “*TangiPaint: A Tangible Digital Painting System*”, in Proceedings of IS&T/SID 19th Color Imaging Conference, 2011 (Won Best Interactive Paper Award).
- Reynold Bailey, Hans-Peter Bischof, Minseok Kwon, Tracy Miller, and Rajendra Raj, “*On Providing Successful Research Experiences for Undergraduates*”, in Proceedings of 41st Annual Frontiers in Education (FIE) Conference, 2011.
- Janelle Arita, Jenniffer Feliz, Dennis Rodriguez, Hans-Peter Bischof, Manjeet Rege, and Reynold Bailey, “*Creating Audience Specific Galactic Simulations Using Eye-Tracking Technology*”. International Conference on Information Visualization Theory and Applications, 2011.
- Amy Ciavolino, Camille Marvin, Jason Creighton, James Coddington, Hans-Peter Bischof, and Reynold Bailey, “*Toward Affordable Gesture Based Interfaces: An Exploration with Wii Remotes*”. International Conference on Information Visualization Theory and Applications, 2011.
- Paul Cassidy, Tyler Kilburn, Vincent Salemin, Reynold Bailey, and Hans-Peter Bischof, “*Improving the Visualization of Galactic Events using Pixar’s RenderMan*”. 19th International Conference on Computer Graphics, Visualization and Computer Vision, 2011.
- Nathan Green, Manjeet Rege, Xumin Liu, and Reynold Bailey, “*Evolutionary Spectral Co-Clustering*”, in proceedings of International Joint Conference on Neural Networks (IJCNN), 2011.
- Manjeet Rege, Reynold Bailey, and Xumin Liu, “*Inferring Semantics with Object Feedback*”, in Proceedings of 6th International Conference on Advanced Information Management and Service (IMS), 2010.
- Julio Espinal, Virginia Allen, Kwesi Amable, Reynold Bailey, and Hans-Peter Bischof, “*RenderMan’s Power to Visualization’s Rescue*”. 18th International Conference on Computer Graphics, Visualization and Computer Vision, 2010.
- Ann McNamara, Reynold Bailey, and Cindy Grimm, “*Improving Search Task Performance Using Subtle Gaze Direction*”, in Proceedings of the 5th Symposium on Applied Perception in Graphics and Visualization (APGV), 2008.
- Reynold Bailey, Cindy Grimm, and Christopher Davoli, “*The Effect of Warm and Cool Object Colors on Depth Ordering*”, in Proceedings of 3rd Symposium on Applied Perception in Graphics and Visualization (APGV), 2006.
- Ankit Mohan, Jack Tumblin, Bobby Bodenheimer, Cindy Grimm, and Reynold Bailey, “*Table-Top Computed Lighting for Practical Digital Photography*”, in Proceedings of Eurographics Symposium on Rendering, 2005.
- Christopher Kulla, James Tucek, Reynold Bailey, and Cindy Grimm, “*Using Texture Synthesis for Non-Photorealistic Shading from Paint Samples*”, in Proceedings of the 11th Pacific Conference on Computer Graphics and Applications, 2003.
- Nelson Passos, Delvin Defoe, Reynold Bailey, Ranette Halverson, and Richard Simpson, “*Theoretical Constraints on Multi-Dimensional Retiming Design Techniques*”, in Proceedings of the AeroSense-Aerospace/Defense Sensing, Simulation and Controls, 2001.
- Reynold Bailey, Delvin Defoe, Ranette Halverson, Richard Simpson, and Nelson Passos, “*A Study of Software Pipelining for Multi-dimensional Problems*”, 13th International Conference on Parallel and Distributed Computing Systems, 2000.

Refereed Abstracts

- Reynold Bailey, Ann McNamara, Aaron Costello, and Cindy Grimm, “*Impact of Subtle Gaze Direction on Short-Term Spatial Information Recall*”, ACM SIGGRAPH 2011 Talks.
- Reynold Bailey, Ann McNamara, Nisha Sudarsanam, and Cindy Grimm, “*Subtle Gaze Direction*”, ACM SIGGRAPH 2007 Sketches.
- Ankit Mohan, Jack Tumblin, Bobby Bodenheimer, Cindy Grimm, and Reynold Bailey, “*Table-Top Computed Lighting for Practical Digital Photography*”, ACM SIGGRAPH 2005 Sketches.

Panels

- Reynold Bailey (Moderator), Guy-Alain Amoussou, Tiffany Barnes, Hans-Peter Bischof, and Thomas Naps, “*Relevant Real-World Undergraduate Research Problems: Lessons from the NSF-REU Trenches*”, Proceedings of the 41st ACM Technical Symposium on Computer Science Education SIGCSE 2010.

Posters

- Srinivas Shridharan, Reynold Bailey, Ann McNamara, and Cindy Grimm, “*Subtle Gaze Manipulation for Improved Mammography Training*”, 8th Symposium on Applied Perception in Graphics and Visualization (APGV), 2011.
- Reynold Bailey, Ann McNamara, Nisha Sudarsanam, and Cindy Grimm, “*Subtle Gaze Direction*”, ACM SIGGRAPH 2007 Posters, Selected for the ACM Student Research Competition.
- Reynold Bailey, Cindy Grimm, and Christopher Davoli, “*The Effect of Warm and Cool Object Colors on Depth Ordering*”, ACM SIGGRAPH 2006 Research Posters.
- Reynold Bailey and Cindy Grimm, “*Creating the Illusion of Motion in 2D Images*”, ACM SIGGRAPH 2006 Research Posters.
- Reynold Bailey and Cindy Grimm, “*Using Value Images to Adjust Intensity in 3D renderings and Photographs*”, ACM SIGGRAPH 2004 Posters.

GRANTS

RIT – Office of Vice President of Research - \$20,000	2010-2011
<i>Mining Dynamic K-12 Educational Datasets</i> With Manjeet Rege	
RIT & RGHS Alliance Seed Funding Program - \$20,000	2010-2011
<i>Stereo simulation of Robotic Prostate Surgery</i> With Marla Schweppe, John Valvo, and Louis Eichel	
NSF – Faculty Early Career Development (CAREER) - \$549,586	2010-2014
<i>CAREER: Gaze Manipulation</i>	
NSF - Research Experiences for Undergraduates (REU) - \$275,000	2009-2011
<i>REU Site: High Performance Filesystems and Data Visualization</i> With Hans-Peter Bischof, Minseok Kwon, and Rajendra Raj	
RIT Faculty Evaluation and Development (FEAD) - \$5,000	2009-2010
<i>Adaptive Gaze Direction for Video</i>	

DEPARTMENTAL, COLLEGE, AND INSTITUTE SERVICE

Department level service, Department of Computer Science, Rochester Institute of Technology	
Research presentation to undeclared majors	2011
Curriculum Committee Member	2010-2011
Faculty participant in Department program to call accepted AALANA students	2010
Department representative at RIT Distinguished Alumni Awards reception	2010
Scholarship Committee Member	2009-2010
Member of Ad hoc Committee to select CS student delegate for commencement	2009
Faculty participant in Department program to call accepted AALANA students	2009
Student Scholarship Outreach Retention and Recruitment (SOAR) Committee Chair	2008-2010
Hiring Committee Member	2008-2009
Student Scholarship Outreach Retention and Recruitment (SOAR) Committee Member	2007-2008
Facilities Committee Member	2007-2008
College level service, GCCIS, Rochester Institute of Technology	
GCCIS Dean Search Committee Member	2010-2011
Meetings with officials from Universiti Teknologi Malaysia to discuss partnership with GCCIS	2010
Faculty Recruiter – Compact for Faculty Diversity Annual Conference	2009
Faculty and Student Recruiter – Richard Tapia Celebration of Diversity in Computing	2009
Member of GCCIS/Richard Tapia Celebration of Diversity Student Scholarship Selection Committee	2009
Member of GCCIS Strategic Planning Committee for Diversity and Inclusivity	2009
Faculty Recruiter – Compact for Faculty Diversity Annual Conference	2008
Student Recruiter – National Society for Black Engineers Annual Conference	2008
College Liaison to North Star Center	2008-2009

Institute level service, Rochester Institute of Technology	
Academic Support Committee Member	2011-2012
Presenter at RIT Sponsored Research Services Information Session on NSF CAREER Grants	2011
Panelist on "Getting Started in Research" panel at RIT Grant Writers Boot Camp	2010
Meetings with officials from North Carolina A&T State University to discuss partnership with RIT	2010
GCCIS faculty representative at RIT Future Faculty Career Exploration Program opening reception	2008-2011
Research Advisory Board Retreat and Brainstorming Session Participant	2010
Functional Partners Diversity Council Member	2007-2009
Partnerships in Pluralism Participant	2008-2009

PROFESSIONAL AND OTHER ACTIVITIES

Member - ACM Special Interest Group on Graphics and Interactive Techniques (SIGGRAPH)	
Member - Association for Computing Machinery (ACM)	
Member - Multidisciplinary Vision Research Laboratory, Rochester Institute of Technology	
Member - Intl. Program Committee, Symposium on Applied Perception in Graphics & Visualization	2011
Reviewer for NSF Computer & Information Science & Engineering (CISE) Program	2011
Participant in NSF Sponsored Meeting on "Creating a Climate for Interdisciplinary Computing"	2011
Presenter at RIT Computer Science for High School Workshop	2011
Presenter at RIT Computer Science Community "Teacha-Talk" Series	2011
Exhibitor at Imagine RIT Innovation Festival	2011
Presenter at RIT Career Day for Local High School Students	2010
Judge for Student Research Competition at SIGGRAPH	2010
Reviewer for NSF Computer & Information Science & Engineering (CISE) Program	2010
Treasurer – Rochester Finger Lakes Professional Chapter of ACM SIGGRAPH	2010
Reviewer for NSF Broadening Participation in Computing Alliance (University/K-12 Partnership)	2009
Reviewer for ACM SIGGRAPH general submissions: posters, talks, courses, and emerging technology	2009
Reviewer for the journal of the Electronics and Telecommunications Research Institute (ETRI)	2009
Panelist for Louis Stokes Alliances for Minority Participation Information Session, RIT	2009
Exhibitor at Imagine RIT Innovation Festival	2009
Judge for Richard Tapia Celebration of Diversity in Computing Student Research Competition	2009
Reviewer for Grant-Writer's Boot Camp project proposals, Rochester Institute of Technology	2008
Advisor to Caribbean Student's Association, Rochester Institute of Technology	2008-2009
Invited Speaker, Chancellor's Graduate Fellowship Conference, Washington University St. Louis	2008
Reviewer for ACM Transactions on Graphics	2006
Reviewer for IEEE Computer Graphics and Applications	2006
Reviewer for poster session of ACM SIGGRAPH	2006

M.S. AND PH.D. COMMITTEES

Ph.D. Committee Chair Srinivas Sridharan	Expected 2016
Ph.D. Committee Member Yuqoing Wang	Expected 2013

M.S. Committee Chair

Jeffrey Smith, " <i>Perceptually Meaningful Computation</i> "	Expected 2012
Steve Glazer, " <i>Augmented Reality Campus Navigation System</i> "	Expected 2012
Junxia Xu, " <i>Gaze as an Integrated Form of Input</i> "	Expected 2012
Daniel Rabess, " <i>Interactive Techniques for Real-Time Surgical Simulations</i> "	Expected 2011
Madayi Kolangarakath Rohit, " <i>Real-time Surgical Simulation Using Deformable Meshes</i> "	May 2011
Anthony Blatner, " <i>TangiPaint: Interactive Tangible Media</i> ", co-chair along with James Ferwerda	May 2011
Anoop Thomas, " <i>Parallel Ray Tracing: Analysis of GPU Platforms</i> "	October 2010
Sean Janis, " <i>Interactive Natural User Interfaces</i> "	May 2010

M.S. Committee Reader/Observer

Vinayak Suley, Peter Mahon, Stephen Sarnelle, John Lucasiewicz, John Kaeuper, Pranabesh Sinha, David Huynh, Rachel Manoni, Emmett Coakley, Trevor Clarke, Benjamin Bloom, Rohan Mehalwal, Alan Pilecki, Mike Romero, Mustapha Gusemia, Alok Roi, Binil Kurian, Payal Patel	2007-2011
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OTHER STUDENT RESEARCH ACTIVITIES

Co-PI for NSF Summer Research Experiences for Undergraduates (REU) Program in CS at RIT (with Hans-Peter Bischof, Minseok Kwon, and Rajendra Raj)	2009-2011
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Undergraduate/Graduate Independent Study and Capstone Project Advising

Steve Glazer, Luke Curley, Aaron Costello, Anoop Thomas, Jason Kraft, Ben DeLillo, Okka Kyaw, Arunkumar Devadoss, Madayi Kolangarakath Rohit	2007-2011
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Undergraduate Research Advising (not for credit)

Paul Cassidy, Jason Creighton, James Coddington, Ziyang Zhou, Aaron Costello, Julio Espinal, Virginia Allen, Kwesi Amable, Jabari Jordan, Joel Ogden, Caitlin Carter, Dennis Rodriguez	2007-2011
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HONORS AND AWARDS

Faculty Early Career Development Award, National Science Foundation	2010
Chancellor's Graduate Fellowship, Washington University in St. Louis	2001-2007

INTERESTS

Cycling, chess, scrabble