Seth F. Berrier ***Curriculum vitae***

CONTACT INFORMATION

University of Wisconsin – Stout
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RESEARCH INTERESTS

Material appearance capture and manipulation via light field rendering and computational photography. Pop-up capture of shape and appearance as well as simplified capture and processing of motion. Music analysis and visualization.

EDUCATION

University of Minnesota, Minneapolis, Minnesota USA

Ph.D., Computer Science, August 2012

- Thesis: *Digital Material Samples for Design*
- Adviser: Professor Gary Meyer
- Area of Study: Computer Graphics

M.S., Computer Science, May 2006

- Adviser: Professor Gary Meyer
- Coursework based masters
- Area of Study: Computer Graphics
- Minor in Mathematics

Butler University, Indianapolis, Indiana USA

B.A., Music, August 2002

- Area of Study: Vocal Performance
- Dual Degree Program: Computer Science (unofficial)

PH.D. THESIS

Seth Berrier. *Digital Material Samples for Design.* PhD thesis, University of Minnesota, Minneapolis, MN, August 2012.

JOURNAL ARTICLES

Michael Ludwig, Seth Berrier, Michael Tetzlaff, and Gary Meyer. 3d shape and texture morphing using 2d projection and reconstruction. *Computers & Graphics*, 51:146 – 156, May 2015. International Conference Shape Modeling International.

CONFERENCE PUBLICATIONS

Seth Berrier, Michael Tetzlaff, Michael Ludwig, and Gary Meyer. Improved appearance rendering for photogrammetrically acquired 3d models. In *2015 Digital Heritage*, volume 1, pages 255–262, Sept 2015.

Seth Berrier, Gary Meyer, and Danny Rado. A 3d interface for selecting household paint colors. In *Proceedings of the 19th Color and Imaging Conference (CIC)*, pages 160–165. Society for Imaging Science and Technology, 2011.

Seth Berrier, Gary Meyer, and Clement Shimizu. A computer graphics system for examining paint color collections. In *Proceedings of the 11th Congress of the International Colour Association (AIC)*, Sydney, 2009. Colour Society of Australia.

Seth Berrier, Gary Meyer, and Clement Shimizu. Creating metallic color sequences for an architectural wall. In *Proceedings of the 28th Annual Conference of the Association for Computer Aided Design in Architecture (ACADIA)*, pages 308–313, 2008.

Seth Berrier, Clement Shimizu, Patrick Chong, D'nardo Colucci, and Gary Meyer. The wall of inspiration: A computer aided color selection system. In *Proceedings of the 4th European Conference on Colour in Graphics, Imaging, and Vision (CGIV)*, pages 132–137. Society for Imaging Science and Technology, 2008.

Panagiotis K. Linos, Zhi hong Chen, Seth Berrier, and Brian O'Rourke. A tool for understanding multi-language program dependencies. In *Proceedings of the 11th IEEE International Workshop on Program Comprehension (WPC)*, pages 64–72, May 2003.

Awards

University of Minnesota
- Inventor Recognition Award - License Signed, 2008

Other Graduate Level Awards
- Selected as Google Summer of Code participant, 2009
- Intelligent Ground Vehicle Competition, 2006, Part of 2nd place team (4th overall)

Butler University
- Outstanding Ensemble Member, Madrigal Singers, 2001
- Outstanding Ensemble Member, Jordan Jazz, 1999 & 2000
- University Scholarship 1998–2002

Professional Development

Grants

Professional Development Grant — *Spring, 2016*
Support to attend Game Developers Conference — *San Francisco, CA*
$3,000 Awarded by University of Wisconsin Stout

Just-in-time Prof. Dev. Grant — *Spring, 2015*
Support to attend & present at Shape Modeling International — *Lille, France*
$1,000 Awarded by University of Wisconsin Stout

Conferences & Workshops

Attended & Presented at Digital Heritage International Conference in Granada, Spain — *Fall, 2015*

Attended Game Design and Development Conference in San Francisco, CA — *Spring, 2015*

Participated in the ABET Program Assessment Workshop in Milwaukee, WI — *September, 2012*

Participant in New Instructor Workshop organized by the Nakatani Teaching and Learning Center — *August, 2012*

Teaching Experience

University of Wisconsin – Stout, Menomonie, Wisconsin USA

Associate Professor **August 2016 – Present**

CS 144: Computer Science 1	**F16**
CS 343: Math. Foundations of Computer Graphics	**F16**

Assistant Professor **August 2012 – July 2016**

CS 141: Intro. to Programming	**F13, W14, SU14**
CS 144: Computer Science 1	**F12, S13, F14, F15**
CS 145: Computer Science 2	**S13, S14, S15, S16**
CS 248: Web and Internet Programming	**W15, SU15, SU16**
CS 343: Math. Foundations of Computer Graphics	**F12, F13, F14, F15**
CS 448: Software Engineering	**F13, F14, S15, F15**
CS 458: Adv. Software Engineering	**S14, S15, S16**
GDD 499: Game Design Independent Study	**F14, F15, S16**
MATH 118: Concepts of Mathematics	**SU13**

University of Minnesota, Minneapolis, Minnesota USA

Teaching Assistant **August 2003 – May 2010**

Equipment Grants

(Submitted) NSF Major Research Instrumentation **Spring '15 & '16**

- Title: MRI: Acquisition of a 3d photogrammetry light stage system for scanning shape, motion and appearance
- Funding: $362,901 requested
- Outcome: First proposal (Jan '15) was not funded but received favorable reviews, revised & resubmitted Jan '16

Research Grants

UW Stout College of STEM Small Grant **Summer 2014**

- Title: Appearance Capture in the Digital Content Creation Pipeline
- Funding: $3,000 provided internally by College of STEM
- Outcome: Disseminated at math colloquium and in several courses, Fall 2014
- Outcome: Developed and submitted NSF MRI grant proposal, Spring 2015

Released Software

ULF Renderer *(in beta testing)* **Summer 2015**
Sponsor: Cultural Heritage Imaging (`http://culturalheritageimaging.org`)

- Tool for rendering photogrammetry objects as light fields
- Directly reads models produced by Agisoft PhotoScan
- Key tool for working with the NSF MRI grant equipment
- Project Site: `https://sites.google.com/site/ulfrenderer/`

PhotoScan Helper *(in development)* **Summer 2015**

- Tool to help manage photos and objects for processing with Agisoft PhotoScan
- Key part of the summer scanning project with the UW Stout Library Archives
- Key tool for working with the NSF MRI grant equipment
- Project Site: `https://bitbucket.org/Olliebrown/photoscan-helper`

Student Engagement

- Organized TrainJam student ambassador program **Spring '16**
- Sponsored student honors contract **Spring '16**
- Facilitated student-led photographing and scanning of artifacts from the UW Stout Library archives, Dunn County Historical Society, & Wilson Place Mansion **Summer '15**

Academic Service

- Member of expert panel at the Museum Computer Network Conference **Fall '15**
- Faculty Senate member representing MSCS department **Since Fall '15**

Committee Membership

- Technology fee committee **Since Fall '15**
- Game Design and Development program advisory committee **Since Fall '14**
- Professional advisory committee for the MFA in Design **Since Fall '14**
- UW Stout January professional development committee **Since Fall '13**
- Computers and Writing Conference Organizing Committee **2014–15**

Professional Experience

ThermaSolutions, Inc., White Bear Lake, Minnesota USA

Independent Software and Systems Consultant **Fall 2012**

- Worked to help restore legacy systems for the ThermoChem HT-1000 for intraperitoneal hyperthermia therapy (heated medication applied to abdomen).
- Restored embedded MSDOS system in several malfunctioning machines.
- Worked to provide better documentation of legacy system and provide backups for future restoring of broken machines.

Benjamin Moore & Co., Flanders, New Jersey USA

Wall of Inspiration **January 2005 – May 2007**

- Worked as senior software developer with Benjamin Moore Paints on a research project to develop a new tool for viewing and selecting paint colors.
- Billed and arranged as a research assistantship through the University of Minnesota but was akin to software consultation.
- Collaboration involved complex hardware and software development and resulted in a large in-store display in Manhattan's Chelsea district.

Independent Software Consultant **July 2007**

- Hired to support the software developed during the Wall of Inspiration project.
- Helped to document and transfer support of the source code for this project to internal software engineers at Benjamin Moore.

Google / Crystal Space 3D

Participant in the Google Summer of Code **May – August, 2009**

- Worked on the open source project Crystal Space 3D.
- Developed a new, off-line lighting system based on photon-mapping (a continuation of a previous summer of code project).
- Improved static light-map generation.
- A web-log documenting my work during this period can be accessed at `http://www.crystalspace3d.org/blog/olliebrown`