



Dr. Patrick Seeling, Ph. D.

Assistant Professor
Department of Computing and New Media Technologies
University of Wisconsin-Stevens Point

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Patrick Seeling is an Assistant Professor in the Department of Computing and New Media Technologies at the University of Wisconsin-Stevens Point, Stevens Point, Wisconsin. He received his Dipl.-Ing. Degree in Industrial Engineering and Management (specializing in Electrical Engineering) from the Technical University of Berlin, Germany, in 2002 and his Ph.D. in Electrical Engineering from Arizona State University, Tempe, Arizona, in 2005. From 2005 to 2007, Patrick Seeling was a Faculty Research Associate and Associated Faculty with the Department of Electrical Engineering at Arizona State University.

Patrick Seeling published several journal articles and conference papers, as well as books, book chapters, and tutorials in the areas of multimedia, optical, and wireless networking and engineering education. He served as reviewer and technical program committee member for several journals and conferences.

Experience

Assistant Professor (tenure-track), University of Wisconsin-Stevens Point

(January 2008 – Present)

Associated Faculty, Arizona State University

(January 2007 – December 2007)

Faculty Research Associate, Arizona State University

(August 2005 – December 2006)

Research Associate, Arizona State University

(January 2003 – July 2005)

Student Researcher, acticom GmbH

(January 2002 – December 2002)

Consulting

Marshfield Clinic Research Foundation, Marshfield, Wisconsin

(June 2008 – September 2008)

Arizona State University

(May 2008 – current)

General Dynamics C4 Systems, Scottsdale, Arizona

(August 2006 – October 2006)

Education

Ph.D., Electrical Engineering (GPA 4.0) – August 2005

Arizona State University, Tempe, AZ

Thesis: The Rate Variability-Distortion (VD) Curve of Encoded Video

Advisor: Dr. Martin Reisslein

Dipl.-Ing., Industrial Engineering and Management – December 2002

Technical University of Berlin, Germany

Thesis (transl.): Mobile Business-to-Business in Implementation, Diffusion and Development

Advisor: Dr. Marian Scherz

Principle Areas of Research and Teaching

Research

- Multimedia networking
- Wireless and sensor networks
- Health networking
- Computer-mediated education

Teaching

- Communication networks and data communications
- Multimedia networking
- Wireless networking
- Introductory information and network security
- System and network administration

Refereed Archival Journal Papers

1. P. Seeling, M. Reisslein and B. Kulapala. Network Performance Evaluation with Frame Size and Quality Traces of Single-Layer and Two-Layer Video: A Tutorial. *IEEE Communications Surveys and Tutorials*, 6(3):58–78, Third Quarter 2004.
2. F. H.P. Fitzek, S. Rein, P. Seeling and M. Reisslein. RObust Header Compressions (ROHC) Performance for Multimedia Transmission over 3G/4G Wireless Networks. *Wireless Personal Communications (Kluwer/Springer)*, 32(1):23–41, January 2005.
3. P. Seeling, P. de Cuetos and M. Reisslein. Fine Granularity Scalable (FGS) Video: Implications for Streaming and a Trace-Based Evaluation Methodology. *IEEE Communications Magazine*, 43(4): 138–142, April 2005.
4. J. Reisslein, P. Seeling and M. Reisslein. Video in Distance Education: ITFS vs. Web-Streaming—Evaluation of Student Attitudes. *The Internet and Higher Education (Elsevier)*, 8(1):25–44, First Quarter 2005.
5. P. de Cuetos, P. Seeling, M. Reisslein and K. W. Ross. Comparing the Streaming of FGS Encoded Video at Different Aggregation Levels: Frame, GoP, and Scene. *International Journal of Communication Systems (Wiley)*, 18(5):449–464, May 2005.
6. J. Reisslein, P. Seeling and M. Reisslein. Integrating Emerging Topics and Distance Learners through Online Team Design in a Communication Networks Course. *The Internet and Higher Education*, 8(2):145–160, Second Quarter 2005.
7. J. Reisslein, P. Seeling and M. Reisslein. Computer-Based Instruction on Multimedia Networking Fundamentals: Equational vs. Graphical Representation. *IEEE Transactions on Education*, 48(3):438–447, August 2005.
8. J. Reisslein, P. Seeling, R. Atkinson and M. Reisslein. Investigating the Presentation and Format of Instructional Prompts in an Electrical Circuit Analysis Computer-Based Learning Environment. *IEEE Transactions on Education*, 48(3):531–539, August 2005.
9. P. Seeling and M. Reisslein. Evaluating Multimedia Networking Mechanisms Using Video Traces. *IEEE Potentials*, 24(4):21–25, October/November 2005.
10. P. Seeling and M. Reisslein. The Rate Variability-Distortion (VD) Curve of Encoded Video and its Impact on Statistical Multiplexing. *IEEE Transactions on Broadcasting*, 51(4):473–492, December 2005.
11. J. Reisslein, R. K. Atkinson, P. Seeling and M. Reisslein. Encountering the Expertise Reversal Effect with a Computer-based Environment on Electrical Circuit Analysis. *Learning and Instruction*, 16(2): 92-103, April 2006.
12. P. Seeling, M. Reisslein, T. Madsen and F. H.P. Fitzek. Performance Analysis of Header Compression Schemes in Heterogeneous Wireless Multi-Hop Networks. *Wireless Personal Communications (Springer)*, 38(2):203–232, July 2006.
13. P. Seeling, M. Reisslein and F. H.P. Fitzek. Offset Trace-Based Video Quality Evaluation after Network Transport. *Journal of Multimedia (JMM)*, 1(2):1-13, May 2006.
14. J. Reisslein, M. Reisslein and P. Seeling. Comparing Static Fading with Adaptive Fading to Independent Problem Solving: The Impact on the Achievement and Attitudes of High School Students Learning Electrical Circuit Analysis. *ASEE Journal of Engineering Education*, 95(3):217-226, July 2006.

15. M. Scheutzow, P. Seeling, M. Maier and M. Reisslein. Shortest Path Routing in Optical WDM Ring Networks under Multicast Traffic. *IEEE Communication Letters*, 10(7):564-566, July 2006.
16. M. Scheutzow, P. Seeling, M. Maier, and M. Reisslein. WDM Star Subnetwork Upgrade of Optical Ring Networks for Maximum Spatial Reuse under Multicast Traffic. *IEEE Journal on Selected Areas in Communications (JSAC)*, 25(4):55-67, April 2007.
17. M. Scheutzow, P. Seeling, M. Maier, and M. Reisslein. Multicasting in WDM Upgraded Resilient Packet Ring (RPR). *Journal of Optical Networking (JON)*, 6(5): 415-421, May 2007.
18. M. an der Heiden, M. Sortais, M. Scheutzow, M. Reisslein, P. Seeling, M. Herzog, and M. Maier. Multicast Capacity of Optical Packet Ring for Hotspot Traffic, *IEEE/OSA Journal of Lightwave Technology*, 25(9):2638-2652, September 2007.
19. M. Scheutzow, M. Reisslein, M. Maier, and P. Seeling. Multicast Capacity of Packet-Switched Ring WDM Networks. *IEEE Transactions on Information Theory*, 54(2):623-644, February 2008.
20. P. Seeling. Labs @ Home. *ACM inroads - the SIGCSE Bulletin*, 40(4). December 2008.

Selected Journal Rankings

(From Institute for Scientific Information's annual Journal Citation Reports, 2006 edition)

- IEEE Communications Letters: Ranked #24 on impact and #9 in total cites in category Telecommunications (out of 59).
- IEEE Communications Magazine: Ranked #35 on impact in category Electrical and Electronics Engineering (out of 206), ranked #7 on impact and #4 on total cites in category Telecommunications (out of 59).
- IEEE Journal on Selected Areas in Communication: Ranked #29 on impact and #22 on total cites in category Electrical and Electronics Engineering (out of 206), ranked #5 on impact and #3 on total cites in category Telecommunications (out of 59).
- IEEE Transactions on Broadcasting: Ranked #11 on impact in category Telecommunications (out of 59).
- IEEE Transactions on Education: Ranked #15 on impact and #11 on total cites in category Education, Scientific Disciplines (out of 22).
- IEEE Transactions on Information Theory: Ranked #15 on impact and #1 on total cites in category Computer Science, Information Systems (out of 87), ranked #26 on impact and #4 on total cites in category Electrical and Electronics Engineering (out of 206).
- Learning and Instruction: Ranked #5 on impact in category Education & Educational Research (out of 100).
- Wireless Personal Communications: Ranked #42 on impact and #28 on total cites in category Telecommunications (out of 59).

Conference Proceedings Refereed Papers

1. F. H.P. Fitzek, L. Badia, P. Seeling, J. G. Schulte and T. Henderson. Mobility and Stability Evaluation in Wireless Multi-Hop Networks Using Multiplayer Games. In Proceedings of NetGames 2003, pages 77–87, Redwood City, CA, May 2003.
2. P. Seeling, M. Reisslein, F. H.P. Fitzek and S. Hendrata. Video Quality Evaluation for Wireless Transmission with Robust Header Compression. In Proceedings of the IEEE Fourth International Conference on Information, Communications & Signal Processing and Fourth IEEE Pacific-Rim Conference on Multimedia (ICICS-PCM), volume 3, pages 1346–1350, Singapore, December 2003.
3. F. H.P. Fitzek, P. Seeling, and M. Reisslein. Video and Audio Trace Files of Pre-Encoded Video Content for Network Performance Measurements. In Proceedings of the IEEE Consumer Communications and Networking Conference (CCNC), volume 1, pages 245–250, Las Vegas, NV, January 2004.
4. F. H.P. Fitzek, P. Seeling, M. Reisslein, R. Rugin and M. Zorzi. A Visualization Tool for Ad Hoc Networks: ViTAN. In Proceedings of the 7th International Symposium on Wireless Personal Multimedia Communications (WPMC), volume 1, pages 161–164, Abano Terme, Italy, September 2004.
5. B. Kulapala, P. Seeling and M. Reisslein. Comparison of Traffic and Quality Characteristics of Rate-Controlled Wavelet and DCT Video. In Proceedings of the IEEE International Conference on Computer Communications and Networks (ICCCN), pages 247–252, Chicago, IL, October 2004.
6. P. Seeling and M. Reisslein Video Coding with Multiple Descriptors and Spatial Scalability for Device Diversity in Wireless Multi-hop Networks. In Proceedings of the IEEE Consumer Communications and Networking Conference (CCNC), pages 278–283, Las Vegas, NV, January 2005.
7. M. Scheutzow, P. Seeling, M. Maier and M. Reisslein. Multicast Capacity of Packet-Switched Ring WDM Network. In Proceedings of IEEE INFOCOM, Vol. 1, pages 706-717, Miami, FL, March 2005.
8. M. Reisslein, J. Reisslein, P. Seeling and H.-S. Yang. A Course on Multimedia QoS Networking: Development and Evaluation of On-Campus Offering. In Proceedings of IEEE Frontiers in Education Conference (FIE), pages S1J1-S1J6, Indianapolis, IN, October 2005.
9. M. Reisslein, J. Reisslein and P. Seeling. A Course on Multimedia QoS Networking: Transition to Hybrid Offering and Comparative Evaluation. In Proceedings of the IEEE Frontiers in Education Conference (FIE), pages S3H1-S3H6, Indianapolis, IN, October 2005.
10. J. Reisslein, P. Seeling and M. Reisslein. Work-In-Progress: Effectiveness of Worked Examples and Fading in Introductory Electrical Circuit Analysis for Learners of Different Ability Levels. In Proceedings of the IEEE Frontiers in Education Conference (FIE), pages S2H1-S2H2, Indianapolis, IN, October 2005.
11. P. Seeling and M. Reisslein. Video Offset Distortion Descriptors for Trace-Based Evaluation of Video Quality after Network Transport. In Proceedings of the IEEE Int. Conference on Computer Communications and Networks (ICCCN), pages 375–380, San Diego, CA, October 2005.

12. P. Seeling, M. Reisslein and F. H.P. Fitzek. Layered Video Coding Offset Traces for Trace-Based Evaluation of Video Quality after Network Transport. In Proceedings of the IEEE Int. Consumer Communications and Networking Conference (CCNC), Vol. 1, pages 292-296, Las Vegas, NV, January 2006. Paper won the 2nd place Best Paper Award of the conference.
13. P. Seeling and M. Reisslein. Video Pricing for Wireless Networks. In Proceedings of the IEEE Int. Consumer Communications and Networking Conference (CCNC), Vol. 2, pages 749-753, Las Vegas, NV, January 2006.
14. P. Seeling and M. Reisslein. Semantically Coupled Header Compression. In Proceedings of First IEEE Workshop on Hot Topics in Web Systems and Technologies, Boston, MA, Nov. 2006.
15. M. Reisslein, D. Tylavsky, B. Matar, P. Seeling, and J. Reisslein. Active and Cooperative Learning in a Freshman Digital Design Course: Impact on Persistence in Engineering and Student Motivational Orientation. In Proceedings of the Frontiers in Education Conference (FIE), Milwaukee, WI, October 2007.
16. P. Seeling. Scene Change Detection for Uncompressed Video. In Proceedings of the Int. Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CISSE), December, 2008.
17. P. Seeling and J. B. Starren. Ad-Hoc Association of Pre-Determined ZigBee Devices. In Proceedings of the Ubiquitous Mobile Healthcare Applications Workshop (MobiCare 2009), Toronto, Canada, July 2009.
18. M. Hoppe and P. Seeling. Security of Virtualized Applications: Microsoft App-V and VMware ThinApp. In Proceedings of the Int. Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CISSE), December, 2009.
19. A. Pulipaka, P. Seeling, M. Reisslein, and L. J. Karam. Overview and Traffic Characterization of Coarse-Grain Quality Scalable (CGS) H.264 SVC Encoded Video. In Proceedings of the IEEE Consumer Communications and Networking Conference (CCNC), Las Vegas, NV, January 2010.

Conference Proceedings, Abstracts, and Presentations

1. F. H.P. Fitzek, P. Seeling and M. Reisslein. Reference Models and Related Business Cases for ad-hoc Networks. In Proceedings of the Wireless World Research Forum 6 (WWRF), London, UK, June 2002.
2. F. H.P. Fitzek, P. Seeling and M. Reisslein. Authentication and Security in IP Based Multi-hop Networks. In Proceedings of Wireless World Research Forum 7 (WWRF), Vol. 1, Eindhoven, NL, December 2002.
3. F. H.P. Fitzek, P. Seeling and M. Reisslein. Link Level Design Issues for IP based Multi-hop Communication Systems. In Proceedings of the Wireless World Research Forum 7 (WWRF), Vol. 1, Eindhoven, NL, December 2002.

Book Publishing

(Books authored, books edited, book chapters, monographs)

1. F. H.P. Fitzek, S. Hendrata, P. Seeling and M. Reisslein. Wireless Internet, chapter Header Compression Schemes for Wireless Internet Access. Electrical Engineering & Applied Signal Processing Series. CRC Press, 2004.
2. F. H.P. Fitzek, P. Seeling and M. Reisslein. Wireless Internet, chapter Video Streaming in Wireless Internet. Electrical Engineering & Applied Signal Processing Series. CRC Press, 2004.
3. P. Seeling, Frank H.P. Fitzek, and M. Reisslein. Video Traces for Network Performance Evaluation. Springer, November 2006. ISBN: 978-1-4020-5565-2

Other Publications

Tutorials

1. F. H.P. Fitzek, T. Madsen and P. Seeling. IP Header Compression Enabling High Quality Consumer-Oriented Communications Diversity. IEEE Communication Society Tutorials. Available at <http://www.comsoc.org/livepubs/tutorials/Seeling/index.html>

Software

1. P. Seeling, F. H.P. Fitzek and M. Reisslein. Videometer. IEEE Network, 17(1):5, January 2003.
2. F. H.P. Fitzek, P. Seeling, M. Reisslein and M. Zorzi. ViTAN -Visualisation Tool for Ad-hoc Networks. IEEE Network, 17(4):9, July 2003.

Filed Patents

1. P. Seeling and M. Reisslein. Video Coding with Multiple Descriptors and Spatial Scalability for Device Diversity. ASU Case No. M5-013.
2. P. Seeling. Entropy-based Scene Change Detection. WiSys Reference #T08030US, June, 2008.
3. P. Seeling and J. Starren. Ad-Hoc Association of Pre-Determined ZigBee devices. WiSys Reference #R09001US. September, 2008.

Invited Presentations

1. P. Seeling. Busy Bee – An Introduction to ZigBee and Its Potential for Home Monitoring. Marshfield Clinic Research Foundation, Marshfield, WI, April 2008.
2. P. Seeling. Wireless and Multimedia Research and Development at UW-Stevens Point. Second Annual Wisconsin Science & Technology Symposium, La-Crosse, WI, July 2009.

International Exchanges

International Students Hosted at University of Wisconsin-Stevens Point

1. Michael Hoppe, Dept. of Computer Science, Otto-von-Guericke University Magdeburg, Germany. Academic year 2008 – 2009.
2. Steffen Haase, Dept. of Computer Science, Otto-von-Guericke University Magdeburg, Germany. Academic year 2008 – 2009.

Student Projects, Theses, and Dissertations

Degrees Awarded

Student	Degree	Title	Year
Michael Hoppe¹	Masters (Diplom)	Process and Analysis of Application Virtualization Distribution	2009
Steffen Haase¹	Bachelor	Cooperation of Wireless Networks	2009
Rohan Gupta²	Masters	Trace-based Traffic and Quality Evaluation of H.264 SVC Extended MGS Video Streams	Fall, 2009
Akshay Pulipaka²	Masters	Trace-based Traffic and Quality Evaluation of H.264 SVC Extended CGS Video Streams	Fall, 2009

Independent Study Projects Supervised

Student	Course	Title	Semester
Ryan Stieber	CIS499	Connectivity for Windows Server 2008	Fall 2008
Derek Briske	CIS499	Bluetooth Media Streaming	Spring 2009

¹ Degree awarded under a dual degree program between the Department of Computing and New Media Technologies, University of Wisconsin-Stevens Point and the Department of Computer Science, Otto-von-Guericke University Magdeburg, Germany.

² Student advising under a consulting agreement with the Department of Electrical Engineering, Arizona State University, Tempe, Arizona.

Student Evaluations

All student evaluations are on a 5-point Likert scale ranging from 1.00 (highest, strongly agree) to 5.00 (lowest, strongly disagree). The provided evaluation results are for the course and department median in student answers for the question 'Overall, the instructor taught this course effectively'.

Term, Year	Course Number	Course Title, Credits	Students	Course, Dept.
Winterim, 2008	CIS330	Computer and Network Architecture, 4 cr.	18	1.8, 2.1
Spring, 2008	CIS330	Computer and Network Architecture, 4 cr. (average of 4 sections taught)	58	1.3, 1.7
	CIS360	Data Communication and Networks, 4 cr.	18	1.3, 1.7
Fall, 2008	CIS330	Computer and Network Architecture, 4 cr. (average of 3 sections taught)	36	1.3, 1.6
	CIS361	Information and Network Security, 4cr.	11	1.0, 1.6
	CIS463	Web Server Administration, 4cr.	8	1.0, 1.6
Winterim, 2009	CIS346	Wireless Networks and Devices, 4cr.	11	1.1, 1.4
Spring, 2009	CIS346	Wireless Networks and Devices, 4cr.	14	1.1, 1.6
	CIS360	Data Communication and Networks, 4 cr.	24	1.4, 1.6
	CIS462	Secure Server Administration, 4cr.	6	1.3, 1.6
Fall, 2009	CIS360	Data Communication and Networks, 4 cr.		
	CIS361	Information and Network Security, 4cr.		
	CIS462	Secure Server Administration, 4cr.		

Course Development

Computer-based Instructional Module on Principles of Multimedia Networking

Arizona State University

Developed and assessed a computer-based instructional module that (i) introduces senior level college students to the principles of multimedia networking in the Internet, and (ii) has been quantitatively demonstrated to be effective in teaching the basic principles of multimedia networking and to increase the motivation for further study in multimedia networking.

Computer-based Instructional Module on Principles of Electrical Circuit Analysis for Middle and High School Students

Arizona State University

Developed and assessed a computer-based instructional module that (i) introduces middle and high school students without any prior content specific knowledge to the principles of electrical circuit analysis, and (ii) has been quantitatively demonstrated to be effective in teaching the basic principles of circuit analysis and to increase motivation for further study in electrical engineering.

Wireless Networks and Devices

University of Wisconsin-Stevens Point

Development of an undergraduate course covering wireless network technologies including sensor networks, personal area networks, wide area networks, and cellular networks. Introduction of mobility concepts and mobile device characteristics. Student projects of programming for wireless devices.

Server Administration

University of Wisconsin-Stevens Point

Redesign of an undergraduate course covering previously two courses in server administration for Linux and Windows operating systems. Topics covered include an introduction to Linux system administration and deployment of network services such as DHCP, DNS, SMTP, SSH, HTTP, and HTTPS based on a specific scenario. The course was redeveloped for virtual infrastructure and non-traditional students.

Advanced Topics in Networking

University of Wisconsin-Stevens Point

Development of a new undergraduate course covering advanced topics in networking, such as multimedia and overlay networking. In addition, students are introduced to standards documentations and peer-reviewed scientific publications.

Service – Professional and Scientific

Journal Referee

- IEEE Transactions on Broadcasting
- IEEE Transactions on Signal Processing
- Computer Communications (Elsevier)
- Wireless Personal Communications (Springer)

Technical Program Committee Member

- IEEE Consumer Communications and Networking Conference (CCNC) – 2006, 2007, 2008
- IEEE Cognitive and Cooperative Wireless Networks (CoCoNet) – 2008
- 4th International ICST Mobile Multimedia Communications Conference (ICST Mobimedia), 2008
- Workshop on Cooperative Mobile Networks (CoCoNet) 2009
- European Wireless (EW), 2009

Program Committee Member

- ACM International Conference on Advances in Computer Entertainment Technology (ACE), 2004

Reviewer

- International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CISSE), 2008

Society Memberships

- Association for Computing Machinery (ACM), 2003 – present
- Institute of Electrical and Electronics Engineers (IEEE), 2003 – present
 - IEEE Multimedia Communications Technical Committee (IEEE MMTC) Member, 2008 – present

Service – University of Wisconsin-Stevens Point

University Level

- Member, University Affairs Committee, 2009 – present
- Member, Review Committee for the Interim Dean of the College of Letters and Science, 2008

College Level

- Member, Dean’s Advisory Committee of the College of Letters & Science, 2008 – 2009
- Member, Review Committee for Justus & Barbara Paul Sabbatical Grant, 2009

Department Level

- Member, Department Curriculum Committee, 2009 – present
- Member, Skyward Scholarship Review Committee, 2008
- Chair, Computer Information Systems Curriculum Committee, 2008 – 2009
- Member, Marketing Committee for the Department, 2008 – present
- Member, Faculty Search and Screen Committee, 2008, 2009

Professional Development – Attended Workshops

Advancement of Research in Teaching and Learning Workshop

University of Wisconsin-Stevens Point, 2008

Prepare faculty and academic teaching staff to develop and submit scholarly research in teaching and learning.

UW System Summer Curricular Redesign

University of Wisconsin-Stevens Point, 2008

The purpose of this program is to prepare faculty to teach in the online environment. This professional development activity provides participants with the knowledge and skills necessary to develop and deliver either a blended/hybrid or totally online course.

Backward Design Workshop

University of Wisconsin-Stevens Point, 2008

In the process of redesigning their course, participants will learn how to write quality learner outcomes and develop measurable assessment strategies. In addition, participants will develop one or more active and/or collaborative teaching strategies that will support their redesigned curriculum.

Professional Development – Grants Awarded

University of Wisconsin-Stevens Point

1. University of Wisconsin-Stevens Point, College of Letters and Sciences, Minigrant, 2008
Amount: \$840
Status: Completed
2. University of Wisconsin-Stevens Point, Office of the Provost, Curriculum Redesign Grant, 2008
Amount: \$3000
Status: Completed
3. University of Wisconsin-Stevens Point, University Personnel Development Committee, New Faculty grant, 2008
Amount: \$1961
Status: Completed
4. Wisconsin Alumni Research Foundation (WARF), Applied Research Prototype Development, Summer 2009
Amount: \$9416
Status: Completed
5. University of Wisconsin-Stevens Point, College of Letters and Sciences, Undergraduate Research , Summer 2009
Amount: \$2000
Status: Completed
6. University of Wisconsin System Office of Federal Relations, Assistance for ARRA Grant Applications, Summer 2009
Amount: \$3189
Status: Completed
7. University of Wisconsin-Stevens Point, College of Letters and Sciences, Minigrant, Fall 2009
Amount: \$600
Status: In progress

Pending / In Preparation

1. National Science Foundation (NSF), Faculty Early Career Development (CAREER), July 2009
Status: Pending
2. National Institutes of Health (NIH), Academic Research Enhancement Award, September 2009
Status: Pending

Not funded

1. National Science Foundation (NSF), Faculty Early Career Development (CAREER), July 2008
2. National Institutes of Health (NIH), NIH Challenge Grants, April 2009
3. National Science Foundation (NSF), Course, Curriculum and Laboratory Improvement Program: Phase 1, May 2009