JUDY JOHANNA (JO) HOPP
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EDUCATION

Ph.D., University of Washington (Seattle, WA) (2004)
Physiology and Biophysics
Dissertation title: "Localizing adaptation in the human saccadic system"

B.S., Miami University (Oxford, OH) (1997)
Physics (with honors)
Summa Cum Laude

QUALIFICATION SUMMARY

- Sixteen years teaching experience at both undergraduate and graduate levels with students diverse in age, preparedness, socio-economical status and ethnicity
- Teaching experience in physics, biology and neuroscience courses
- Teaching competence includes areas of Mechanics, Electricity and Magnetism, Thermodynamics, Optics, Cognitive Neuroscience, Introductory Neuroscience, Human Anatomy and Physiology, among others
- Success in developing new courses, new programs (majors) and minors, course curricula and laboratories as well as integrating student-centered teaching methods in the classroom
- Experience working with undergraduate students on a variety of independent study experiences including research, peer mentoring and project management

TEACHING INTERESTS

Primary teaching interests include both algebra- and calculus-based introductory physics courses, conceptual physics courses and interdisciplinary courses between physics and neuroscience (e.g. neurophysics). Topics of interest include mechanics, optics, electricity and magnetism, waves and sound, neuroscience and independent work with students.

RESEARCH INTERESTS

Research interests lie in two disciplines. One interest is in developing undergraduate research experiences and projects in neural plasticity, utilizing behavioral studies in the human oculomotor (eye movement) system, including modeling of that system. Additional interests included investigations in memory-processing, in particular as it relates to repetitive head injury. A second interest is in physics education and the impact of various teaching and learning techniques and outcomes. Further, I have in interest in how introducing physics in the elementary school classroom impacts school-aged children's interest in science. Finally, I am also currently investigating the impact of a academic recognition program on Division III athletes.

ACADEMIC POSITIONS HELD

University of Wisconsin – Stout, Menomonie, WI (2005-present)
Department of Physics
Tenured (2011)

Associate Professor (2009-present)
Assistant Professor (2005-2009)

Edmonds Community College, Lynnwood, WA (2005)
Instructor (emergency hire), Department of Physics

Highline Community College, Des Moines, WA (2004)
Teaching Internship (full-time adjunct faculty), Department of Physics

University of Washington, Seattle, WA
School of Nursing, Instructor (Summers 1999-2004)
Department of Physiology and Biophysics, Teaching Assistant (1998-1999)

COURSES TAUGHT

University of Wisconsin – Stout

*COLLEGE PHYSICS 1***:** Algebra-based introductory course with supplemental calculus. Topics include 1-dimensional motion, projectile motion, forces, statics, work, energy, momentum and thermodynamics. Laboratory and discussion sections included. Responsible for preparing course materials and leading classroom discussion, evaluating student performance using multiple assessment techniques and designing laboratories and inquiry activities.

COLLEGE PHYSICS II: Algebra-based introductory course with supplemental calculus. Topics include simple harmonic motion, waves, sound, optics, electricity and magnetism. Laboratory and discussion sections included. Responsible for preparing course materials and leading classroom discussions, evaluating student performance and designing laboratories and inquiry activities.

INTRODUCTION TO PHYSICS: Conceptual-based survey course. Topics include kinematics, forces, work and energy, momentum, thermodynamics, electricity and magnetism, optics, waves and sound, and current topics in physics. Responsible for preparing course materials, leading classroom discussions and evaluating student performance.

INTRODUCTION TO PHYSICS LABORATORY: Laboratory course to complement Introduction to Physics. Lab activities are inquiry-based and support material in the Introduction to Physics course. Responsible for designing and implementing laboratories and inquiry-based activities.

NEUROPHYSICS (Course developer)): Studio-style course. Explores physics involved in the nervous system and other systems of the body including the visual system, auditory system and somatomotor system. Also explores basic physics involved in brain recording techniques such as fMRI, EEG, fNIR, and electrophysiology. Responsible for preparing course materials and leading classroom discussions, evaluating student performance and designing laboratories and inquiry activities.

INTRODCUTION TO COGNITIVE NEUROSCIENCE LAB (Course co-developer): Explores techniques used in cognitive neuroscience research to study brain-behavior relationship. Focuses on technical learning of BIOPAC system and development and design of cognitive neuroscience

experiments. Responsible for preparing course materials and leading classroom discussions, evaluating student performance and designing laboratories and inquiry activities.

GENERAL PHYSICS II: Algebra-based introductory physics course. Topics included waves and sound, electricity and magnetism and optics. This course is no longer offered at UW-Stout.

UNIVERSITY PHYSICS II LAB: Calculus-based physics course. Topics include, electricity and magnetism and light and optics. Responsible for leading laboratories and inquiry activities.

ADVANCED EXPERIENCE IN PHYSICS (Course Developer): Independent study course. Three options for experience including research, peer mentoring, and project management. Responsible for designing experiences and assessing student performance. I have had students involved in all three areas (see details below). Developed course.

ADVANCED EXPERIENCE IN BIOLOGY: Independent study course. Research-based experience. Responsible for designing experiences and assessing student performance.

INDEPENDENT STUDY IN PSYCHOLOGY: Research-based experience. Responsible for designing experiences and assessing student performance.

GUEST LECTURES IN APPLIED SCIENCE, PSYCHOLOGY AND EARLY CHILDHOOD EDUCATION

CURRICULUM DEVELOPMENT

Programs and Minors

- Bachelor of Science in Cognitive Science (UW-Stout): Co-developer
- Minor in Cognitive Neuroscience (UW-Stout): Co-developer

Courses

- Neurophysics (PHYS 252, UW-Stout): Developer
- Introduction to Cognitive Neuroscience Lab (CNS 201, UW-Stout): Co-developer
- Advanced Physics Experience (PHYS 489, UW-Stout): Developer
- Advanced Cognitive Neuroscience Experience (CNS 489): Co-developer (in process)

UNDERGRADUATE STUDENT ADVISING

Research Advisor

- Katelyn Hartung, Steffanie Fisher, Nathan Olinger, and Cody Zimmerman (Psychology): "The effect of sports-related, non-concussive repetitive head impacts during adolescence on short-term memory processing" (2012-present)
- Shoshana Rosenthal (Applied Science): "Comparison of Targeting and Memory-guided Saccade Adaptation" (2011-2012)
- Nolan Otremba (Technology/Science Education): "Examination of Corrective Saccade Occurrences as a Result of Targeting Saccade Adaptation" (2011)
- Caitlin Dressler (Psychology): "Comparison of Targeting and Memory-guided Saccade Adaptation" (2009-2010)
- Ashley Dillon (Applied Science): "Characteristics of Memory-guided Saccade Adaptation in Humans" (2008-2009)

- Cassey Haase (Applied Science): "Characteristics of Memory-guided Saccade Adaptation in Humans" (2009)
- Jeff Grinager (Applied Science): "Caddisfly Larvae Visual System: Response to Light" (2006-2008)

Peer Mentoring Advisor

- Kellen Doer (Science Ed. Major) "Lab Mentoring" (2013)
- Samantha Jahnke (Science Ed. Major) "Small Working Groups Mentoring" (2012)
- Kirsten Wiesneski (Science Ed. Major) "Lab Mentoring" (2011)
- Corey Chilson (Science Ed. Major) "Lab and In Class Mentoring" (2011 & 2013)
- Nolan Otremba (Technology/Science Ed. Major) "Lab and In Class Mentoring," (2010)
- Grant Determan (Technology Ed. Major) "Lab Mentoring" (2010)

Project Management Advisor

- Peter Leedle (Technology/Science Education) "Elementary School Project Management" (2012)
- Nolan Otremba (Technology/Science Education) "Elementary School Project Management" (2011)

Honors Project Advisor

- Alison Gray: "Analysis of Softball Bats: Composite vs. Aluminum" (2011)
- Rachel Moore: "Lasik Surgery" (2007)

Undergraduate Academic Advisor

- Applied Science Program (Biotechnology and Interdisciplinary Concentrations)
    - Optometry School Advisor
- Cognitive Science Program

GRADUATE STUDENT INVOLVEMENT

Graduate Student Advising

- Matt Verway: Masters of Applied Psychology (2013)
    Supervised Practicum Project
    Co-advised thesis project
        UW Stout Scholar Athlete Award Program and the Theory of Planned Behavior

Graduate Faculty, Member (2012-present)

PROFESSIONAL SERVICE

External Professional Service

- Faculty for Undergraduate Neuroscience Student Travel Award Committee (2010)
- Project Shift, participant (consortium of universities nationwide to learn about and expand the ideas of Universal Design) (2009-2010)
    - Asked by Disability Services Director to be faculty participant in program

- Reviewer
    The Physics Teacher (journal)
    Vision Research (journal)
    Investigative Ophthalmological and Vision Science (journal)
    Neuroscience Letters (journal)
    John Wiley & Sons (textbook, asked twice)
    WH Freeman (textbook)

University Service

- Director, UW Stout Oculomotor Facility (2008-present)
- Faculty Athletic Representative (appointed by Chancellor) (2011-present)
- Development and Implementation of UW Stout Scholar Athlete Award (2011)
- Personnel Policies Committee, College of STEM Representative (2012-present)
- University Level Promotion Committee (elected by faculty) (2010)
- Institutional Review Board, Member (2009-2012)
- Student Research Grant Committee (2009-present)
- Search Committee for Head Teacher, Child and Family Study Center, School of Education (2009 & 2010)
- Search Committee for Director of Disability Services (2008)
- Cognitive Neuroscience Education and Research Valued Experience Faculty (2005-present)
- Science Education Program Advisory Committee (2006-2012)
- ADA/504 Committee (2006-present)
- Student Disciplinary Hearing Committee (2007-2013)
- STEM Scholars Interviewer (2011)
- Positive Action Committee (2011-2012)
- Hall of Fame Committee (2011-present)
- Chancellors Athletic Advisory Council (2011-present)
- Department of Education, *Food Allergy Educator* (2005-present)
- Faculty Panel, *Experiences for New Faculty,* Professional Development Week Program (2007)
- Faculty Panel, *CNERVE*, May Day Professional Development Program (2010)

College of Science, Technology, Engineering and Math Service

- College Level Promotion Committee (2005, 2011 & 2013)
    Chair (2011)
    Elected by department, but alternate had to serve (2006 & 2007)
- Search Committee for Biotech/Nanotech DIN faculty hires (2008)
- Applied Science Program Advisory Committee (2006-2012)
- Applied Science Biotechnology Concentration Committee (2006-present)
- Applied Science Program, Optometry Advisor (2010-present)

- Applied Science Program, Freshman Orientation Leader (Summer 2009 & 2010)
- Think Tank on Cluster Hiring (Summer 2006)

Department of Physics Service

- Personnel Committee for tenure-track faculty search (2007, 2008 & 2010)
  Chair (2008)
- Mentor (2007-present)
- General Departmental Expectations (2005-present)

Community Service

- Elementary School Physics (2009-present)
  Service Learning Project in physics courses that bring physics to the local elementary schools
- STEPS program for Girls in Science, University of Wisconsin-Stout
  Human Resources (2010-2011 & 2013)
  Instructor, physics (Summers 2006-2011)
- Adventures for Women in Science, *Co-Presenter*, University of Wisconsin-Stout (2010)
- School District of the Menomonie Area, Parent Advisory Board (2012-2013)
- School District of the Menomonie Area, *Consultant, Food Allergy Policy*, Menomonie, WI (2007)
- School District of the Menomonie Area, *Food Allergy Educator*, Menomonie, WI (2006-present)
  Provide training on Managing Food Allergies for school administrators, teachers and families
  Provide consulting (volunteer) for districts outside Menomonie
- Wakanda Elementary School PTO, Menomonie, WI (2007-present)
  President (2007-2009 , 2010-2011)
  President Elect (2009-2010)
  Interim Secretary (2011-2012)
- Wakanda Elementary School Science Instruction, *Volunteer*, Menomonie, WI (2007-2009)
- St. Joseph Parish, GIFT (youth ministry) instructor (2006-present)
- Menomonie Area Aquatics Club, Executive Board (President) (2013-present)
- Menomonie Theatre Guild, Executive Board (Secretary) (2012-present)
- Girls + Science + Math = Opportunities, *Presenter*, Fond du lac, WI (2006)
- College for Kids, *Instructor*, University of Wisconsin-Stout (Summer 2006)

GRANT ACTIVITY

National Science Foundation

- (2011) *Course, Curriculum and Laboratory Improvement Phase II*
  TITLE: "C-NERVE 2.0: Research Experiences in Cognitive, Social, Affective, and Behavioral Neuroscience", Co-investigator ($400,000)

Wisconsin Improving Teacher Quality Grant Program

- (2012) TITLE: Advanced Science Learning (ASL): *Content expert (~$115,000)*
- (2012) TITLE: Science Literacy-Literacy in Science: *Content expert (~$355,000)*

University of Wisconsin-Stout, Professional Development Grant

- *(2013) Funding to attend the Scholarship of Teaching Excellence Meeting (~$3000, co-support with Dr. Desiree Budd and Dr. Sarah Wood)*

- *(2013) Funding to attend the Society for Psychophysiological Research Annual Meeting ($1000)*
- (2010) *Funding to attend the American Association of Physics Teachers Winter Meeting (~$1800)*
- (2009) *Funding to attend the Society for Neuroscience Annual Meeting (~$2000)*

University of Wisconsin-Stout, Faculty Research Initiative Grant

- (2008) *The Neural Sites of Motor Learning: Studying Cognitive Neuroscience Using the Eye Movement System: Principle Investigator (~$8000)*

University of Wisconsin-Stout, Research Incubator Grant

- (2009) *CNERVE CCLI Phase 2 (grant to write NSF proposal) (~$10,000)*

University of Wisconsin-Stout, Laboratory Modernization Grant

- (2008) *Creation of Dedicated EEG and Eye Tracking Laboratory Facilities: Co-Investigator* (~$118,000)
- (2006) *Creation of Psychophysiological Facility: Co-Investigator ($~38,000)*

University of Wisconsin-Stout, Curriculum Incubation Grant

- (2010) *Development of New Courses for the BS in Cognitive Science: Co-investigator (development of Neurophysics)* (~$9000)
- (2008) *Development of Authorization to Implement BS in Cognitive Science: Co-investigator* (~$8000)
- (2007) *Development of Entitlement to Plan BS in Cognitive Science: Co-investigator* (~$9000)
- (2006) *Development of Minor in Cognitive Science: Co-investigator* (~$11,000)

University of Wisconsin-Stout, Student Research Grant Program (Advisor)

- (2013) (*Dissemination Grant) Attend the Society for Psychophysiological Research Annual Meeting* (Daniel Comstock and Stephanie Fisher)
- (2012) (*Research Grant) Measuring the Effect of Sports-Related Repetitive Head Impacts on Short-Term Memory Processes with the Auditory Oddball and Memory Guided Saccade Tasks* (Mary Brodhagen, Ryan Kucksdorf, Steffanie Fisher, Katelyn Hartung, Nathan Olinger, Daniel Comstock and Matt McNutt)
- *(2007) (Research Grant) Assessment of the Caddisfly Larvae Visual System's Response to Light and Color* (Jeff Grinager)
- *(2006) (Research Grant) Assessment of the Caddisfly Visual System's Response to Light* (Jeff Grinager)

RECOGNITION

- Wisconsin Teaching Fellow, UW System (2012-2013)
    - UW Stout representative to competitive UW System program designed to recognize teaching excellence and offer professional development
- Key Note Speaker, McNair Scholars Banquet – UW Stout (2013)
- Phi Beta Kappa, Member
- Sigma Pi Sigma, National Physics Honorary, Member

INVITED TALKS

Department of Public Instruction – Child Care Conference (2013). Title "*Going Nuts(less): Managing Food Allergies in a Child Care Center*"

University of Wisconsin-Stout, STEM Shorts (2011). Title "*Eyes and Brain and Learning, Oh My*"

Mitre Corportation, Washington DC (2010) Title: "*Characteristics and Localization of Saccade Adaptation: Memory vs. Visually-guided*"

University of Wisconsin – Barron County (2010) Title: "*The Eyes Have It: Control Systems, Neural Integration and How the Brain Learns*"

Miami University Arfken Scholar , Oxford, OH (2009) Title: "*The Eyes Have It: Control Systems, Neural Integration and How the Brain Learns*"

Mankato State Univeristy, Mankato, MN (2009) Title: "*The Eyes Have It: Control Systems, Neural Integration and How the Brain Learns*"

University of Wisconsin-Stout, Applied Science Seminar (2006) Title: "*The Eyes Have It: Control Systems, Neural Integration and How the Brain Learns*"

PUBLICATIONS (peer reviewed)

Hopp JJ and Fuchs AF. Identifying Sites of Saccade Amplitude Plasticity in Humans: Transfer of Adaptation Between Different Types of Saccade. Exp Brain Res. 2010: 202(1):129; DOI 10.1007/s00221-009-2118-5

Hopp JJ. Journal Writing in the Physics Classroom. The Physics Teacher. 2008. 46(7):445-6.

Hopp JJ. Understanding Food Allergies. PACE. 2007. 2:2-8. (*invited*)

Hopp JJ. Managing Peanut/Tree Nut Allergies in a Child-Care Setting. PACE. 2007. 2:9-15. (*invited*)

Hopp, J and Fuchs A. Amplitude adaptation occurs where a saccade is represented as a vector and not as its components. Vision Research. 2006. Oct; 46(19):3121-8.

Hopp JJ and Fuchs AF. The characteristics and neuronal substrate of saccadic eye movement plasticity. Prog Neurobiol. 2004 Jan;72(1):27-53.

Hopp JJ and Fuchs AF. Investigating the site of human saccadic adaptation with express and targeting saccades. Exp Brain Res. 2002 Jun: 144(4):538-48.

Moon BR, Hopp JJ, and Conley KE. Mechanical trade-offs explain how performance increases without increasing cost in rattlesnake tailshaker muscle. J Exp Biol. 2002 Mar;205(Pt 5):667-75.

Hilt JZ, Picconatto JJ*, O'Brien A, Pechan MJ and Fullerton EE. Symmetry influence on interlayer coupling in epitaxial Co/Cr trilayers grown on MgO (100) and (110) substrates. Journal of Magnetism and Magnetic Materials. 198-199: 387-390 (1999).

Picconatto JJ, Pechan MJ, and Fullerton EE. Magnetic anisotropy, coupling, and transport in epitaxial Co/Cr superlattices on MgO (100) and (110) substrates. Journal of Applied Physics. 81: 5058-5060 (1997).

*Picconatto is my maiden name

PRESENTATIONS and PUBLISHED ABSTRACTS

Comstock, D, Budd D., Hopp J., Donnelly M. Brodhagen M, McNutt, M, Hartung K, Fisher S. "To Play or Not to Play: Long-term Neurological Changes Associated with Sports-related, Non-concussive, Repetitive Head Impacts Received During Adolescence. Psychophysiology 50, Supplement 1. Society for Psychophysiological Research Annual Meeting October 2013,.

Hopp J. "Journaling: Connecting the World to the Classroom". University of Wisconsin Office of Professional and Instructional Development Spring Conference, April 2013.

Fisher S., Hartung K, Zimmerman C, Hopp J., . "Measuring the Effect of Sports-Related Repetitive Head Impacts on Short-Term Memory Process with the Memory-guided Saccade Task." University of Wisconsin – Stout Research Day, April 2013.

Gray A. and Hopp J. "Aluminum vs. Composite Softball Bats: A Close Call" University of Wisconsin – Stout STEM Expo, December 2012.

James K. and Hopp J. "Inclusive Design: How do we make it happen?" UW System President's Summit on Excellence in Teaching and Learning 2011 and UW System Women and Science Opening Workshop 2012

Budd D, Donnelly M, Hopp J, Parsons A, Tafalla R, and Wood S. "Advancing Cognitive Neuroscience Through A Hands-On Laboratory-Based Learning Community: The C-NERVE Experience" CUR 2010

Dillon A and Hopp J. "Memory-Guided Saccade Adaptation Differs From Visually-Guided Adaptation: Implications for Motor Learning in Humans" NCUR 2010

Dresler C and Hopp J. "Targeting Adaptation in Humans: Another Look" Midbrains 2010

Hopp JJ and Muir G. Elementary School Physics: An outreach service learning project. American Association of Physics Teachers Winter Meeting. 2010.

Dillon A, Hopp J. “Characteristics of memory-guided saccade adaptation in humans.” Society for Neuroscience Abstract, October 2009.

Dillon A., Haase C., and Hopp J. “Characteristics of memory-guided saccade adaptation in humans.” University of Wisconsin – Stout Research Day, April 2009.

Dillon A., Haase C., and Hopp J. “Characteristics of memory-guided saccade adaptation in humans.” University of Wisconsin – Posters in the Rotunda, April 2009.

Hopp J. and Fuchs A. Localizing saccadic adaptation in humans: adaptation transfer between different types of saccade. Neural Mechanisms of Oculomotor and Vestibular Function Abstract, October 2008.

Hopp J. and Fuchs A. Identifying sites of saccade amplitude plasticity in humans: transfer of adaptation between different types of saccade. Society for Neuroscience Abstract, November 2008.

Parsons A., Budd D., Donnelly M., Hopp J., Tafalla R., and Wood S. C-NERVE (Cognitive Neuroscience Education and Research-Valued Experience) : An undergraduate program. Society for Neuroscience Abstract, November 2008.

Hopp J. Journal Writing in the Science Classroom. University of Wisconsin Women and Science Spring Conference, May 2008

Grinager J. and Hopp J. Caddisfly Larvae Visual System: Response to Light. University of Wisconsin Undergraduate Research Symposium, 2008

Grinager J. and Hopp J. Caddisfly Larvae Visual System: Response to Light. University of Wisconsin System Posters in the Rotunda, 2008

Grinager J. and Hopp J. Caddisfly Larvae Visual System: Response to Light. University of Wisconsin-Stout Research Day, 2008

Hopp JJ. Seeing Physics Outside the Classroom Through Journal Writing. American Association of Physics Teachers Winter Meeting 2007.

Hopp JJ. Going Nuts(less)! Peanut allergies in the classroom and child care centers. Early Childhood Education Conference, Menomonie, WI, (2007, 2008, 2009, 2010).

Hopp JJ and Fuchs AF. Saccade amplitude adaptation occurs where the saccade command is as a vector and not as components. Adaptive Brain Symposium, Minneapolis, MN September 2006.

Hopp JJ, Fuchs AF, and Kaneko CRS. Investigating the site of human saccadic adaptation using targeting and express saccades. Society for Neuroscience Abstract, November 2001.

Hilt JZ, Picconatto JJ, O'Brien A, Pechan MJ, and Fullerton EE. Symmetry influence on interlayer coupling in epitaxial Co/Cr trilayers grown on MgO (100) and (110) substrates. 3rd International Symposium on Metallic Multilayers. 1998.

Picconatto JJ, O'Brien A, Hilt Z, Pechan MJ, and Fullerton, EE. Magnetic Anisotropy and Coupling in Epitaxial Co/Cr Trilayers on MgO (100) and (110) Substrates. Meeting of the American Physical Society. 1997.

Picconatto JJ, Pechan MJ, Kelly DM, Schuller IK, and Fullerton EE. Anisotropy and Coupling in Fe/Cr and Co/Cr Superlattices as Determined by Vibrating Sample Magnetometry. International conference of Physics Students. 1996.

Picconatto JJ, Pechan MJ, and Fullerton EE. Magnetic Anisotropy, Coupling, and Transport in Epitaxial Co/Cr Superlattices on MgO (100) and (110) Substrates. Magnetism and Magnetic Materials Conference. 1996.

Picconatto JJ, Pechan MJ, Kelly DM, and Schuller IK. Relationship Between Saturation Field and Remnant Moment in Fe/Cr Superlattices. Meeting of the American Physical Society. 1996.

PROFESSIONAL MEMBERSHIPS

- American Association of Physics Teachers
- Society for Neuroscience
- Society for Psychophysiological Research
- National Science Teachers Association
- Faculty for Undergraduate Neuroscience
- Phi Beta Kappa