

Curriculum Vitae

John M. Schmitt, Ph.D.
Holman Professor of Biology,
Department of Biology and Chemistry
George Fox University
Office Phone: (503) 554-2712
E-mail: jschmitt@georgefox.edu

Professional Academic Positions & Training:

- ❖ Holman Professor of Biology, Department of Biology and Chemistry, George Fox University, 2012-present.
- ❖ Associate Professor, Department of Biology and Chemistry, George Fox University, 2010 – present. *Tenured* – 2011.
- ❖ Assistant Professor, Department of Biology and Chemistry, George Fox University, June 2005 – 2010.
- ❖ Adjunct, Assistant Professor, Department of Biology and Chemistry, George Fox University, January 2005 – April 2005.
- ❖ Postdoctoral Fellow, Vollum Institute for Advanced Biomedical Research (Vollum Institute) at Oregon Health and Sciences University (OHSU), July 2002 – June 2005. Principal Investigator/Mentor: Professor and Senior Scientist, Tom Soderling, Ph.D.
- ❖ Research Fellow, Ruth L. Kirschstein, National Institutes of Health (NIH), Principal Investigator and Director, Richard H. Goodman, M.D., Ph.D., Vollum Institute at OHSU, September 2003 – October 2004.
- ❖ Ph.D., Department of Cell and Developmental Biology and the Vollum Institute at OHSU, September 1998 – April 2002. Advisor: Professor and Senior Scientist, Philip Stork, M.D.
- ❖ Graduate Fellow, Department of Haematology and Oncology at OHSU, 1999 – 2002.
- ❖ B.S. Biology, Pacific University, Forest Grove, OR, 1995.

Professional Publications (peer-reviewed):

1. **Schmitt, J.M.**, Magill, J., Ankeny, A., Geck, R., Milligan, J., McFarland, H., Rice, E.; “Estrogen Activation of Transcription is block by Vitamin D in MCF-7 Cells”, (manuscript in preparation).
2. **Schmitt, J.M.**, Smith, S., Hart, B., Fletcher, L.; “CaM Kinase Control of AKT and LNCaP Cell Survival”, *J. Cell. Biochem.*, 113:5, 2012: DOI 10.1002/jcb.24020, Dec., 2011.
3. **Schmitt, J.M.**, Abell, E., Wagner, A., Davare, M.; “ERK Activation and Cell Growth Require CaM Kinases in MCF-7 Breast Cancer Cells”, *Mol. Cell Biochem.*, 335(1); 155-171, 2010; DOI 10.1007/s11010-009-0252-9, 2009.

4. **Schmitt, J.M.***, Guire, E.S.*, Saneyoshi, T., Soderling, T.R.; "Calmodulin-Dependent Kinase Kinase/Calmodulin Kinase I Activity Gates Extracellular-Regulated Kinase-Dependent Long-Term Potentiation", J. Neurosci.; 25(5); 1281-1290, 2005.
*Denotes co-first authors.
5. **Schmitt, J. M.**, Wayman, G. M., Nozaki, N., Soderling, T. R.; "Calcium Activation of ERK Mediated by Calmodulin Kinase I", J. Biol. Chem.; 279; 24064-24072, 2004.
6. **Schmitt, J. M.** and Stork, P. J. S.; "G α and G $\beta\gamma$ Require Distinct Src-dependent Pathways to Activate Rap1 and Ras", J. Biol. Chem.; 277; 43024-43032, 2002.
7. Stork, P. J. S. and **Schmitt, J. M.**; "Crosstalk between cAMP and MAP kinase signaling in the Regulation of Cell Proliferation", Trends Cell Biol.; 12(6); 258-266, 2002.
8. **Schmitt, J. M.** and Stork, P. J. S.; "PKA Phosphorylation of Src Mediates cAMP's Inhibition of Cell Growth via Rap1", Mol. Cell; 9(1); 85-94, 2002.
9. **Schmitt, J. M.** and Stork, P. J. S.; "Cyclic AMP-mediated Inhibition of Cell Growth Requires the Small G protein Rap1", Mol. Cell. Biol.; 21(11); 3671-3683, 2001.
10. Carey, K., A., Dillon, T., **Schmitt, J. M.**, Baird, A., Holdorf, A., Straus, D., Shaw, A., Stork, P. J. S.; "CD28 and the Tyrosine Kinase Lck stimulate MAP Kinase Activity in T Cells via Inhibition of the Small G Protein Rap1", Mol. Cell. Biol.; 20(22); 8409-8419, 2000.
11. **Schmitt, J. M.** and Stork, P. J. S.; " β_2 -adrenergic Receptor Activates Extracellular Regulated Kinases (ERKs) via the Small G Protein Rap1 and the Serine/Threonine Kinase B-Raf", J. Biol. Chem.; 275; 25342-25350, 2000.
12. Hwang, K., **Schmitt, J. M.**, Hollinger, J.; "Interface Between Titanium Miniplate/Screw and Human Calvaria", J. Craniofac. Surg.; 11(2); 184-188, 2000.
13. Winn, S., **Schmitt, J. M.**, Buck, D., Hu, Y., Grainger, D., Hollinger, J.; "Tissue-Engineered Bone Biomimetic to Regenerate Calvarial Critical-Sized Defects in Athymic Rats", J. Biomed. Mater. Res.; 45; 414-421, 1999.
14. **Schmitt, J. M.**, Hwang, K., Winn, S., Hollinger, J.; "Bone Morphogenetic Proteins: An Update on Basic Biology and Clinical Relevance", J. Orthop. Res.; 17;269-278, 1999.
15. Hollinger, J., **Schmitt, J. M.**, Hwang, K., Soleymani, P., Buck, D.; "Impact of Nicotine on Bone Healing", J. Biomed. Mater. Res.; 45; 294-301, 1999.
16. Burgess, E., Hollinger, J., Bennett, S., **Schmitt, J. M.**, Buck, D., Shannon, R., Joh, S-P., Choi, J., Mustoe, T., Lin, H., Skalia, Connor, D., Chistoforou, C., Gruskin, E.; "Charged Beads Promote Cutaneous Wound Healing in Rhesus Non-Human Primates", Plastic and Recon. Surg.; 102; 7, 2395-2403, 1998.
17. Hollinger, J.O., **Schmitt, J. M.**, Buck, D., Shannon, R., Joh, S-P., Zegzula, H., Wozney, J.; "Recombinant Human Bone Morphogenetic Protein-2 and Collagen for Bone Regeneration", J. Applied Biomater.; 43; 4, 356-364, 1998.

18. **Schmitt, J. M.**, Buck, D., Bennett, S., Skalla, W., Chistoforou, C., Buechter D., Gruskin, E., Hollinger, J.O.; "Assessment of an Experimental Bone Wax Polymer plus TGF- β_1 Implanted into Calvarial Defects", *J. Biomed. Mater. Res.*; 41:4, 584-592, 1998.
19. Wheeler, D. L., Chamberland, D. L., **Schmitt, J. M.**, Buck, D. C., Brekke, J., Hollinger, J.O., Joh, S-P., Suh, K-W.; "Radiomorphometry and Biomechanical Assessment of Recombinant Human Bone Morphogenetic Protein-2 and Polymer in Rabbit Radius Osteotomy Model", *J. Applied Biomater.*; 43; 4, 365-379, 1998.
20. **Schmitt, J. M.**, Buck, D. B., Joh, S., Lynch, S., Hollinger, J.O.; "Comparison of Porous Bone Mineral and Biologically Active Glass in Critical-Sized Defects", *J. Perio.*; 68;11, pg. 1043-1053, 1997.

Published Book Chapter (peer-reviewed):

- ❖ **Schmitt, J. M.**, Winn, S., Hollinger, J.; "Cellular and Molecular Events in Bone Repair", *Bioceramics*, Edited by L. Sedel and C. Rey, World Scientific Publishing Co., Ltd., 1998.

United States Patent:

- ❖ **Schmitt, J. M.** and Stork, P. J. S.; "Agents that Recognize Src when Phosphorylated at Serine 17", Application number 20050037446, Kind code A1, filed 2002.

Published Abstracts:

1. Philip Graber and **Schmitt, J. M.**; "CaM KK Mediates MDM2 Activation in LNCaP Cells", *The FASEB Journal*, American Society for Biochemistry and Molecular Biology, Vol. 27, 831.6, 2013.
2. Angela J. Rofelty and **Schmitt, J. M.**; "Estrogen Receptor α Regulates ERK in MCF-7 Cells", *The FASEB Journal*, American Society for Biochemistry and Molecular Biology, Vol. 27, 831.5, 2013.
3. Hannah M. McFarland and **Schmitt, J. M.**; "AKAP7 Regulates CaM Kinase Activation in MCF-7 Cells", *The FASEB Journal*, American Society for Biochemistry and Molecular Biology, Vol. 27, 1031.15, 2013.
4. Renee Geck, Jessica N. Magill, and **Schmitt, J. M.**; "Estrogen Regulation of Jun and Fos in MCF-7 Cells", *The FASEB Journal*, American Society for Biochemistry and Molecular Biology, Vol. 27, 1031.14, 2013.
5. Jessica N. Magill and **Schmitt, J. M.**; "Estrogen and Vitamin D Control of Transcription in MCF-7 Cells", *The FASEB Journal*, American Society for Biochemistry and Molecular Biology, Vol. 26, 929.3, 2012.
6. Amanda P. Ankeny and **Schmitt, J. M.**; "Vitamin D Blocks Estrogen Signaling through PKA", *The FASEB Journal*, American Society for Biochemistry and Molecular Biology, Vol. 26, 575.1, 2012.
7. Mikayla S. Todd and **Schmitt, J. M.**; "Estrogen Receptor Activation of CaM Kinase I and

ERK ", The FASEB Journal, American Society for Biochemistry and Molecular Biology, Vol. 26, 575.2, 2012.

8. Jessica N. Magill and **Schmitt, J. M.**; "Transcription Factor Regulation of ERK and Estrogen in MCF-7 Cells ", The FASEB Journal, American Society for Biochemistry and Molecular Biology, Vol. 25, 757.1, 2011.
9. Amanda P. Ankeny and **Schmitt, J. M.**; "14-3-3 γ Binds to CaM KK α and Blocks Estrogen Signaling in MCF-7 Cells ", The FASEB Journal, American Society for Biochemistry and Molecular Biology, Vol. 25, 961.1, 2011.
10. Samantha F. Smith and **Schmitt, J. M.**; "CaM Kinase Regulation of AKT and BAD in Prostate Cancer Cells ", The FASEB Journal, American Society for Biochemistry and Molecular Biology, Vol. 25, 757.2, 2011.
11. Jessica Milligan and **Schmitt, J. M.**; "TRP Channel Regulation of Estrogen Signaling ", The FASEB Journal, American Society for Biochemistry and Molecular Biology, Vol. 25, 961.3, 2011.
12. Abell, E. and **Schmitt, J. M.**; "ERK Activation Requires CaM Kinases in MCF-7 Breast Cancer Cells ", The FASEB Journal, American Society for Biochemistry and Molecular Biology, Vol. 23, 699.7, 2009.
13. Hart, B. and **Schmitt, J. M.**; "CaM Kinase Kinase Control of Prostate Cancer Cell Survival", The FASEB Journal, American Society for Biochemistry and Molecular Biology, Vol. 23, 524.16, 2009.
14. Monson, S., Powers, D. R., **Schmitt, J. M.**, Kimberly, D.; "Distribution of aquaporin water channels in osmoregulatory tissues of the rough-skinned newt (*Taricha granulosa*)", Integrative and Comparative Biology, Society for Integrative and Comparative Biology, p2.155, 2009.
15. Abell, E., Wagner, A. and **Schmitt, J. M.**; "M₃-Muscarinic Receptor Activation of ERK and Cell Growth Requires Calcium/ Calmodulin-dependent Protein Kinases in MCF-7 Cells ", The FASEB Journal, American Society for Biochemistry and Molecular Biology, Vol. 22, 819, 2008.
16. Fletcher, L. and **Schmitt, J. M.**; "Carbachol Regulation of AKT in LNCaP Prostate Cancer Cells", The FASEB Journal, American Society for Biochemistry and Molecular Biology, Vol. 22, 648, 2008.
17. **Schmitt, J. M.** and Wagner, A.; "Carbachol Regulation of ERK and the Transcription Factor Elk-1 in MCF-7 Breast Cancer Cells", The FASEB Journal, American Society for Biochemistry and Molecular Biology, Vol. 21, No. 6., A991, 2007.
18. Guire, E. *, **Schmitt, J.M.***, and Soderling, T.R.; "CaM Kinase Kinase Activity Gates ERK-MAP Kinase-dependent LTP", Neurons and Memory, San Diego, CA, 2004. *Denotes co-first authors.
19. Guire, E. *, **Schmitt, J.M.***, and Soderling, T.R.; "CaM Kinase Kinase Activity Gates ERK-MAP Kinase-dependent LTP", Society for Neuroscience, San Diego, CA, 2004. *Denotes

co-first authors.

20. **Schmitt, J. M.** and Stork, J. S. P.; "PKA Phosphorylation of Src Mediates cAMP's Inhibition of Cell Growth via Rap1", Keystone Symposium (Protein Phosphorylation and Mechanisms of Cellular Regulation), Taos, NM, 2002.
21. **Schmitt, J. M.** and Stork, J. S. P.; "Cyclic AMP-mediated Inhibition of Cell Growth Requires the Small G protein Rap1", Student Research Forum, OHSU, 2001.
22. Carey, K., **Schmitt, J. M.**, Dillon, T., Baird, A., Shaw, A., Stork, P. J. S.; "CD28 regulation of Rap1 and the MAP Kinase Cascade in T cells", Keystone Symposium (Assembly of Signaling Networks), Taos, NM, 2000.
23. Hollinger, J., **Schmitt, J. M.**, Sipe, R., Buck, D., "Nicotine Delays Bone Healing", Portland Bone Symposium (PBS), Portland, OR, 1999.
24. Hollinger, J., Aiolova, M., Knaack, D., Buck, D., **Schmitt, J. M.**, Lee, D.; "An Injectable Calcium-Phosphate with BMP", Orthopaedic Research Society (ORS), Anaheim, CA, 1999.
25. **Schmitt, J. M.**, Winn, S., Hollinger, J.; "Cellular and Molecular Events in Bone Repair", Bioceramics 11 Symposium, New York, New York, November, 1998.
26. Hollinger, J., Winn, S., **Schmitt, J. M.**, Buck, D., Hwang, K.; "The Biology of Bone and Delivery of Effector Molecules for its Regeneration", Society for Biomaterials, April, 1998.
27. Burgess, E., Li, Y., Gong, X., Rabkin, J., Buck, D., **Schmitt, J. M.**, Hollinger, J., Burton, W., Costa, S., Squinto, S., Fodor, W.; "Intrasplenic Xenogeneic Hepatocyte Transplantation in Non-Human Primates", Oregon American College of Surgeons, Sept, 1997.
28. Burgess, E., Bennett, S., **Schmitt, J. M.**, Buck, D., Shannon, R., Hollinger, J., Mustoe, T., Lin, H., Gruskin, E., Mustoe, T., Skalia, W., Christoforou, C., Connors, D.; "Charged Beads as Cutaneous Wound Healing Factors in Rhesus Non-Human Primates", 7th Annual Wound Healing Society, June, 1997.
29. Wheeler, D. L., Chamberland, D. L., **Schmitt, J. M.**, Buck, D. C., Hollinger, J.O.; "Biomechanical assessment of BMP-2 and Polymer in a rabbit radius osteotomy model", Orthopaedic Research Society Meeting (ORS), March, 1997.

Meetings and Presentations:

- *American Society of Biochemistry and Molecular Biology*, invited speaker in *Career Options* session, talk title: "Living the Dream: Research and Teaching with Undergraduates", Boston, MA, April 20, 2013.
- *American Society of Biochemistry and Molecular Biology*, Hannah M. McFarland and John M. Schmitt, invited speaker in *Mechanisms of Signaling Specificity in Cell Fate: Growth, Proliferation or Death?* session, talk title: "AKAP7 regulates CaM Kinase Activation in MCF-7 Cells", Boston, MA, April 24, 2013.
- *American Society of Biochemistry and Molecular Biology*, Boston, MA, April 2013. Abstracts and student research presentations Renee Geck, Hannah McFarland, Angela Rofelty,

and Philip Graber, "Estrogen Regulation of Jun and Fos in MCF-7 cells" as well as "AKAP7 Regulates CaM Kinase Activation in MCF-7 Cells", "Estrogen Receptor α regulates ERK in MCF-7 Cells", "CaM KK Mediates MDM2 Activation in LNCaP Cells", respectively.

- Oregon Academy of Sciences, Salem, Oregon, March 2013. Abstracts and student research presentations Renee Geck, Hannah McFarland, and Angela Rofelty, "Estrogen Regulation of Jun and Fos in MCF-7 cells" as well as "AKAP7 Regulates CaM Kinase Activation in MCF-7 Cells", and "Estrogen Receptor α regulates ERK in MCF-7 Cells", respectively.
- Murdock Undergraduate Research Conference, November 2012. Biology students, Renee Geck, Hannah McFarland, Angela Rofelty and Philip Graber poster presentations on research entitled, "Estrogen Regulation of Jun and Fos in MCF-7 cells", "AKAP7 Regulates CaM Kinase Activation in MCF-7 Cells", and "Estrogen Receptor α regulates ERK in MCF-7 Cells", and "CaM KK Mediates MDM2 Activation in LNCaP cells" respectively.
- American Society of Biochemistry and Molecular Biology, April 2012. Biology students, Jessica Magill, Amanda Ankeny, and Mikayla Todd poster presentations on research entitled, "Estrogen and Vitamin D Control of Transcription in MCF-7 Cells", "Vitamin D Blocks Estrogen Signaling through PKA", and "Estrogen Receptor Activation of CaM Kinase I and ERK", respectively.
- Murdock Undergraduate Research Conference, October 2011. Biology students, Jessica Magill, Amanda Ankeny, and Mikayla Todd poster presentations on research entitled, "Estrogen and Vitamin D Control of Transcription in MCF-7 Cells", "Vitamin D Blocks Estrogen Signaling through PKA", and "Estrogen Receptor Activation of CaM Kinase I and ERK", respectively.
- American Society of Biochemistry and Molecular Biology, Washington, D.C., April 2011. Abstracts and presentations on, "Transcription Factor Regulation of ERK and Estrogen in MCF-7 Cells", "14-3-3 γ Binds to CaM KK α and Blocks Estrogen Signaling in MCF-7 Cells", "CaM Kinase Regulation of AKT and BAD in Prostate Cancer Cells" and "TRP Channel Regulation of Estrogen Signaling".
- Oregon Academy of Sciences, Portland, Oregon, February 2011. Abstracts and student research presentations on "CaM Kinase Regulation of AKT and Prostate Cancer Cell Survival" as well as "Transcription Factor Regulation of ERK and Estrogen in MCF-7 Cells", "14-3-3 γ Binds to CaM KK α and Blocks Estrogen Signaling in MCF-7 Cells".
- Murdock Undergraduate Research Conference, October 2010. Biology students, Jessica Magill, Amanda Ankeny, Samantha Smith, and Jessica Milligan poster presentations on research entitled, "Transcription Factor Regulation of ERK and Estrogen in MCF-7 Cells", "14-3-3 γ Binds to CaM KK α and Blocks Estrogen Signaling in MCF-7 Cells", "CaM Kinase Regulation of AKT and BAD in Prostate Cancer Cells" and "TRP Channel Regulation of Estrogen Signaling", respectively.
- Oregon Academy of Sciences, Portland, Oregon, February 2010. Abstract and student research presentation on "CaM Kinases Regulate AKT and Prostate Cancer Cell Survival".
- George Fox University, Faculty Research Form, Presentation on "Calcium Signaling in Cancer Cells", April, 2009.
- Oregon Health Sciences University, Portland, OR, March 2009. Presentation on "Careers in Academic Science (Science and Teaching at a Small Liberal Arts College)".

- *American Society of Biochemistry and Molecular Biology*, New Orleans, April 2009. Abstracts and presentations on “ERK Activation Requires CaM Kinases in MCF-7 Breast Cancer Cells” and “CaM Kinase Kinase Control of Prostate Cancer Cell Survival”.
- *Oregon Academy of Sciences*, Monmouth, Oregon, February 2009. Abstract and student research presentations on calcium signaling in breast and prostate cancer cells.
- *Murdock Undergraduate Research Conference*, October 2008. Biology students, Ellen Abell and Brendon Hart poster presentations on research entitled, “ERK Activation Requires CaM Kinases in MCF-7 Breast Cancer Cells” and “CaM Kinase Kinase Control of Prostate Cancer Cell Survival”, respectively.
- *Pacific University*, Forest Grove, OR, November 13, 2008, Presentation on “The Role of Calcium in Breast and Prostate Cancer”.
- *Vollum Institute at Oregon Health Sciences University*, Portland, OR, June 2008, Presentation on “Calcium/Calmodulin-Kinase Signaling in Cancer”.
- *Oregon Health Sciences University*, Portland, OR, March 2008. Presentation on “Careers in Academic Science (Science and Teaching at a Small Liberal Arts College)”.
- *American Society of Biochemistry and Molecular Biology*, San Diego, April 2008. Abstracts and presentations on “Calcium Control of ERK in MCF-7 Breast Cancer Cells” and “Carbachol Signaling to AKT in Prostate Cancer Cells”.
- *Oregon Academy of Sciences*, Portland Oregon, February 2008. Abstract and student research presentations on calcium signaling in breast and prostate cancer cells.
- *Murdock Undergraduate Research Conference*, October 2007. Biology students, Ellen Abell and Luke Fletcher poster presentations on research entitled, “M₃-Muscarinic Receptor Activation of ERK and Cell Growth Requires Calcium/Calmodulin-dependent Protein Kinases” and “Carbachol Regulation of AKT in LNCaP Prostate Cancer Cells”, respectively.
- *American Society of Biochemistry and Molecular Biology*, Washington D.C., April 2007. Abstract and presentation on “Carbachol Regulation of ERK and the Transcription Factor Elk-1 in MCF-7 Breast Cancer Cells”.
- *Oregon Academy of Sciences*, Monmouth Oregon, March 2007. Abstract and student research presentation on calcium signaling in breast cancer cells.
- *Murdock Undergraduate Research Conference*, October 2006. Biology student, Andrea Wagner, poster presentation on research entitled, “Carbachol Regulation of ERK and the Transcription Factor Elk-1 in MCF-7 Breast Cancer Cells”.
- *Murdock Undergraduate Research Conference*, Nampa Idaho, November 2005. Biology student, Amy Roseburg, poster presentation on “Enhanced Vascular Reactivity to Angiotensin II in Offspring of Protein Restricted Sows: Role of Oxidative Pathways”.
- *Society for Neuroscience*, San Diego, CA, 2004. Poster presentation on “CaM Kinase Kinase Activity Gates ERK-MAP Kinase-dependent LTP”.
 - *Neurons and Memory – Satellite meeting*, San Diego, CA, 2004.
- *Keystone Symposium (Protein Phosphorylation and Mechanisms of Cellular Regulation)*, Taos, NM, 2002. Abstract presentation on “PKA Phosphorylation of Src Mediates cAMP’s Inhibition of Cell Growth via Rap1”.
- *Keystone Symposium (Assembly of Signaling Networks)*, Taos, NM, 2000. Poster and

abstract presentation on “CD28 regulation of Rap1 and the MAP Kinase Cascade in T cells”.

Teaching & Mentorship Experience:

- Design, develop, and teach lectures and associated laboratories for Biol211-General Biology, Chem340-Biochemistry, Biol370-Microbiology, Biol410-Molecular Biology, Biol420-Cell Biology and Biol490-Biological Explorations.
- Create and implement techniques and methodology for developing Undergraduate Biological Literacy.
- Faculty Research Mentor, for **E. Hope Kenyon**, Biology student at George Fox University. 2013-present.
- Faculty Research Mentor, for **Angela Rofelty**, Biology student at George Fox University. 2012-present.
 - Presentations at Murdock, OAS, and ASBMB, 2012-2013.
- Faculty Research Mentor, for **Renee Geck**, Biology student at George Fox University. 2012-present.
 - Presentations at Murdock, OAS, and ASBMB, 2012-2013.
- Faculty Research Mentor, for **Hannah McFarland**, Biology student at George Fox University. 2012-present.
 - Presentations at Murdock, OAS, and ASBMB, 2012-2013.
- Faculty Research Mentor, for **Philip Graber**, Biology student at George Fox University. 2012-2013.
 - Presentations at Murdock and ASBMB, 2012-2013.
- Faculty Research Mentor, for **Mikayla Todd**, Biology student at George Fox University. 2011-2012.
 - Presented at Murdock and ASBMB, 2011-2012.
- Faculty Research Mentor, for **Jessica “Jess” Milligan**, Biology student at George Fox University, 2010-2011.
 - Currently applying to Law School.
 - Presented at OAS, Murdock and ASBMB, 2010-2011.
- Faculty Research Mentor, for **Amanda Ankeny**, Biology student at George Fox University, 2010-2012.
 - Currently a Graduate student at Duke University.
 - Presented at OAS, Murdock and ASBMB, 2010-2012.
- Faculty Research Mentor, for **Jessica Magill**, Biology student at George Fox University, 2010-2012.
 - Currently applying to Medical School.
 - Presented at OAS, Murdock and ASBMB, 2010-2012.
- Faculty Research Mentor, for **Samantha Smith**, Biology student at George Fox University, 2008-2011. Currently in nursing school at OHSU.
 - Presented at OAS, Murdock, and ASBMB, 2010-2011.
- Faculty Research Mentor, for **Erica Rice**, Biology student at George Fox University, 2008-2009.
 - Currently a Registered Nurse in Boise, Idaho.
- Faculty Research Mentor, for **Brendon Hart**, Biology student at George Fox University, 2008-2009.
 - Currently in Medical School at Western University of Health Sciences.
 - Presentations at the *Murdock Undergraduate Research Conference*, the *Oregon Academy of Sciences*, and the *American Society of Biochemistry and Molecular*

Biology at New Orleans.

- Faculty Research Mentor, for **Ellen Abell**, Biology student at George Fox University, 2007-2009.
 - Currently in Medical School at Loma Linda University.
 - Presentations of research project at the *Murdock Undergraduate Research Conference* at Willamette University, the *Oregon Academy of Sciences* at Portland Community College and the *American Society of Biochemistry and Molecular Biology* at San Diego.
- Faculty Research Mentor, for **Luke Fletcher**, Biology student at George Fox University, 2007-2008.
 - Currently in Medical School in the Keck School of Medicine at USC.
 - Presentations of research project at the *Murdock Undergraduate Research Conference* at Willamette University, the *Oregon Academy of Sciences* at Portland Community College and the *American Society of Biochemistry and Molecular Biology* at San Diego.
- Faculty Research Mentor, for **Andrea Wagner**, Biology student at George Fox University and received her M.S.N. and N.P. at Seattle University, 2006-2007.
 - Currently practicing in the Salem, OR area.
 - Presentations of research project at the *Murdock Undergraduate Research Conference* at University of Portland & the *Oregon Academy of Sciences* at Western Oregon University.
- Research Mentor, for **Amara Sheppherd**, Post-Baccalaureate student from George Fox University and currently a physician (M.D. at OHSU, 2009), Summer Research - 2005.
- Research Mentor, for Eric Guire, Ph.D., Neuroscience Graduate from OHSU, 2004-2005 and Senior Scientist, at ISur Tec, Minneapolis-St. Paul, MN.
- Mentor, for Aaron Riedl, Baccalaureate student from Seattle Pacific University, 2003.
- Lecturer, Murdock Research Methods Course (Undergraduate Course) at OHSU, 2001-2002.
- Lecturer, Topics in Signal Transduction (Graduate Course), OHSU, 2001.
- Lecturer, Principles of Scientific Conduct (Graduate Course), OHSU, 1999.
- Mentor, for Tony Giang, student from Lincoln High School, Portland, OR, 2003.
- Mentor, for Rachel House, student from Wilson High School, Portland, OR, 2003.

Grant Funding:

- Principal Investigator, Li-Cor Biosciences, Science Undergraduate Research Grant (SURG), ***Funded***, Grant #: L24350-1, 2012-present.
- Principal Investigator, M.J. Murdock Charitable Trust, Life Sciences Grant, entitled "Vitamin D Regulation of CaM Kinase Kinase, ERK, and Cell Growth of MCF-7 Breast Cancer Cells", ***Funded***, Grant #: 2011267, 2012-present.
- Principal Investigator, M.J. Murdock Charitable Trust, Life Sciences Grant, entitled "Vitamin D Regulation of CaM Kinase Kinase, ERK, and Cell Growth of MCF-7 Breast Cancer Cells", ***Funded***, Grant #: 2009261, 2010-2012.
- Postdoctoral Research Fellowship Grant, NIH, Neuroendocrinology Training Grant, ***Funded*** from September 2003 – October 2004.
- Assisted in preparation and writing NIH, Request for Applications (RFA), Tissue Engineering Grant, ***Funded*** - 1997.
- Prepared and assisted in writing NIH, R13 grant application, ***Funded*** - 1997.

Student-Sponsored Grants:

- “AKAP7 Regulates CaM Kinase Activation in MCF-7 Cells”, Hannah McFarland and John M. Schmitt, *National Science Foundation (NSF)*, 2013.
- “Estrogen Regulation of Jun and Fos in MCF-7 Cells”, Renee Geck, Travel Grant, *American Society of Biochemistry and Molecular Biology*, 2013.
- “The Effect of Parathyroid Hormone on CaM KK and Bone Growth”, E. Hope Kenyon, Paul K. and Evalyn Richter Memorial Fund, 2013.
- “Estrogen Regulation of Transcription in Breast Cancer Cells”, Renee Geck, Paul K. and Evalyn Richter Memorial Fund, 2012 & 2013.
- “Vitamin D and PKA Inhibit Estrogen Signaling in MCF-7 Breast Cancer Cells”, Hannah McFarland, Paul K. and Evalyn Richter Memorial Fund, 2012 & 2013.
- “Transcription Factor Control of MCF-7 Cell Growth”, Jessica Magill, Paul K. and Evalyn Richter Memorial Fund, 2011.
- “TRP Channel Regulation of Estrogen Signaling in Breast Cancer Cells” Mikayla Todd, Paul K. and Evalyn Richter Memorial Fund, 2011.
- “14-3-3 γ Binds to CaM KK α and Blocks Estrogen Signaling in MCF-7 Cells” Amanda Ankeny, Paul K. and Evalyn Richter Memorial Fund, 2011.
- “The Role of TRP Channels in MCF-7 Breast Cancer Cell Growth”, Jessica Milligan, Paul K. and Evalyn Richter Memorial Fund, 2010.
- “An Investigation into the Effects of Estrogen and Vitamin D on a Cell’s Growth and Cell Cycle Control” Jessica Magill, Paul K. and Evalyn Richter Memorial Fund, 2010.
- “Hormone Control of Bone Development”, Samantha Smith, Paul K. and Evalyn Richter Memorial Fund, 2009.
- “Investigations into the Pathways Controlling Prostate Cancer Cell Survival”, Erica Rice, Paul K. and Evalyn Richter Memorial Fund, 2009.
- “M₃-Muscarinic Receptor Activation of ERK and Cell Growth Requires Calcium/Calmodulin-dependent Protein Kinases in MCF-7 Cells”, Ellen Abell, Paul K. and Evalyn Richter Memorial Fund, 2008.
- “AKT Regulation of Prostate Cancer Cell Survival”, Brendon Hart, Paul K. and Evalyn Richter Memorial Fund, 2008.
- “Calcium-Calmodulin Control of the Extracellular signal-regulated kinase (ERK) and Cell Growth in Breast Cancer Cells”, Ellen Abell, Paul K. and Evalyn Richter Memorial Fund, 2007.
- “CaM Kinase Regulation of Prostate Cancer Cell Growth and Survival”, Luke Fletcher, Paul K. and Evalyn Richter Memorial Fund, 2007.
- “Calcium Regulation of the Extracellular signal-regulated kinase (ERK) in Breast Cancer Cell Growth”, Andrea Wagner, Paul K. and Evalyn Richter Memorial Fund, 2006.

Professional Journal Reviewer:

- *Journal of Cellular Biochemistry.*
- *Archives of Dermatological Research.*
- *Journal of Cellular Physiology.*
- *Molecular and Cellular Biochemistry.*

Honors/Awards:

- ◆ United States, Professor of the Year, Nominee, George Fox University, 2013.
- ◆ Undergraduate Researcher of the Year, *Faculty Achievement Award for Research and Scholarship*, George Fox University, 2013.
- ◆ Teacher of the Year, Nominee, George Fox University, 2012-2013.
- ◆ Selected as Jack S. Holman Endowed Professor of Biology, 2012-present
- ◆ Teacher of the Year, Nominee, George Fox University, 2010-2011.
- ◆ Ruth L. Kirschstein National Research Service Award, 2003-2004.
- ◆ Outstanding Doctoral Thesis finalist, OHSU, 2002.
- ◆ Cancer Federation Research Award for Outstanding Undergraduate Research, 1995.
- ◆ Dean's Honor List, Pacific University 1994-95.
- ◆ President's Service Award, Pacific University, 1994-95.
- ◆ Sigma Xi Chapter, Beta Beta Beta Biological Honor Society, 1993-95.
- ◆ Humanitarian Volunteer Service Award, Pacific University, 1993-95.

Professional Associations:

- ◆ Faculty Advisor, Undergraduate Affiliation Network of the American Society of Biochemistry and Molecular Biology, 2009-present.
- ◆ Member, Sigma XI, Scientific Research Society, 2007-present.
- ◆ *Elected-Member (Full)*, American Society of Biochemistry and Molecular Biology (ASBMB), 2006-present.
- ◆ Full Member, American Scientific Affiliation (ASA), 1998-present.
- ◆ Member of Pacific University Alumni Association, 1995-present.
- ◆ Postdoctoral Fellow, Vollum Institute, OHSU, 2002-2005.
- ◆ Vice-President, Ashwood Downs Homeowners Association, 2003-2005.
- ◆ Research Fellow, National Institutes of Health, Neuroendocrinology, 2003-2004.
- ◆ Graduate Fellow, Dept. Haematology and Oncology, OHSU, 1999-2002.
- ◆ Member of Graduate Council, OHSU, 1998-2001.
- ◆ President, Beta Beta Beta, Biological Honor Society, Sigma Xi Chapter, 1994-95.

Professional Service & Experience:

- ◆ Pre-Med Advisor, Department of Biology and Chemistry, George Fox University, 2010-present.
- ◆ Member, Biology and Chemistry Faculty Search Committee, George Fox University, 2010-2011. Hire – Dr. Heather Ayala, Associate Professor of Biology.
- ◆ Faculty Advisor, Undergraduate Affiliation Network of the American Society of Biochemistry and Molecular Biology, 2009-present.
- ◆ Recruiter and liaison for prospective students, Department of Biology and Chemistry, George Fox University, 2007-present.
- ◆ Member, Faculty Development Committee, George Fox University, 2007-present.
- ◆ Faculty Representative, Murdock Undergraduate Research Program Steering Committee

at OHSU, 2006-2011.

- ◆ Chair, Faculty Development Committee, George Fox University, 2009-2011.
- ◆ Faculty Representative, First Year Seminar Committee, George Fox University, 2007-2009.
- ◆ Member, Peer-Review Committee, for Kathy Weiss, M.D., Department of Biology and Chemistry, George Fox University, 2009 and 2012. (Teacher of the Year, 2011-2012)
- ◆ Member, Biology and Chemistry Faculty Search Committee, George Fox University, 2008-2009. Hire – Dr. Jim Smart, Associate Professor of Biology.
- ◆ Web Manager, created and designed web pages for the Northwest Wound Healing Center, OHSU, 1996-1999.
- ◆ Author and designer of 1997 & 1999 Portland Bone Symposium brochure and web site.

Employment History:

- ◆ Holman Professor, Department of Biology and Chemistry, George Fox University. 9/12-present.
- ◆ Associate Professor, Department of Biology and Chemistry, George Fox University. 10/10-present.
- ◆ Assistant Professor, Department of Biology and Chemistry, George Fox University. 6/05 – 10/10.
- ◆ Adjunct Assistant Professor, Department of Biology and Chemistry, George Fox University. 1/05 – 4/05
- ◆ Postdoctoral Fellow, Vollum Institute, OHSU 7/02 – 6/05
Advisor: Tom Soderling, Ph.D., Professor & Senior Scientist
- ◆ Postdoctoral Research Fellow, National Institutes of Health, Neuroendocrinology Trainee, Primary Investigator, Richard H. Goodman, M.D., Ph.D. 9/03 – 10/04
- ◆ Graduate Fellow, Haematology and Oncology, OHSU 8/99 – 2002
- ◆ Graduate Research Assistant, 9/98 - 2002
Cell and Developmental Biology and the Vollum Institute, OHSU
Advisor: Philip Stork, M.D., Scientist, Vollum Institute
- ◆ Research Assistant, 9/95-9/98
Division of Plastic and Reconstructive Surgery and
Northwest Wound Healing Center, OHSU
- ◆ Administrative Support; Pacific Univ. College of Optometry 8/94-8/95
- ◆ Microbiology/General Biology Lab Assistant; Pacific Univ. 2/94-5/95
- ◆ Program Assistant; Pacific University Outdoor Program 9/91-5/95