Jennifer Elizabeth Grant, Ph.D.

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EDUCATION

Ph.D. in Molecular and Cellular Pharmacology, Nov. 2004, University of Wisconsin Medical School, Madison, WI.
Dissertation: Mapping binding surfaces between the cyclic GMP phosphodiesterase γ-subunit and the transducin α-subunit using γ-subunit photoprobes.
Advisor: Arnold E. Ruoho, Ph.D.

M.S. in Biochemistry, May 1997. Case Western Reserve University Medical School, Cleveland, OH
Advisor: Vernon Anderson, Ph.D.

B.A. in Biochemistry, May 1993, Oberlin College Chemistry Department, Oberlin, OH.
Minor: German Language. Advisor: Miguel Mitchell, Ph.D.

PROFESSIONAL APPOINTMENTS

Associate Professor, 2013 to present.
Department of Biology
The University of Wisconsin at Stout, Menomonie, WI.

Assistant Professor, 2009 to present.
Department of Biology
The University of Wisconsin at Stout, Menomonie, WI.

Postdoctoral Scholar, 2007 to 2009.
NHLBI proteomics Center at MUSC and the Department of Cell and Molecular Pharmacology,
The Medical University of South Carolina, Charleston, S.C.
Advisors: Kevin L. Schey, Ph.D. and Daniel R. Knapp, Ph.D.

Postdoctoral Fellow, 2006 to 2007.
Center for Advanced Proteomics Research and the Department of Biochemistry
New Jersey Medical School, Univ. of Medicine and Dentistry of N.J., Newark, N.J.
Advisor: Hong Li, Ph.D.

Postdoctoral Scholar, 2005 to 2006.
Cardiovascular Training Program and the Department of Physiology,
University of Wisconsin Medical School, Madison, WI.
Advisor: Jeffery W. Walker, Ph.D.

AWARDS

NeXXt Fellow, NY Academy of Sciences and the US Department of State, 2013.

iCollaborative Pre-Health Collection (Chemistry) Award, American Association of Medical Colleges, 2013.

Milton Pella Award, Wisconsin Society of Science Teachers, for innovation. 2013. $1,000.

UW-Stout Outstanding Researcher of the Year, 2012

Graduate Women in Science Annual Awards, Honorable Mention, 2012.

Front and Center Award, Wisconsin Society of Science Teachers, for innovation in education. 2012. $150.

Curious Stout Innovator, University of Wisconsin-Stout, to develop the Illustrated Novel Project. 2011. $400.

University of Wisconsin Libraries Research Fellow, 2012.

Postdoctoral IRACDA Scholarship: (part of NIH K12GMO81265), 2007-2009.

Postdoctoral NRSA Fellowship: Cardiovascular Training Grant NIH T32HL07936-04, 2005-2006.

Honors, Ph.D. Qualifying Examination, Molecular and Cellular Pharmacology Dept., Univ. Wisconsin-Madison, 2001.

Participant, Merck-supported summer undergraduate chemistry program at Oberlin College, 1991.

Gould AMI Academic Scholarship, 1989-1990 academic year.

National Merit Scholar, 1988.

STUDENT RESEARCHERS SUPERVISED AT UW-STOUT

Sean Doering, Kellen Doerr[123], Jordan Fouks[1, 2, 4], Katie Herting[2,4], Rahsaan Hill (McNair Scholar) [1], Kimberley Kadlec[2,6], Andrew Kuhn[34], Tiffany Lauersdorf, Angela Lee, Kymberley Ludwig[6], Jalal Maghfour[2], Mamta Mandal, Mary Marchiafava (McNair Scholar), Paige Mullen, Dylan Meyer[23], Krystle Rogers[1], Andrew Schmeling, Sophie Sigel[2], Kelvin Smith, Andrew Turczyn, Cindy Vang, Christopher Zarbock.

[1]These students presented posters at national meetings as first authors.
[2]These students received UW-Stout Student Research Grant Awards.
[3]These students received UW-Stout Student Travel Grant Awards.
[4]These students were co-authors on posters presented at national meetings.
[5]Master's Students
[6]Honors Students

SUPERVISORY EXPERIENCE PRIOR TO UW-STOUT

Supervised an M.S.-level Technician. Technician: *Kalyan Paila*, April 2008 to present.

Supervised a technician investigating troponin phosphorylation. Technician: *Aaron Kraus*, 2005 to 2006.

Mentored an undergraduate laboratory assistant: Student: *Stacey Stafne*, 2003- 2004.

NASA Sharp Plus Mentor, Univ. Wisconsin-Madison School, Mentee: *Jeanette Richards*, Summer 1998.

PUBLICATIONS PENDING SUBMISSION OR ACCEPTANCE

Grant, J.E. and Li, H. Post-translational Modifications in Neuroscience. Volume, Springer Press. *In preparation*.

Grant, J.E., Bradshaw, A.D., Schwacke, J.H., Baicu, C.F., Schey, K.L. and Zile, M.R. Differential glycoprotein expression in the left ventricle of the aged male rat using a combined lectin affinity/iTRAQ approach. *In preparation.*

PUBLICATIONS

Grant, J.E. and Li, H. Identification of Citrullination Sites by Mass spectrometry. ***In Press.*** *Lead author*.

Carlon, A, Burrit, J, and **Grant, J.E.** Characterization and protein profiles of bacteria grown from honeybee (*Apis mellifera*) gut contents. *Submitted,* UW-Stout Journal of Student Research. *Supervised mass spectrometry.*

Hashmi, M. and **Grant, J.E**. Inspiring non-science students in STEM courses: Illustrated Novels in two linked learning communities. Advancing the STEM Agenda: Quality Improvement Supports Stem. 2012. *Invited book chapter, submitted. Equal Co-Author and* ***Project Inventor***.

Grant, J.E. Bradshaw, A.D., and Schwacke, J.H., *et al.* Quantification of differential protein expression in the left ventricle of the aged male rat. *J Proteome Res.* **2008**, *8*(9):4252-4263. *Performed & evaluated iTRAQ analysis, lead experimenter.*

Grant, J.E., Hu, J. Liu, T., Jain, M.R., Elkabes, S., and Li, H. I. Post-translational modifications in the rat lumbar spinal cord in experimental autoimmune encephalomyelitis. *J. Proteome Res.* (2007) **6**(7):2786-2791. *Lead experiementer.*

Liu, T., Donahue, K.C., Hu, J., Kournellas, M.P., **Grant, J.E.**, Li, H., and Elkabes, S. Identification of differentially expressed proteins in experimental autoimmune encephalomyelitis by proteomic analysis of the spinal cord. *J. Prot. Res.* (2007) **6**:2565-2575. *Assisted with iTRAQ analysis of differentially expressed proteins.*

Wang, H., **Grant, J.E.**, Doede, C.M., Sadayappan, S., Robbins, J. and Walker, J.W. (2006) PKC-βII sensitizes cardiac myofilaments to Ca^2+ by phosphorylating troponin I on threonine-144. *J. Mol. Cell. Cardiology*. (2006) **41**(5):823-33. *Devised in vitro peptide assay, designed peptides, and supervised undergraduate student author.*

Guo, L.W., Assadi-Porter, F.M., **Grant, J.E.**, Wu, H., Markley, J.L., and Ruoho, A.E. (2006) One-step purification of bacterially expressed recombinant transducin α-subunit and isotopically labeled PDE6 γ-subunit for NMR analysis. *Protein Expr. Purif.* (2007) **51**:187-97. *Provided phosphodiesterase gamma intein constructs and transducin.*

Geiser, A.H., Sievert, M.K., Guo, L.W., **Grant, J.E.**, Krebs, M.P., Fotiadis, D., Engel, A., and Ruoho A.E. (2006) Bacteriorhodopsin chimeras containing the third cytoplasmic loop of bovine rhodopsin activate transducin for GTP/GDP exchange. (2006) *Protein Sci.* **15**: 1679-1690. *Provided active transducin and rhodopsin.*

Grant, J.E., Guo, L.-W., Vestling, M.M., Martenyamov, K.A., Arshavsky, V.Y., and Ruoho, A.E. (2005) The N-terminus of GTPγS-activated transducin α-subunit interacts with the C-terminus of the cGMP phosphodiesterase γ-subunit. *J. Biol. Chem.* **281**:6194-6202. *Lead experimenter, created photoprobes, discovered interactions.*

Guo, L.W., **Grant, J.E**., Hajipour, A.R., Muradov, K., Arbabian, M., Artemyev, N.O., and Ruoho, A.E. (2005) Asymmetric interaction between the rod phosphodiesterase inhibitory γ-subunits and the α- and β- catalytic subunits. *J. Biol. Chem*. **280**:12585–12592. *Provided phosphodiesterase gamma intein constructs.*

Grant, J.E. (2004) Mapping binding surfaces between the cyclic GMP phosphodiesterase γ-subunit and the transducin α-subunit using γ-subunit photoprobes. Ph.D. Thesis, Univ. Wisc. School of Medicine.

Grant, J.E. (1997) Enoyl-CoA Hydratase: Elucidation of the chemical mechanism. Master's Thesis, Case Western Reserve University, Cleveland, Ohio. 292 pages.

INVITED ORAL RESEARCH PRESENTATIONS

Grant, J.E. (2009) The aging heart's ventricle proteome: diseased, stressed or just senior? Chemistry Department, Claflin University; April 20, 2009. Oral seminar.

Grant, J.E. (2008) Developing a Proteomics Challenge for the Undergraduate Laboratory. 11th Annual IRACDA Conference: Chapel Hill, N.C. Oral seminar.

Grant, J.E., Comte-Walters, S., Li., H., Bradshaw, A., Zile, M., and Schey, K.L. Harnessing the power of the iTRAQ proteomics method to study disease. First Annual South Carolina INBRE Conference; Charleston, S.C. Oral seminar.

Grant, J.E., Guo, L.-W., Vestling, M.M., and Ruoho, A.E. (2003) Crosslinking of full-length Pγ photoprobes to the N-terminus of $G\alpha_t$-GTPγS. 3rd Annual Molecular and Cellular Pharmacology Signal Transduction Symposium; Univ. of Wisconsin. Oral seminar.

RESEARCH POSTER ABSTRACTS WITH UW-STOUT STUDENTS (NATIONAL CONFERENCES)

Meyer, D.J., Kuhn, A.A., Herting, K.E. and **Grant, J.E**. (2013) Deciphering the Sequence Specificity of Protein Citrullination of Glial Fibrillary Acidic Protein. . 61st Conference for the Amer. Society for Mass Spec; Minneapolis, M.N. Poster.

Grant, J.E., Doerr, KW, Kadlec K, and Lauersdorf T. (2012) MALDI Mass Spectrometry in the Age of Undergraduate Research. 2nd STEM Agenda Conference for the American Society for Quality; Menomonie, WI. Poster.

Doerr, KW and **Grant, J.E**. (2012) Profiling Microcystin Toxins in the Red Cedar Watershed. 60th Conference for the Amer. Society for Mass Spec; Vancouver BC, Canada. Poster.

Fouks, JR and **Grant, J.E**. (2011) Using Integrated Lectin Chromatography Workflows. National Conference on Undergraduate Research; Missoula, MT. Poster.

Hill, R.C.; Little, M.; Carlson, K and **Grant, J.E**. (2010) News from the Proteomic Front Line in the Fight Against an Invasive Strain of Alliara petiolata. National Conference on Undergraduate Research; Ithaca, NY. Poster.

Rogers, K.M.; Adikari, K.; Doerr, K.; Meyer, G.; Minton, J.J. ; Fouks, J.R.; and **Grant, J.E** (2010) Optimization of Lectin Affinity Chromatography for Use in iTRAQ Studies: Integrating Research and Training in the Undergraduate Proteomics Laboratory Course. 58th Conference for the Amer. Society for Mass Spec; Salt Lake City, UT. Poster.

RESEARCH POSTER ABSTRACTS

Grant, J.E., Bradshaw, A.D., Schwacke, J.H., Baicu, C.F., Comte-Walters, S., Zile, M.R., and Schey, K.L. (2010) iTRAQ analysis demonstrates that the protein signature of aged rat ventricle is unique from that of a pressure overload model. 58th American Society for Mass Spectrometry Conference; Salt Lake City, Utah. Poster Abstract.

Grant, J.E. and Peters, A.W. (2009) Leadership and Learning in the Biochemistry Classroom. 12th Annual IRACDA Conference: Chapel Hill, N.C. Poster Abstract.

Grant, J.E., Bradshaw, A.D., Schwacke, J.H., Baicu, C.F., Zile, M.R., and Schey, K.L. (2008) Towards quantification of differential protein expression in the left ventricle of the aged male rat. NHLBI Proteomics 12th Investigators' Meeting; Dallas, Texas. Poster Abstract.

Grant, J.E., Bradshaw, A.D., Schwacke, J.H., Baicu, C.F., Zile, M.R., and Schey, K.L. (2008) Towards quantitation of a heart glycoproteome using iTRAQ. 56th American Society for Mass Spectrometry Conference; Denver, C.O. Poster. *Peer-reviewed abstract.*

Grant, J.E., Bradshaw, A.D., Schwacke, J.H., Baicu, C.F., Zile, M.R., and Schey, K.L. (2008) Towards quantification of a heart glycoproteome using iTRAQ. NHLBI Proteomics 11th Investigators' Meeting; Charleston, S.C. Poster. *Peer-reviewed abstract.*

Grant, J.E., Hu, J., Liu, T., Jain, M.R., Elkabes, S., and Li, H. (2007) Post-translational modifications in the rat lumbar spinal cord in experimental autoimmune encephalomyelitis. *JASMS*. **18**:72S. Poster. *Peer-reviewed abstract.*

Grant, J.E., Vestling, M.M., and Walker, J.W. (2006) Phosphorylation site analysis of cardiac contractile regulatory proteins. 54th ASMS conference on mass spectrometry. *JASMS*. **17**:94S. Poster. *Peer-reviewed abstract.*

Grant, J.E., Vestling, M.V., and Walker, J.W.W. (2005) Analysis of contractile phosphoproteins in the heart. 53rd ASMS Conference on mass spectrometry. *JASMS*. **16**:S915. Poster. *Peer-reviewed abstract.*

Grant, J.E., Guo, L.W., Vestling, M.M., Martemyanov, K.A., Arshavsky, V.Y., and Ruoho, A.E. (2004) Crosslinking of full-length intein-derived PDEγ photoprobes to the $G\alpha_t$-GTPγS N-terminus. Poster Abstract. ASBMB annual meeting. *FASEB J.* **18**: A972. Poster. *Peer-reviewed abstract.*

Guo LW, **Grant, J.E.**, Muradov, K., Artemyev, N.O., Hajipour, A.R., Arbabian, M., Ruoho, A.E. (2004). Asymmetric interaction between the rod phosphodiesterase inhibitory γ-subunits and the α- and β- catalytic subunits *FASEB J.* ASBMB annual meeting. **18**: A972-A972. Poster. *Peer-reviewed abstract.*

Assadi-Porter, F.M., Guo, L.W., Abilgaard, F., **Grant, J.E.**, Ruoho, A.E., and Markley, J.L. (2003) Structural studies of the γ-subunit of cGMP phosphodiesterase by NMR spectroscopy. ASBMB annual meeting. *FASEB J.* **17**: A638-A639. Poster. *Peer-reviewed abstract.*

Geiser, A.H., Sievert M.K., **Grant J.E.**, Krebs, M.P., and Ruoho, A.E. (2000) Expression, purification, and functional characterization of bacteriorhodopsin/G protein-coupled receptor chimeras. ASBMB annual meeting. *FASEB J.* **14**: A1482. Poster. *Peer-reviewed abstract.*

SCHOLARSHIP OF TEACHING AND LEARNING PRESENTATIONS

Grant, J.E. (2012) The Illustrated Novel Mastery Project in Biology Enhances Critical Thinking and Student Engagement in a General Education Course, Intern. Soc. for the Scholarship of Teaching and Learning, Hamilton, Canada. Presentation. *Accepted peer-reviewed abstract.*

Hashmi, M. and **Grant, J.E**. (2012) Inspiring non-science students in STEM courses: Illustrated Novels in two linked learning communities. Advancing the STEM Agenda: Quality Improvement Supports Stem. **1**:97-112. Book Chapter. *Invited contribution.*

Grant, J.E. (2012) Collaborations between colleges and high schools to provide MALDI experiences. Annual Conference of the Wisconsin Society of Science Teachers. Madison, WI. Presentation.

Grant, J.E., Suilmann, D. and Hashmi, M. (2011) Inspiring NonMajor Students in STEM Courses: The Illustrated Novel Mastery Project. The International Society for the Scholarship of Teaching and Learning, Milwaukee, WI. Presentation. *Presenter and Co-author contributing equally; project inventor.*

Thomas, K., Klefstad, J., **Grant, J.E.**, Schumacker, J. (2011) Should Colleges require reading and writing? The International Society for the Scholarship of Teaching and Learning, Milwaukee, WI. Presentation. *Co-author contributing equally.*

Little, A., Hashmi, M. and **Grant**, J.E. (2011) Interdisciplinary lesson study: Using case studies to build graph interpretation and web evaluation skills, and student enthusiasm. 2011 Conference, The International Society for the Scholarship of Teaching and Learning, Milwaukee, WI. Presentation. *Equal Co-Author.*

Hashmi, M., **Grant J.E.** and Suilmann, D. (2011) An Innovative Teaching Tool for STEM Disciplines: The Illustrated Novel. 2011 ASQ STEM Agenda Conference, Menomonie, WI. Presentation. *Equal Co-Author and Project Inventor.*

Hashmi, M., Little, A. and **Grant, J.** (2011) Interdisciplinary lesson study: Using case studies to build graph interpretation and web evaluation skills, and student enthusiasm. 2011 ASQ STEM Agenda Conference, Menomonie, WI. Presentation. *Equal Co-Author*.

Hashmi, M., Grant, J., and **Little, A.** 2011. Interdisciplinary lesson study: plants, drugs, and depression. UW-System President's Summit, Madison, WI. Presentation. *Equal Co-Author.*

Trusheim, K.F., Bohonowych, J.E., Clarke, C.J., Richardson, K.A., and **Grant, J.E.** (2008) How can the MUSC postdoctoral association inspire success in its second year? 5th Annual National Postdoctoral Association Meeting: Boston, M.A. Poster. *Peer-reviewed abstract.*

Select UW-Stout Presentations

Grant JE and Peterson. (2012) Scholarship and Research. New Instructor's Workshops

EXPERIENCE AS A GRANT PROPOSAL REVIEWER

Reviewer, Wisconsin Improving Teacher Quality Grant, 2011.

Reviewer, Graduate Women in Science National Fellowships, 2011.

MEDIA INTERVIEWS

Wisconsin Public Radio <Spectrum West>, on the Illustrated Novel Mastery Project, 2012.

TEACHING EXPERIENCE PRIOR TO FACULTY APPOINTMENT

Instructor, Biochemistry 601, 602; Claflin University, 2008-2009.

Instructor, Biochemistry Laboratory; Claflin University, 2008-2009.

Instructor, CGS-712, Scientific Writing; Medical University of South Carolina, Summer 2007.

Lecturer, Proteomics, Medical Scientist Training Program; Univ. Wisconsin Medical School, Aug. 2005.

Teaching Assistant, Pharmaceutical Biochemistry; Univ. Wisconsin-Madison School of Pharmacy, 1999.

Teaching Assistant, Toxicology 630; Univ.Wisconsin-Madison Pharmaceutical Sciences Department, 1997.

Teaching Assistant, Biochemistry; Case Western Reserve University Medical School, 1993 to 1997.

Teaching Assistant, Organic Chemistry Laboratory; Oberlin College, Aug. 1991 to Dec. 1992.

Laboratory Assistant, developed a laboratory experience for the Organic Chemistry; Oberlin College, Jan. 1991.

Tutor, General and Organic chemistry, Oberlin College, 1990 - 1993.

DEPARTMENTAL AND PROGRAM SERVICE

Presenter, "On Undergraduate Research", APSC-101 Class

Lead, Course Revision Bio210, 2013-present.

Presenter, Protein Structure, Hudson Middle School Women in Science Day, 2013.

Presenter, Protein Structure, Menomonie Girl Scouts Day, 2012.

Co-Chair, University of Wisconsin-Stout Adventures with Women in Science Day, 2010.

Presenter, Protein Modeling, UW-Stout STEM Career Day, 2011;

Presenter, UW-Stout Mannitowoc Day, 2011.

Presenter, Science Jeopardy, Delong Science Day, March 2010.

Guest mentor "Writing Workshop", McNair Fellows program, March 2010.

Event Supervisor, Protein Modeling Event, Science Olympiad Regionals, 2009, 2010, 2011.

Event Supervisor or Supervisors' Coach, Protein Modeling Event, Boyceville Invitational Science, 2009-2011.

STEM COLLEGE SERVICE

Presentation Supervisor, STEM Career Day, November 2013.

CSTEM Representative, Curriculum and Instruction Committee, 2013-present.

Presenter, Northern Wisconsin State Fair, 2013.

CSTEM Representative, RESA/GLP Advisory Committee, 2012-2013.

Co-Organizer, Girls STEM Experience at UW-Stout, 2010.

UNIVERSITY SERVICE

Guest Speaker "Ins and Outs of Grant Writing", UW-Stout Research Club, November 2013.

CSTEM Representative, University Promotions Committee – Associate Professor for 2013-14.

UW-Stout Representative, Undergraduate Research Symposium, UW System Colleges, Fall 2013.

CSTEM Representative, Curriculum and Instruction Committee, 2013-2014.

Faculty Participant, Faculty Senate Election Committee, 2013-2014.

Biology Dept. Senator Alternate, Faculty Senate Representative for Biology Department, 2012-14.

Chair, Grant-Writing Community of Practice, 2012 to 2013.

Faculty Mentor for Biology, Get Professors Back in Dorms Program, Residential Life, Fall 2011.

Lead Chair, Illustrated Novels Community of Practice, 2011 to present.

Participant, CUR Workshop on Institutionalizing Undergraduate Research, September 2011.

Interviewer, Stout Scholars' Day, 2011, 2012.

Instrument Innovator Search Committee, 2009 to 2011.

Lead Presenter, "The Illustrated Novel Mastery Project", Prof. Development Week, UW-Stout, January 2011.

Panelist, "The ins and outs of grad school", McNair Scholars' program, January 2010.

Panelist "Deciding on graduate school" panel discussion, McNair Fellows program, Feburary 2010.

STATE-LEVEL SERVICE

Facilitator, Small Group Session, Undergraduate Research Scholarly and Creative Activities Meeting, UW-System, 2012.

Participant, Undergraduate Research Scholarly and Creative Activities Meeting, UW-System, 2012.

Event Supervisor, Protein Modeling Event, Science Olympiad State Competition, 2011 and 2012.

Reviewer, Wisconsin Improving Teacher Quality Grant, 2011.

Event Assistant Supervisor, Protein Modeling Event, Science Olympiad State Competition, 2010.

NATIONAL SERVICE

Session Chair, Identification of Post-Translational Modifications, American Society for Mass Spectrometry Conference. 2014.

Reviewer, Proteomics (Journal), 2012-2013.

Education Committee, American Society for Mass Spectrometry Conference.2011-2013.

Senior Chair, "Hot Topics in Mass Spectrometry, a Workshop for Undergraduates" Workshop at the 61th American Society for Mass Spectrometry Conference. Vancouver, Canada; 2012.

Reviewer, Journal of Proteomics Research, 2010-2012.

Session Chair, "Conference Session E" The International Society for the Scholarship of Teaching and Learning, Milwaukee, WI; 2011.

Senior Chair, "A Discussion Undergraduate Research in Mass Spec." Workshop at the 59th American Society for Mass Spectrometry Conference. Denver, CO; 2011.

Senior Chair, "A Discussion Undergraduate Research in Mass Spec." Workshop at the 58th American Society for Mass Spectrometry Conference. Salt Lake City, UT; 2010.

Chair and Founder, "Undergraduate Research in Mass Spec." Interest Group; the American Society Mass Spectrometry, 2009-2012.

Panelist, "The Academic Job Search" panel discussion, the 2009 IRACDA conference, June 2009.

SERVICE, PRIOR TO UW-STOUT

Past-President, the MUSC Postdoctoral Association, 2008 to 2009.

Co-Chair, Career Development Workshop (MUSC Postdoctoral Association), October 2007.

Founding President, the MUSC Postdoctoral Association, 2007 to 2008.

Committee Member for thesis committee of Chiquita Frederick, 2008-2009.

Coordinator, peer review group for the Pharmacology Qualifying Exam, Univ. Wisconsin-Madison, 2001.

PROFESSIONAL AFFILIATIONS

Member, the American Chemical Society

Member, the American Society for Mass Spectrometry, 2004 to present.

Member, Graduate Women in Science, 2010 to present.

Member, the American Association for the Advancement of Science, 1993 to present.

CONTINUING EDUCATION

Collegiality from a Positive Leadership Perspective, Magna Seminars, November 2012.

American Society for Mass Spectrometry Short Course: Tissue Imaging, June 2010.

American Society for Mass Spectrometry Short Course: Ion Traps, June 2009.

American Society for Mass Spectrometry Short Course: Electrospray ionization, June 2009.

Applied Biosystems MALDI 4800 Operator Training, October 2008.

Teaching Techniques Course, the Medical University of South Carolina, Fall 2007.

American Society for Mass Spectrometry Short Course: Peptides and Proteins, June 2005.

Modeling with Sybyl; a short course at UW-Madison, April-May 2004

PROFESSIONAL DEVELOPMENT AT UW-STOUT

Participant "Value Neutrality vs. Value Transparency" Center for Applied Ethics, September 2013.

Participant "Tom Angelo: More Effective Assessment by Design", (Angelo). May 2013.

Participant "Tom Angelo: Practical, Effective Strategies for Assessing, Giving Feedback and Grading" May 2012.

Participant, Honors College Workshop: " City as Text", June 2012.

Participant, Workshop: "Using Informal Writing as a Tool for Learning in Any Classroom", January 2012.

Faculty College Participant, May 2011.

President's Summit Participant & Presenter, April 2011.

Community of Practice: "Lesson Study", Participant, Academic Year 2010.

Assessment Institute with Barbara Walvoord, Univ. Wisconsin-Stout, Summer 2010

Sharing Community: "What the Best Teachers Do", Spring semester 2010.

FELLOWSHIPS & GRANTS SUBMITTED AS AN INDEPENDENT RESEARCHER

NSF ATE Proposal: "Research Infused MALDI Modules ". 2012. *Submitted with ARCC*, $xxx.

Professional Development JIT Grant, Univ. Wisconsin-Stout, "Minneapolis ASMS". 2013. $900 *Awarded*.

NSF TUES Proposal: "Research Infused MALDI Modules ". 2012. *Submitted with ARCC*, $998,919.

NSF Major Research Instrumentation Proposal "MRI: Acquisition of a MALDI TOF/TOF Mass Spectrometer to Enable Traditional and Integrated Classroom Research Experiences for Undergraduates" Declined, $483,165

Research Incubator Grant, 2011. $**1,500 Awarded**.

Graduate Women in Science National Fellowship, 2012. $4,610, <*Honorable Mention*>.

Professional Development Grant, Univ. Wisconsin-Stout, "Vancouver ASMS". 2011. $2,891 *Awarded*.

NSF STEP Proposal: "Promoting Recruitment and Retention In Science through Mass Spectrometry (PRrISMS)". 2010. Declined ($998,919).

NSF TUES Proposal "Biocircle". 2010. Declined ($186,640).

UW System and WiSys Foundation Assistance for Extramural Grant Applications. *$500, Awarded*.

Faculty Reseach Initiatve Award, "Aging Hearts" Univ. Wisconsin-Stout, 2009. $8,000 *Awarded*.

Professional Development Award, Univ. Wisconsin-Stout, "Salt Lake City ASMS". 2009. $2,640 *Awarded*.

COURSES TAUGHT

Proteomics (Bio425),1 semester; Human Biology (Bio132) 9 semesters.

Introductory Biology (Bio101) 1 semester; **Biology of Aging** (Bio125); 1 semester.

Biochemistry (Chem311), 2 semesters; **Biochemistry Laboratory** (Chem311), 3 semesters;

Advanced Biotechonology (Bio470), 3 semesters.

Introduction to Biotechnology (Bio210); online, 3 semesters.