Kenneth P. Roberts, Ph.D.

CURRICULUM VITAE

Contact Information:

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Washington State University
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Education:

1989-1993	Postdoctoral Fellow, Division of Reproductive Biology, Dept of Population Dynamics, The Johns Hopkins School of Public Health.
1983-1989	Washington State University, Pullman, WA. Ph.D. Biochemistry & Biophysics, 1989.
1980-1983	Western Washington University, Bellingham, WA. B.S. Chemistry/Biology, 1983
1977-1979	Grays Harbor College, Aberdeen, WA. A.A., 1979

Academic Positions:

2018-present	Professor, Dept. of Translational Medicine & Physiology (department name change from Biomedical Sciences in 2021), College of Medicine, WSU
2015-2018	Associate Professor, Dept. of Biomedical Sciences, College of Medicine, WSU
2008-2015	Associate Professor, School of Molecular Biosciences, College of Veterinary Medicine, WSU
2008-2015	Affiliate Associate Professor, Department of Biochemistry, University of Washington School of Medicine
2004-2008	Associate Professor, Departments of Integrative Biology & Physiology and Urologic Surgery, University of Minnesota Medical School
1993-2004	Assistant Professor, Department of Urologic Surgery, University of Minnesota Medical School
1993-1999	Assistant Professor, Department of Cell Biology & Neuroanatomy, University of Minnesota Medical School (Department dissolved in 1999)

Administrative Positions:

<u>Washington State University – Spokane</u>

2020-present	Chair, Dept. of Translational Medicine & Physiology, College of Medicine, WSU
2015-2020	Vice Dean, Academic and Community Partnerships, College of Medicine, WSU

2021-2022	Interim Associate Dean for Clinical Education, Spokane Campus, College of Medicine
2020	Interim Associate Dean for Clinical Education, Vancouver Campus, College of Medicine
2014-2015	Acting Dean, College of Medical Sciences/College of Medicine, WSU
2008-2014	Director, Medical Sciences and WWAMI Spokane, Washington State University – Spokane
2008-2015	Assistant Dean, University Phase Medical Education/Spokane, University of Washington School of Medicine

University of Minnesota

1999-2008	Director of the Program in Human Anatomy Education, University of Minnesota Medical School
1998-2000	Director, Genetics Testing Laboratory, Reproductive Medicine Center, University of Minnesota, Minneapolis, MN
1993-2005	Director of Basic Research, Department of Urologic Surgery, University of Minnesota Medical School

Honors and Awards:

Founding Dean's Award for Contribution to the College of Medicine Culture, 2021

Faculty Excellence Award, Washington State University – Spokane, 2015

President's Award for Leadership, Washington State University, 2014

School of Molecular Biosciences Outstanding Alumni Award, Washington State University, 2008

University of Minnesota Year One Distinguished Teaching Award, 2008

North Beach High School Distinguished Alumni Award, 2008

Minnesota Medical Foundation Outstanding Medical School Teacher Award in Basic Science, 2004

Academy of Medical Educators, Membership, 2004

Association of American Medical Colleges, Award of Distinction, Mini Mini Medical School, 2004

SCHOLARSHIP

Publications

1. Phillip Wibisono, Yiyong Liu, Kenneth P Roberts, Dodge Baluya and Jingru Sun 2024. Neuronal GPCR NMUR-1 regulates energy homeostasis in response to pathogen infection. bioRxiv doi:10.1101/2024.07.09.602733
2. Tran A-V and Roberts KP 2022 Language Accommodations for Limited English Proficient Patients in

Rural Health Care. Journal of Immigrant and Minority Health Journal of Immigrant and Minority Health 25:674-679

3. Roberts KP and Chauvin TR 2019 Molecular mechanisms of testosterone action on the testis. Current Opinion in Endocrine and Metabolic Research 6:29-33
4. Graham J, Benson LM, Swanson J, Potyk D, Daratha KB and Roberts KP 2016 Medical humanities coursework and preserved clinician empathy. American Journal of Medicine 129:1334-1337
5. Olson DJ, Gore JL, Daratha KB and Roberts KP 2016 Travel Burden and the Direct Medical Costs of Urologic Surgery. Journal of Health Economics and Outcomes Research 4:47-54
6. Zetlen H, Daratha KB, Harper JD, Wessells H, Roberts KP and Gore JL. 2016 Hospital-level variation in the quality of benign inpatient urologic surgery. Urology 87:82-87
7. Chauvin T, Xie F, Liu T, Nicora CD, Yang F, Camp DG, Smith RD and Roberts KP 2012 A Systematic Analysis of a Deep Mouse Epididymal Sperm Proteome. Biology of Reproduction 87(141): 1-8
8. Gore JL, Wright JL, Daratha KB, Roberts KP, Lin DW, Wessells H, Porter M. 2012 Hospital-level variation in the quality of urologic cancer surgery. Cancer 118(4):987-96
9. Canales BK, Anderson L, Higgins L, Ensrud-Bowlin K, Roberts KP, Wu B, Kim IW and Monga M. 2010 Proteome of human calcium kidney stones. Urology 76(4):1017.e13-20
10. Vadnais ML and Roberts KP. 2010 Seminal Plasma Proteins Inhibit In vitro and Cooling Induced Capacitation in Boar Sperm. Reproduction, Fertility and Development 22(6):893-900
11. Hagiwara M, Wolkers WF, Roberts KP, Devireddy RV and Bischof JC. 2009 Cellular and macromolecular biophysics during freezing of rat and mouse sperm. Biology of Reproduction 81(4):700-706
12. Zhang Y, Kim S, Erdman AG, Roberts KP and Timm GW. 2009 Feasibility of Using a Computer Modeling Approach to Study SUI Induced by Landing a Jump. Annals of Biomedical Engineering. 37(7): 1425-1433. 2009.
13. Whiteside JL, Ensrud-Bowlin KM, Wang G, Watschke BP and Roberts KP. 2008 Lead Placement and Associated Nerve Distribution of an Implantable Periurethral Electrostimulator. International Urogynecology Journal and Pelvic Floor Dysfunction 20:325-329, 2009
14. Roberts KP, Ensrud-Bowlin KM, Piehl LB, Parent KR, Bernhardt ML and Hamilton DW. 2008 Association of the Protein D and Protein E Forms of Rat CRISP1 with Epididymal Sperm. Biology of Reproduction 79:1046-1053
15. Vadnais ML, Foster DN and Roberts KP. 2008 Molecular Cloning and Expression of the CRISP Family of Proteins in the Boar. Biology of Reproduction 79:1129-1134
16. Canales BK, Anderson L, Higgins L, Slaton J, Roberts KP, Liu N, and Monga M. 2008 Comprehensive Proteomic Analysis of Human Calcium Oxalate Monohydrate Kidney Stone Matrix. Journal of Endourology 22:1161-1168
17. Roberts KP, Johnston DS, Nolan MA, Wooters JL, Waxmonsky NC, Piehl LB, Ensrud-Bowlin KM, Hamilton DW. 2007 Structure and function of epididymal protein cysteine-rich secretory protein-1. Asian Journal of Andrology 9:508-514
18. Vadnais ML and Roberts KP, 2007 Effects of Seminal Plasma on Cooling-induced Capacitative Changes in Boar Sperm. Journal of Andrology 28:416-422

19. Lavers AE, Swanlund DJ, Hunter BA, Tran ML, Pryor JL and Roberts KP. 2006 Effect of Vasectomy on the Function of the Rat Epididymal Epithelium and Vas Deferens. Journal of Andrology 27:826-36.

20. Nolan MA, Wu L, Bang HJ, Turner TT, Jelinsky SA, Roberts KP, Kopf GS, Johnston DS 2006 Identification of Rat Cysteine Rich Secretory Protein-4 (Crisp4) as the Ortholog to Human CRISP1 and Mouse Crisp4 Biology of Reproduction 74:984-991

21. Roberts KP, Ensrud KM, Wooters JL, Nolan MA, Johnston DS and Hamilton DW 2006 Epididymal Secreted Protein Crisp-1 and Sperm Function Molecular and Cellular Endocrinology 250:122-127

22. Johnston DS, Wooters JL, Kopf GS, Qiu Y and Roberts KP 2005 Analysis of the Human Sperm Proteome Annals of the New York Academy of Science 1061:190-202.

23. Griffin RJ, Williams BW, Roberts KP, Swanlund DJ, Bischof JC. 2004 Assessing pH and oxygenation in cryotherapy-induced cytotoxicity and tissue response to freezing. Technol Cancer Res Treat. 3:245-251

24. Choi EK, Roberts KP, Griffin RJ, Han T, Park HJ, Song CW, Park HJ. 2004 Effect of pH on radiation-induced p53 expression. International Journal of Radiation Oncology, Biology, Physics 60:1264-1271.

25. Sun Y, Wan K-T, Roberts KP, Bischof JC, Nelson BJ. 2003 Mechanical Property Characterization of Mouse Zona Pellucida. IEEE Transactions on Nanobioscience 2:279-286

26. Roberts KP, Wamstad JA, Ensrud KE, Hamilton DW. 2003 Crisp-1 Inhibition of Rat Sperm Capacitation. Biology of Reproduction 69: 572-581

27. Burgher AH, Swanlund DJ, Griffin RJ, Bischof JC, Roberts KP. 2003 Sensitization of Thermotolerant SCK Cells to Hyperthermia and Hypothermia with Reduction of Intracellular pH: Implications for Cryosurgery. Journal of Surgical Oncology 82:1-10

28. Bischof JC, Coad JE, Hoffmann NE, Roberts KP. 2002 Is apoptosis an important mechanism of cryoinjury in vivo? Cryo Letters 23(4):277-8

29. Allen SS and Roberts KP. 2002 An Integrated Structure-Function Module for First-Year Medical Students: Correlating Anatomy, Clinical Medicine, and Radiology. Medical Education 36:1106-1107

30. Roberts KP. 2002 Letter to the Editor, The High Intratesticular Testosterone Requirement For Mammalian Spermatogenesis: Potential Role of ABP. Journal of Andrology 23:618

31. Roberts KP. 2002 Review of "The Epdidiymis: From Molecules to Clinical Practice", Journal of Andrology 23:620

32. Devireddy RV, Swanlund DJ, Alghamdi AS, Troedsson MHT, Bischof JC and Roberts KP. 2002 The Effect of Collection and Cooling Conditions on Water Transport Characteristics of Equine Spermatozoa. Theriogenology 261:233-236

33. Duoos L, Troedsson MHT, Alghamdi AS, Miller L and Roberts KP. 2002 The Importance of Osmotic Pressure for the Quality of Fresh, Cooled, and Cryopreserved Equine Spermatozoa. Theriogenology 58:261-264

34. Devireddy RV, Swanlund DJ, Alghamdi AS, Duoos LA, Troedsson MHT, Bischof JC and Roberts KP. 2002 The Effect of Collection and Cooling Conditions on Motility and Subzero Water Transport Characteristics of Equine Spermatozoa. Reproduction 124:643-648

35. Roberts KP, Ensrud KM and Hamilton DW. 2002 A Comparative Analysis of Expression and Processing of the Rat Epididymal Fluid and Sperm-Bound Forms of Proteins D and E. Biology of Reproduction 67:525-533

36. Kirsch S, Weiss B, Kleiman S, Roberts KP, Pryor J, Milunsky A, Ferlin A, Foresta C, Matthijs G and Rappold GA. 2002 Localization of the Y chromosome stature gene to a 700 kb interval in close proximity to the centromere. Journal of Medical Genetics 39:507-513

37. Devireddy RV, Swanlund DJ, Olin T, Vincente W, Troedsson MHT, Bischof JC and Roberts KP. 2002 Cryopreservation of Equine Sperm: Optimal Cooling Rates in the Presence and Absence of Cryoprotective Agents Determined Using Differential Scanning Calorimetry. Biology of Reproduction 66:222-231

38. Roberts KP, Hoffman LB, Ensrud KM and Hamilton DW. 2001 Expression of Crisp-1 mRNA Splice Variants in the Rat Epididymis, and Comparative Analysis of the Rat and Mouse Crisp-1 Gene Regulatory Regions. Journal of Andrology 22:157-163

39. Devireddy R, Swanlund DJ, Roberts KP, Pryor JL and Bischof JC. 2000 The effect of extracellular ice and cryoprotective agents on the water permeability of human sperm plasma membrane during freezing. Human Reproduction, 15:1125-1135.

40. Klemme LM, Roberts KP, Hoffman LB, Ensrud KM, Siiteri JE and Hamilton DW. 1999 Cloning and Characterization of the Rat Crisp-1 Gene. Gene, 240:279-88.

41. Devireddy R, Swanlund DJ, Roberts KP and Bischof JC. 1999 Sub-zero water permeability parameters of mouse spermatazoa in the presence of extracellular ice and cryoprotective agents. Biology of Reproduction, 61:764-775.

42. Kent-First M, Muallem A, Shultz K, Pryor K, Roberts KP, Nolton W, Meisner L, Chandley A, Gouchy G, Jorgensen L, Havighurst T and Grosch J. 1999 Defining regions of the Y-chromosome responsible for male infertility and identification of a fourth AZF region (AZFd) by Y-chromosome microdeletion detection. Molecular Reproduction and Development 53:27-41.

43. Mahony MC, Swanlund DJ, Billeter M, Roberts KP and Pryor JL. 1998 Regional distribution of 5a-reductase type 1 and type 2 mRNA along the human epididymis. Fertility and Sterility 69:1116-1121.

44. Roberts KP, Iyer RA, Prasad G, Liu LT, Lind RE and Hanna PE 1998 Cyclic Hydroxamic Acid Inhibitors of Prostate Cancer Cell Growth: Selectivity and Structure Activity Relationships. Prostate 34:92-99.

45. Pryor JL and Roberts KP. 1998 Principles of sequence-tagged site selection in screening for Y deletions. Human Reproduction 13:1768

46. Roberts KP. 1998 Y-chromosome deletions and male infertility: state of the art and clinical implications. Journal of Andrology 19:255-259.

47. Roberts KP, Kent-First M and Pryor JL. 1997 PCR detection of Y chromosome microdeletions in infertile men. Biotech Lab International 2:14-17.

48. Skoog SJ, Roberts KP, Goldstein M and Pryor JL. 1997 The adolescent varicocele: what's new with an old problem in young patients? Pediatrics 100:112-122.

49. Long RJ, Roberts KP, Wilson MJ, Ercole CJ and Pryor JL. 1997 Prostate Cancer: A Clinical and Basic Science Review. Journal of Andrology 18:15-20.

50. Roberts KP, Smith D, Ozturk H, Kazem SA, Hulbert JC and Bischof JC. 1997 Biochemical alterations and tissue viability in AT-1 prostate tumor tissue after in vitro cryodestruction. Cryo-Letters 18:241-20.

51. Pinke LA, Swanlund DJ, Roberts KP, Hensley HC, McCarthy JB, and Pryor JL. 1997 Analysis of fibronectin on human sperm. Journal of Urology 158:936-941.

52. Chen SH, Zanagnolo V, Preutthipan S, Roberts KP, Goodman SB and Dharmarajan AM. 1997 The role of insulin-like growth factor-1 (IGF-1) in progesterone production and cell death in the rabbit corpus luteum. Endocrine 6:73-77.

53. Kelce WR, Lambright CR, Gray, LE Jr. and Roberts KP. 1997 Vinclozolin and p,p'-DDE Alter Androgen-Dependent Gene Expression: In Vivo Confirmation of an Androgen Receptor Mediated Mechanism. Toxicology and Applied Pharmacology 142:192-200.

54. Pryor JL, Kent-First M, Muallem A, Van Bergen A, Nolten WE, Meisner L and Roberts KP 1997 Prospective analysis of Y chromosome microdeletions in 200 consecutive male infertility patients. New England Journal of Medicine 336:534-539.

55. Bischof JC, Smith D, Pazhayannur PV, Manivel JC, Hulbert JC and Roberts KP. 1997 Cryosurgery of Dunning AT-1 Rat Prostate Tumor: Thermal, Biophysical and Viability Response at the Cellular and Tissue Level. Cryobiology 34:42-69.

56. Billups KL, Shirley JA, Palladino MA, Tindall JWM and Roberts KP 1995 Evidence for E-selectin Compliment Regulatory Domain mRNA Splice Variants in the Rat. Journal of Laboratory and Clinical Medicine 126:580-587

57. Roberts KP, Banerjee PP, Tindall JWM and Zirkin BR. 1995 Immortalization and Characterization of a Sertoli Cell Line from the Adult Rat. Biology of Reproduction. 53:1446-1453

58. Roberts KP and Zirkin BR. 1993 Androgen Binding Protein Inhibition of Androgen-Dependent Transcription Explains the High Minimal Testosterone Concentration Required to Maintain Spermatogenesis in the Rat. Endocrine Journal 1:41-47

59. Roberts KP, Santulli R, Seiden J and Zirkin BR. 1992 The Effect of Testosterone Withdrawal and Subsequent Germ Cell Depletion on Transferrin and Sulfated Glycoprotein-2 mRNA Levels in the Adult Rat Testis. Biology of Reproduction 47:92-96

60. Linder CC, Hechert LL, Roberts KP, Kim KH and Griswold MD. 1991 Expression of Receptors During the Cycle of the Seminiferous Epithelium. Annals of the New York Academy of Science 637:313-322

61. Roberts KP and Zirkin BR. 1991 Androgen Regulation of Spermatogenesis in the Rat. Annals of the New York Academy of Science 637:90-107

62. Roberts KP, Awoniyi C, Santulli R and Zirkin BR. 1991 Regulation of Sertoli Cell Transferrin and Sulfated Glycoprotein-2 Messenger Ribonucleic Acid Levels During the Restoration of Spermatogenesis in the Adult Hypophysectomized Rat. Endocrinology 129:3417 -3423

63. Roberts KP and Griswold MD. 1990 Characterization of Rat Transferrin Receptor cDNA: The Regulation of Transferrin Receptor mRNA in the Testis and in Sertoli Cells in Culture. Molecular Endocrinology 4:531-542

64. Roberts KP and Griswold MD. 1990 Ethylene Dimethanesulphonate Inhibits the Function of Sertoli Cells in Culture at Sub-Lethal Doses. Endocrinology 126:1618-1622

65. Griswold MD, Karl AF, Law GL, Roberts KP, Siiteri JE, Stallard BJ, Tsuruta J and Sylvester SR. 1989 Sertoli Cell Secreted Proteins in Normal and Synchronized Testes. Development and Function of the Reproductive Organs. Serono Symposia Review No. 21, pp207-218

66. Roberts KP and Griswold MD. 1989 Testosterone Induction of Cellular Proteins in Cultured Sertoli Cells from Hypophysectomized Rats and Rats of Different Ages. Endocrinology 125:1174-1179

67. Hugly S, Roberts KP and Griswold MD. 1988 Transferrin and Sulfated Glycoprotein-2 Messenger Ribonucleic Acid Levels in the Testis and Isolated Sertoli Cells of Hypophysectomized Rats. Endocrinology 122:1390-1396

68. Griswold MD, Roberts KP and Bishop P. 1986 Purification and Characterization of a Sulfated Glycoprotein Secreted by Sertoli Cells. Biochemistry 25:7265-7270

Book Chapters

1. Roberts KP. 1995 What are the Components of the Male Reproductive System? (Pryor JP, Trasler, JM, Robaire B, eds) Handbook of Andrology, Allen Press: Lawrence, pp 1-4
2. Tribely W, Roberts KP and Griswold MD. 1995 Androgen Regulation of Sertoli Cell Function. Proceedings of the Second International Androgen Workshop (S Bhasin, HL Gabelnick, JM Spieler, RS Swerdloff, C Wang, C Kelly eds.) pp 11-15
3. Roberts KP and Jon L. Pryor JL 1997 Anatomy and physiology of the male reproductive system. in Male Infertility and Sexual Dysfunction (Wayne J.G. Hellstrom, Ed.). pp 1-21.
4. Pryor JL and Roberts KP. 1999 Genetics of Male Infertility: Essentials for the Clinician. In; Impotence and Infertility, Atlas of Clinical Urology, Volume 1. Lue TF and Goldstein M, Eds. pp 15.1-15.17
5. Ober, C., Verp, M.S., Roberts, K.P. and Pryor, J.L., 2002 Genetics of Infertility and Pregnancy Loss. In; The Genetic Basis of Common Diseases, King, R.A., Rotter, J.I. and Motulsky, A.G., Eds.
6. Roberts KP. 2003 What reagents and resources do we need to advance our understanding of epididymal development and function? in The Third International Conference on the Epididymis, Hinton B and Turner TT, Eds. pp 273-276
7. Roberts KP. 2003 Sertoli cell lines. for "The Sertoli Cell", Michael Skinner and Michael Griswold, eds. pp 329-342
8. Weinhaus AJ and Roberts KP. Anatomy of the human heart. for "Handbook of Cardiac Anatomy, Physiology, and Devices", Paul Iaizzo, ed. 2005
9. Roberts KP and Weinhaus AJ. Anatomy of the Thoracic Wall, Pulmonary Cavities and Mediastinum. for "Handbook of Cardiac Anatomy, Physiology, and Devices", Paul Iaizzo, ed. 2005
10. Roberts KP. 2010 What are the Components of the Male Reproductive System? (Bernard Robaire and Peter Chan, eds) Handbook of Andrology, 2nd Edition
11. Weinhaus AJ and Roberts KP. Anatomy of the human heart. for "Handbook of Cardiac Anatomy, Physiology, and Devices", 2nd Edition, Paul Iaizzo, ed. 2009
12. Mark Cook, Roberts KP and Weinhaus AJ. Anatomy of the Thoracic Wall, Pulmonary Cavities and Mediastinum. for "Handbook of Cardiac Anatomy, Physiology, and Devices", 2nd Edition, Paul Iaizzo, ed. 2009
13. Roberts KP and Chauvin T 2018 Gene regulation in the epididymis. Encyclopedia of Reproduction, 2nd Edition, Elsevier, Inc. (Skinner, MK ed.) 1:298-304
14. Roberts KP. 2023 What are the Components of the Male Reproductive System? (Bernard Robaire and Peter Chan, eds) Handbook of Andrology, 3rd Edition
15. Roberts KP, Gerdes JL and Courtney KE. 2023. "You can't be what you can't see" – A Longitudinal Health

Sciences Mentorship Program for Rural Schools. (Seth Appiah-Opoku, ed) Contemporary Rural Development Programs http://dx.doi.org/10.5772/intechopen.112102

Seminars & Platform Presentations

Invited presentations since promotion to Associate Professor: 13

1. The effect of androgen binding protein on androgen-dependent transcription in P4 cells. Society for the Study of Reproduction Annual Meeting, 1992, Raleigh, NC
2. Androgen Regulation of Spermatogenesis. Invited seminar, 1993, The Population Council, Rockefeller University, New York, NY.
3. Spermatogenesis: Mitosis, meiosis and testicular maturation. Implications in the adolescent with a varicocele. The Society for Pediatric Urology 44th Annual Meeting, 1994, San Francisco, CA
4. Androgen Regulation of Spermatogenesis. Invited seminar, 1994, Dept. of Urology Research, Mayo Clinic, Rochester, MN
5. Endocrine control of spermatogenesis: basic science and clinical implications, 1995, Biomedical Engineering Center, University of Minnesota
6. Spermatogenesis: Basic Science and Clinical Implications. Minnesota Urological Society Annual Meeting, 1995, Rochester, MN
7. Study of Sertoli Cell Specific Gene Expression in a Transformed Cell Line. Mini-Symposia, Annual Meeting of the Society for the Study of Reproduction, 1995; Davis, CA
8. Y Chromosome Microdeletions in Infertile Men. American Urologic Association Sponsored Meeting, 1997; Houston, TX
9. Y Chromosome Deletions, Male Infertility and ICSI. Andrology in the 90's, 1999, Stellenbosh, South Africa.
10. Cryopreservation and In Vitro Fertilization with Mouse Sperm. Concerned University Laboratory Animal Professionals, Invited seminar, 1999, University of Minnesota
11. Why the Y? CFAS Organon Symposium, Invited seminar, 1999, Univeristy of Toronto
12. Role of microdeletions of the Y chromosome in male infertility. CFAS Organon Symposium, Invited seminar, 1999, Univeristy of Toronto
13. Cryopreservation and in vitro fertilization with transgenic mouse sperm. World Congress of Cryobiology, 1999, Marseille, France
14. Biomedical Applications of Cryobiology, Biomedical Engineering Undergraduate Seminar course, 2000, University of Minnesota
15. Cryopreservation of equine sperm: Determination of water transport properties. Cryobiology, 2000, Boston, MA
16. Genetics of Spermatozoa. American Society of Reproductive Medicine, 2000, San Diego, CA
17. Genetics of the Spermatozoon. American Society of Reproductive Medicine, 2000, San Diego, CA
18. Best Practices in Large Group Teaching, 2001, University of Minnesota Medical Education Best Practices Series.

19. Biomedical Applications of Cryobiology, Biomedical Engineering Undergraduate Seminar course, 2001, University of Minnesota
20. Heat Shock Proteins Do Not Protect SCK Cells Against Freeze Damage, Society for Cryobiology, 2001, Edinburgh, Scotland
21. Genetics of Infertility, Urological Nursing Society Meeting, 2002, Minneapolis, MN
22. Effect of Collection and Cooling Conditions on Water Transport Characteristics of Equine Spermatozoa, 8th International Symposium on Equine Reproduction, 2002, Ft. Collins, CO
23. Sensitization of Thermotolerant SCK Cells by Reduction of Intracellular pH: Implications for Cryosurgery, Society for Cryobiology, 2002, Brekenridge, CO
24. Crisp-1 Function in the Epididymis, US EPA, 2003, Research Triangle Park, NC
25. Structure and Function of the Sperm Maturation Protein Crisp-1, Dept. of Physiology, University of Minnesota, 2003, Minneapolis, MN
26. Male Pelvic Anatomy, American Medical Systems, 2003, Minnetonka, MN
27. Female Pelvic Anatomy, American Medical Systems, 2003, Minnetonka, MN
28. The role of Epididymal Protein Crisp-1 in Sperm Maturation and Regulation of Sperm Function, 2004, University of Florida, Gainesville, FL
29. The role of Epididymal Protein Crisp-1 in Sperm Maturation and Regulation of Sperm Function, 2004, Wyeth Research, Collegeville, PA
30. The role of Epididymal Protein Crisp-1 in Sperm Maturation and Regulation of Sperm Function, 2005, Wyeth Research, Boston, MA
31. Making Labs and Small Groups Consistent, 2005, University of Minnesota Medical Education Best Practices Series.
32. Epididymal Secreted Protein Crisp-1 and Sperm Function 2005 Post-meiotic Approaches to Male Contraception, Hong Kong, China
33. Structure and function of epididymal protein CRISP-1 2006 Epididymis 4, Chatel-Guyon, France
34. Anatomy: Why we dissect. 2007 The Body on Display: Controversies and conversations. University of Minnesota, Minneapolis, MN
35. Crisp Proteins: Modulators of Post-Testicular Sperm Function. WSU Center for Reproductive Biology Retreat, Orifino, ID, 2008
36. Crisp Proteins: Toxins telling sperm what to do. School of Molecular Biosciences, Washington State University, 2008
37. Genetics and Infertility, Washington State University-Spokane, 2008
38. Crisp Proteins: Toxins telling sperm what to do. University of Idaho, 2009
39. Sperm Maturation Proteomics, Pacific Northwest National Lab, 2009
40. Crisp Proteins: Toxins telling sperm what to do. Eastern Washington University, 2009
41. What Do We Know About Sperm Membrane Modifications in the Epididymis that are Associated with Gain or Loss of Function? NIH Meeting on the Future of Epididymal Research, Tucson, AZ, 2011

42. Proteomic Clues to Sperm Metabolic Potential, WSU SMB Retreat, Coeur d'Alene, ID, 2012
43. Mechanisms of Lipid Modification during Sperm Maturation, SMB Seminar series, WSU, 2016
44. Y Chromosome Microdeletions in Infertile Men – The Backstory, Dept of Laboratory Medicine, National University Hospital, Singapore, 2022 (by Zoom)
45. Sperm maturation: a potential role for phospholipid synthesis by sperm, 6as Jornadas de Reproducción, Universidad Autónoma Metropolitana Iztapalapa, 2023

Grant Support:

2024-2025	PI, Planning a Center of Excellence for Translational Neuroscience Washington Research Foundation, Planning Grant $179,000
2024-2025	PI, Career Connect Washington Program Builder Funding, Round 12 Stevens County Mentoring Program $186,690
2024-2025	PI, Career Launch EMT Course Student Stipend Support foundry10 $40,925
2024-2025	PI, "You Can't Be What You Can't See", Stevens County Mentorship Program Support Hagan Foundation $48,130
2023-2024	PI, Career Connect Washington Intermediary Funding, Round 10 Stevens County Mentoring Program $124,500
2021-2022	PI, Career Connect Washington Intermediary Funding, Round 5 Stevens County Mentoring Program $136,596
2020-2021	PI, Career Connect Washington Intermediary Funding, Round 2 Stevens County Mentoring Program $199,570
2020-2021	PI, Discuren Foundation Stevens County Mentoring Program $47,150
2020	PI, Stubblefield Foundation Stevens County Mentoring Program $4,762

2020	PI, Carol Quigg Foundation Stevens County Mentoring Program $7,200
2020	PI, Empire Health Foundation A Proposal to the Empire Health Foundation to Establish an INHealth Program at Washington State University $250,000
2019-2020	PI, Hagan Foundation Stevens County Mentoring Program $18,150
2016-2017	PI, Empire Health Foundation/Avista Corp. Advancing Commercialization Opportunities in the University District $100,000
2015-2020	Co-I, R01 National Institutes of Health Brown Adipose Tissue and Sleep Regulation $250,000/yr 5% effort
2011-1012	PI, Empire Health Foundation WSU Medical Sciences Faculty Development $24,000
2010-2013	Co-Pl, NCRR Seed Grant, Pacific Northwest National Laboratory (PNNL) System Analysis of Protein Phosphorylation involved in Sperm Maturation $100,000 15% shared effort
2010-2011	Co-PI, University of Washington Institute for Translational Health Sciences (ITHS) The quality of Urological care in the state of Washington $40,000 5% effort
2004-2008	PI, R01 National Institutes of Health Structure and function of epididymis and vas deferens $800,000 over 4 years 15% effort
2005-2008	PI, R21 National Institutes of Health New approaches to rat sperm cryopreservation $382,300 over 2 years 20% effort
2005-2007	PI, Wyeth Research Structure and Function of Epididymal Protein Crisp-1

	$55,000 over 2 years 1% effort
2002-2006	Co-Investigator, National Science Foundation Brad Nelson, Principal Investigator Collaborative Research: Molecularly powered micromanipulator with force feedback $450,000 over 3 years 5% effort
2003-2004	PI, Environmental Protection Agency Correlation of human sperm protein SP22 to male fertility. $39,682/yr
	2002-2003 Principal Investigator, University of Minnesota Equine Research Center Grant Characterization of Crisp-1 and SP22 in stallion sperm: Correlation of specific sperm function $10,000 yr
2001-2002	PI, University of Minnesota Faculty Development Grant An integrated approach to anatomy, clinical medicine and radiology education. $4,200 yr
1999-2002	PI, University of Minnesota Faculty Development Grant Advances in gamete cryopreservation and assisted reproduction $199,650/3 yr
1998-2003	Co-Investigator, National Institutes of Health RO1grant HD11962 Structure and function of epididymis and vas deferens $702,891/5 yr
1999-2001	Environmental Protection Agency
1996-1998	Candela Laser Corp. Grant
1995-1996	Grant-in-Aid-of-Research Recipient
1994-1996	Minnesota Medical Foundation Grant
1991-1993	NRSA Postdoctoral Fellowship
1990-1991	NIH Postdoctoral Training Grant Recipient
1989-1990	Mellon Foundation Fellowship Recipient

Patents:

US Patent #20050282729

Crisp polypeptides as contraceptives and inhibitors of sperm capacitation

TEACHING

Course Directorships

2008-2012 Biochemistry (MEDS 524/524), WWAMI Medical Education Program-Spokane

1999-2008 Gross Anatomy and Embryology (INMD 6150), University of Minnesota Medical School

1999-2008 Special Topics in Human Gross Anatomy (INMD 7600), University of Minnesota Medical School

2002-2008 Advanced Clinical Gross Anatomy (INMD 7601/2), University of Minnesota Medical School

2001-2007 Advanced Head & Neck Anatomy (INMD 7999, Co-Director), University of Minnesota Medical School

2001-2006 Core Curriculum Conference (Co-Director), Department of Urologic Surgery, University of Minnesota Medical School

2000-2002 Advanced Cardiac Physiology and Anatomy (PHSL 5510, Co-Director), University of Minnesota Medical School

1993-2001 Basic Science Seminar course, Department of Urologic Surgery, University of Minnesota Medical School

Course Instructor

2016-present Anatomy/Histology (MED FMS 501), WSU College of Medicine

2012-2015 Biochemistry (MEDS 524/524), WWAMI Medical Education Program-Spokane

2009-2015 Histology (MEDS 532), WWAMI Medical Education Program-Spokane

2008-2010 Gross Anatomy and Embryology (MEDS 511), WWAMI Medical Education Program-Spokane

2006-2011 Preservation of Cells, Tissues and Gametes, University of Minnesota

2006-2008 Human Physiology (PHSL 3051), University of Minnesota Medical School

2003-2005 Advanced Cardiac Physiology and Anatomy (PHSL 5510), University of Minnesota Medical School

2002-2003 Advanced Pulmonary Mechanics; Physiology and Pathophysiology, University of Minnesota Medical School

1999-2008 Human Anatomy (INMD 3001/3101), University of Minnesota Medical School

1998-2008 Biomedical Applications of Heat Transfer in Humans (Bioeng. 5371), University of Minnesota

Graduate Faculty

2022-present Pharmaceutical Sciences and Translational Medicine Graduate Faculty, WSU

2008-present School of Molecular Biosciences Graduate Faculty, Washington State University

2006-2008 Molecular, Cellular, Developmental Biology and Genetics Graduate Faculty, University of Minnesota Medical School

2002-2008 Veterinary Medicine Graduate Program Faculty, University of Minnesota School of Veterinary Medicine

2001-2008 Biomedical Engineering Institute Graduate Faculty, University of Minnesota Medical School

2001-2008 Biomedical Engineering Graduate Faculty, Institute of Technology, University of Minnesota

Students and Fellows Advised

Undergraduate Students

Molly Freeman, graduated with a BS in Cell Biology, I advised her on a project involving expression of a recombinant form of Crisp-1 for the purposes of mapping an antibody epitope. Molly is now in graduate school.

Miranda Burnhardt, graduated with a degree in Genetics, Cell Biology and Development. I advised her on a project investigating the function of Crisp-1 on sperm and eggs. Miranda will go to graduate school next year.

Erin White, a student in Pharmacy, completed an undergraduate research project on GliPR proteins in my lab.

Rebecca Nelson, a student in GCD, has a project examining the tissue distribution of mRNA for all members of the Crisp gene family in the rat.

Chelsea Momany, a student at Whitman College in Spokane, worked on expression of novel genes in the testis. She used the work for her Honor's thesis at Whitman. She is now in Dental school at University of Washington.

Kathryn Jones, a pre-medical student, worked on expression of tagged fusion proteins. Shi is now in medical school at Pacific Northwest University Health Sciences.

Kylie Neale, an undergraduate student at Gonzaga University, working in my lab cloning cDNAs for 3 novel genes expressed in the testis. She is currently a lab technician in WSU College of Pharmacy.

Graduate Students

Seung You, graduated with a Ph.D. in Animal Physiology. I was a member of his thesis committee (finished 3/31/97).

Chatchai Chinpaisal, a Ph.D. student in Pharmacology. I was a member of her committee (finished 12/31/98).

David Smith, graduated with a Ph.D. in Mechanical Engineering. I was a member of his thesis committee (finished 1/29/99).

Ramachandra Devireddy, graduated with a Ph.D. in Mechanical Engineering, worked in the Cell Injury lab. I was a member of his thesis committee (finished 12/30/99). Currently an Assistant Professor in Mechanical Engineering at Louisiana State University.

Sankha Bhowmick, graduated with a Ph.D. in Mechanical Engineering, worked in the Cell Injury lab. I was chair of his thesis committee (finished 9/29/00).

Nathan Hoffmann, an MD/Ph.D. student, graduated with a Ph.D. in Mechanical Engineering, worked in the Cell Injury lab (finished 5/31/01). I was chair of his thesis committee. Currently a Urology resident at the Mayo Clinic in Rochester, MN.

Marwane Berrada, graduated with a Masters degree in Mechanical Engineering, worked in the Cell Injury lab. I was a member of his committee (finished 9/28/01). Currently a staff engineer at Vitamed in Minneapolis, MN.

Lina Alzate, a Master's student in Biomedical Engineering. I was a member of her committee (finished 7/31/03).

Kimberly Case, a Master's student in Nursing. I was a member of her committee (finished 5/30/03).

Yu Sun, graduated with a Ph.D. in Mechanical Engineering. I was a member of his thesis committee (finished 3/31/03).

Alex Hill, a graduate student in Biomedical Engineering. I was a member of his committee (finished 1/30/04).

Anthony Dupre, a Master's graduate student in Physiology. I was a member of his committee (finished 12/30/04).

Nicholas Skadsberg, a graduate student in Biomedical Engineering. I was a member of his MS and Ph.D. committees (finished 12/30/04).

Xiaming He, a Ph.D. student in Biomedical Engineering. I was a member of his committee (finished 5/28/04).

Paul Ashworth, a Master's graduate student in Physiology. I was a member of his committee (finished 4/29/05).

Sarah Ahlberg, a Ph.D. student in Biomedical Engineering. I was a member of her Ph.D. committee (active) and was also a member of her Master's committee (finished 10/31/05).

Duy Ngoc Nguyen, a Master's student in Biomedical Engineering. I was a member of his committee (finished 1/31/05).

Lisa Duoos, a Master's student in Veterinary Medicine. I was a member of her committee (discontinued 1/16/06).

Sarah Moeller, a Master's student in Cellular and Integrative Physiology. I was a member of her committee (finished 12/29/06)

Lynda Miller, a graduate student in the Veterinary Medicine Graduate Program. I co-advised Lynda with Mats Troedsson in the Vet School. She has now transfered to the University of Florida.

Michael Kimmel, a Ph.D. graduate student in Biomedical Engineering. I was chair of his committee.

Raghav Goel, a Ph.D. student in Biomedical Engineering. I was a member of his committee.

Pamela Jo Reed, a Master's student in Cellular and Integrative Physiology. I was a member of her committee.

Maneesh Shrivastav, a Ph.D. student in Biomedical Engineering. I was a member of his committee.

Sarah Frommer, a MD/Ph.D. student in Biomedical Engineering. I was chair of her Ph.D. committee.

Melissa Vadnais, a graduate student in Veterinary Medicine. I was her advisor. She graduated with her Ph.D. in October 2007.

Nicole Waxmonski-Tu, a graduate student in the Molecular, Cellular, Developmental Biology & Genetics (MCDB&G) Graduate Program. I was her thesis advisor until my move to WSU.

Amy Boudinot, a Master's student in the WSU Design Institute. I was on her thesis committee and advised her on her thesis project entitled "Children's Health and the Built Environment".

Medical Students

Peter Reichert, second year medical student. Peter was a TA for me for two years and I have been his faculty advocate since his first year. Currently a medical student in his 4th year at the University of Minnesota.

Christopher Gran, I advised Chris on research projects related to Urology as a fourth year medical student. Currently a medical student in his 4th year at the University of Minnesota.

Abram Berhger, I advised Ab on a research project conducted in my lab during his second and third years of

medical school. Currently a medical student in his 4th year at the University of Minnesota.

Meghan Gruis, I advised Meghan on a research project conducted in my lab during her second year of medical school.

Scott Kerr, I advised Scott on an anatomy research project on inguinal and pelvic anatomy.

Mark Suojanen, I advised Mark on an anatomy research project on pelvic and perineal anatomy.

Josh Blomberg, I advised Josh on an anatomy/radiology project creating case studies for 2nd year medical students.

Duncan Moore, UWSOM, I co-advised Duncan on his MSRTP research project investigating renal injury in patients with rhabdomyolysis.

Daniel Olson, UWSOM, I am Danny's advisor on his MSRTP project investigating distance traveled for urologic procedures on length of hospital stay and cost.

Spencer Schulte, UWSOM, I am co-advising Spencer on his MSRTP looking at prescribing patterns for diuretics in patients with chronic kidney disease.

Ai-Vi Tran, WSU COM, I am Ai-Vi's Scholarly Project advisor (2020). She is investigating the availability of translation services in rural communities in Washington.

Corey Thurman, WSU COM, I am Corey's Scholarly Project advisor (2020). He is measuring the effectiveness of a mentoring program delivered in four schools in Stevens county Washington.

Joel Brevell, WSU COM, I am Joel's Scholarly Project advisor (2020). He is designing a mentoring program for delivery at HeLa High School, a science magnet school, in Vancouver, Washington

Marlena Endsley, Cassidy MacArthur, Lindsay Livingstone, WSU COM, I am the Scholarly Project advisor (2020) for this joint project of three students designing a mentoring/outreach program for delivery at Innovation High School, a charter school with a large underserved student population, in Spokane, Washington

Marlena Endsley, Sam Marbaix, Sarah Krawczak, WSU COM. I am the Scholarly Project advisor (2021) continuing the joint project delivering a mentoring/outreach program at Innovation High School in Spokane, Washington

Ai-Vi Tran. I am her scholarly project advisor (2020) on a project examining language translation services in rural hospitals and clinics.

Kyle Shuppe. I am his advisor on a review paper on Sex Steroid Binding Globulin. The paper is in preparation (2021).

Breeanna Messner, Dylan Yu. I am advisor on a project to create HOSA clubs in three schools as part of our Stevens county outreach/mentorship program (2021).

Astha Gupta, Ashley Orth, Rebecca Marquard. I am their scholarly project advisor on the continuing mentoring work at Innovation High School in Spokane.

Leah Kooiman. I am advisor to her project involving high school 4-H students in Elma, WA creating telehealth access for those lacking computer skills (2021).

Kasey Jackson, Nicole Limberg, Irene Ahmed. I am advisor on project at Innovation High School in Spokane, WA (2022)

Erina Horikawa, Britta Bunnel. I am advisor on project at Pasco High School. (2022)

Residents and Fellows

Michael Tran, MD, worked in my laboratory for 1 year between medical school and entering the Residency Program in Urology at the University of Minnesota. Currently chief resident in Urology at the University of Minnesota.

Daniel Zapzalka, MD, worked in my laboratory for 1 year between medical school and entering the Residency Program in Urology at the University of Minnesota. Currently chief resident in Urology at the University of Minnesota.

Ann Lavers, MD, worked in my laboratory as a medical student and then for 1 year between medical school and entering the Residency Program in Urology at the University of Minnesota. She has continued research as an urology resident at the University of Minnesota (her current position).

Erica Eugster, MD, worked in my laboratory during her Pediatric Endocrine fellowship at the University of Minnesota. Currently a pediatric endocrinologist in Indianapolis, Indiana.

Chris Tubbs, Ph.D., a postdoctoral fellow in Dr. David Hamilton's laboratory. I was co-advisor to Dr. Tubbs. Currently a staff scientist at Proctor and Gamble.

Franz Schmidlin, MD, an Endourology Fellow for Dr. John Hulbert. I work extensively with Dr. Schmidlin in the laboratory on anatomical dissections and testing of laparoscopic approaches to the kidneys and adrenal glands. Currently as staff Urologist in Geneva, Switzerland.

Benjamin Canales, MD, a resident in Urologic Surgery. I participated on his research project determining the proteome of urinary stones. Currently a faculty member in Urology at the University of Florida.

SERVICE

Academic and Service Committees:

2023-present	Planning Committee, Bachelors of Science in Pharmaceutical & Medical Science
2023-present	Faculty Senator, Spokane Campus
2023-present	Faculty Senate Steering Committee member
2021-present	Space Committee, College of Medicine
2021-2022	Chair, Search Committee, Chair of Pharmaceutical Sciences, COPPS
2021-present	Member, Student Evaluation, Promotion & Award Committee
2020-present	Campus Research Task Force, WSU Health Sciences, Spokane
2020-present	Chair, Governance committee, Range Community Health Board, WSU COM (BAV()
2019-present	Range Community Health Board Observer, WSU COM (BAVIHealth)
2019-2021	Chair, Faculty Council Executive Committee, College of Medicine, WSU
2019-2020	Campus and Community Health Committee, WSU Pullman

2019-2020	Faculty Rank, Promotion & Tenure Committee
2019-2020	Founding Leader, NW-HERON, a practice-based research network, WSU COM
2019-2020	CROP-TR Advisory Board Member, WSU COM
2019-2020	External Advisory Board, Center for Optimizing Rural Health (COHR), Texas A&M University
2019	Search Committee, Provost, Washington State University
2016-present	Dean's Executive Cabinet, College of Medicine, WSU
2016-2020	Life Science Washington Board of Directors
2016-2018	Healthier Washington Rural Health Innovation Accelerator Committee
2015-2019	WSU College of Medicine liaison to LCME for accreditation
2015-2021	Chair, Committee on LCME Standard 1: Mission, Planning, Organization and Integrity
2015	Search Committee, President, Washington State University
2015	Search Committee for Founding Dean, Elson S. Floyd College of Medicine
2008-2021	Native American Health Science Advisory Board
2008-2015	Health Industry Advisory Group, Greater Spokane Incorporated, Spokane
2008-2015	Heath Sciences Leadership Committee, WSU-Spokane
2008-2015	WWAMI Regional Affairs Committee, UW School of Medicine
2008-2015	Curriculum Committee (1st year), UW School of Medicine
2008-2015	Educational Evaluation Advisory Committee, UW School of Medicine
2008-2012	Graduate Studies Committee, School of Molecular Biosciences, WSU
2008-2010	Chair, Interprofessional Education and Research Committee
2008-2009	Academic Council, WSU-Spokane
2008-2010	LCME Review Committee, UW School of Medicine
2008-2009	WWAMI Eastern Washington Project Team, WSU/UW School of Medicine
2008-2009	WWAMI Clerkship Expansion Committee, UW School of Medicine
2008-2010	Graduate Medical Education Committee, Providence Hospital, Spokane
2007-2008	MED 2010 Oversight and Learning Communities Committees
2006-2007	MED 2010 Planning and Outcome Assessment Committees
2006-2008	Committee for the Development of Faculty Educators, Medical School
2006-2008	Education Policy Committee, University of Minnesota Dental School
2006-2008	Curriculum Subcommittee on Course Evaluation
2005-2007	MED 2010 Medical Education Development Initiative Planning Group
2004-2005	Technology Enhanced Learning Task Force
2004-2008	Next Generation of the Professoriate Program

2003-2004 Educational Informatics Advisory Committee

2003-2004 LCME Review Committee, University of Minnesota Medical School

2002-2006 Chair: Integration Workgroups for Embryology and for Musculoskeletal Curriculum Revision

2002-2006 Member: Integration Workgroups for Autonomic Nervous System, for Endocrinology, for Cardiovascular, for Respiratory, Renal, and for Gastrointestinal Curriculum Revision

2001-2008 Clinical Medicine Steering Committee, University of Minnesota Medical School

1999-2008 Curriculum Committee, University of Minnesota Medical School

1999-2008 Scholastic Standing Committee, University of Minnesota Dental School

1999-2008 Physiology Industrial Advisory Board, University of Minnesota

1999-2008 Anatomy Bequest Educational Study Committee, University of Minnesota Medical School

Community Service Committees:

2021-present United Way of Spokane County

2022-present Governance Committee Chair, United Way Spokane County

2022-present Board of Trustees, St. George's School, Spokane, WA

Professional Societies

1994-present American Society for Andrology

- Treasurer (2023-present)
- Chair: Endowment Development Committee (2020-2023)
- Treasurer (2017-2020)
- Chair: Finance Committee (2003-2007)
- Council Member (2001-2004)
- Member: Nominations Committee (2000)
- Chair: Industrial Relations Committee (1995-1999)
- Member: Student Affairs Committee (1997-1999)
- Member: Program Committee for 1997 Annual Meeting

2020-present Society for the Study of Reproduction

1994-2008 Society for the Study of Reproduction

1994-2008 Society for Basic Urologic Research

1997-2008 American Urological Association

2000-2008 Society for Cryobiology

2000-2008 American Association of Clinical Anatomists

Journal Editorial Boards:

2001-2008 Journal of Andrology

Scientific Reviewer for following Journals:

Biology of Reproduction
Journal of Andrology
Journal of Urology
Fertility and Sterility
Human Reproduction
Journal of Endocrinology
Human Reproduction and Development
PlosONE
Cryobiology
Clinical Anatomy

Community Outreach and Involvement:

2016-present	Beginning with the office of the Vice Dean for ACP, and continuing as Chair of TMP, I oversee outreach program for middle and high school students, focused on Health Science professions.
2020-present	Member, Career Connect Washington, Greater Spokane, Inc., Spokane WA
2020-present	Member, Board of Directors, Spokane County United Way
2012-2015	Advisory Board, Riverpoint Academy (STEM High School), Mead School District, Spokane, WA
2002-2003	Judge: Minnesota Junior High and High School Science Fair
2001-2007	Minnesota Heart Fair Exhibitor representing the University of Minnesota Anatomy Program. The Heart Fair is an educational outreach to the Twin Cities on cardiovascular health issues.
2001-2002	Anatomy for Lawyers, a short course for area lawyers to educate on the relevant anatomy to common injury cases. Glenn Giesler, course director.
1999-2007	Faculty Instructor: Mini Medical School, an educational outreach program of the University of Minnesota Medical School to the lay public
1999-2008	Faculty Instructor: Mini Mini Medical School, an informational program for community partners of the University of Minnesota Medical School (i.e. healthcare organizations, lawmakers, community leaders, etc.)
1998-2000	Little Falls High School Anatomy course and tour. A group of honors-level high school students are given a lecture and prosection lab experience in anatomy.