

BARBARA S. FRANK, Ph. D.

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Qualifications Summary

Scientist / Faculty Member with more than 20 years of experience working in a laboratory and educational organizations. Broad science knowledge in biochemistry, biology, cell biology, and chemistry. Practical expertise in laboratory research, data collection / analysis, and project management. Strong teaching background, including training researchers, undergraduates, and graduate students. Advisement and mentoring of students in pre-health and scientific majors. Recognized for outstanding teaching. Extensive university and community service.

Education

Doctor of Philosophy, Program of Biochemistry and Biophysics, Department of Chemistry. Dissertation Title: Regulation of Sertoli Cell Function by Germinal Cells. Washington State University, 1989

Bachelor of Science, Biochemistry, University of California, Davis, 1984

Academic and Professional Experience

Assistant/Associate/Senior Lecturer

Department of Biological Science, Idaho State University, 2002-Present

Courses taught include Biochemistry, Cell Biology, Anatomy and Physiology, Endocrinology, Immunology, and non-majors Biology. Advisement of pre-health majors.

Adjunct Lecturer

Idaho State University, University of Idaho, 1997-2001

Courses taught include Biochemistry, Endocrinology, and Organic Chemistry Lab

Assistant Lab Manager

Idaho Crop Improvement Association, 1993-1994

Responsible for the supervision of lab technicians in testing for diseases potatoes via ELISA and development of techniques (including PCR analysis) for the rapid detection of bacterial or viral pathogens of seed potatoes.

Teaching Assistant

Washington State University, 1984-1985

Responsible for two undergraduate laboratory sections of General Chemistry and Inorganic Chemistry.

Research Experience

2006 – current *Researcher* *Idaho State University*

Current project is investigating whether nanoparticles (including nanotubes and nano-sized titanium dioxide) are toxic to different cells and organisms.

1990-1991 *Postdoctoral Research Fellow* *Genentech, Inc.*

Postdoctoral research involved studying tumor necrosis factor and its receptors in conjunction with the ongoing research of Dr. David Goeddel.

1985-1989 *Research Assistant* *Washington State University*

Graduate research was conducted under the supervision of Dr. Michael Griswold. A signal transduction pathway between two cell types of the male reproductive system was explored by looking at changes in gene expression in the presence or absence of a modulator.

1982-1984 *Undergraduate Research Assistant* *University of California, Davis*

Undergraduate research involved isolation and characterization of organic compounds found in wine.

1983 *Undergraduate Research Assistant* *University of California, Davis*

Work was conducted at the UCD Primate Research Center studying the social and behavioral interaction of Rhesus monkeys.

Publications

Stallard, B.J. and Griswold, M.D. 1988 Germ Cell Regulation of Sertoli Cell Transferrin mRNA Levels. *Biol. Reprod.* 38 (1): 150.

Stallard, B.J. and Griswold, M.D. 1989 Haploid Germinal Cells Contain mRNA with sequence similarity to the 3' end of Transferrin cDNA. *J. Cell Biology* 109(4):359.

Skinner, M.K., Stallard, B.J., Anthony, C.T, and Griswold, M.D. 1989 Cellular Localization of Fibronectin Gene Expression in the Seminiferous Tubules. *Mol. Cell. Endo.* 66:45-52.

Stallard, B.J. and Griswold, M.D. 1990 Germ Cell Regulation of Sertoli cells. *Mol. Endo.* 4:339-401.

Stallard, B.J., Collard, M.W., and Griswold, M.D. 1991 A Transferrinlike (Hemiferrin) mRNA expressed in Germ Cells of Rat Testis. *Mol. Cell. Biol.* 11:1448-1453.

Stallard, B.J., Lewis, M. and Goeddel, D.V. 1991 Structure and Chromosomal Localization of the Genes for Human Tumor Necrosis Factor Receptor 1 and 2. *Asilomar Conference Proceedings.*

Posters/Presentations

Biology Undergraduate Research Presentations at ISU – Effects of Titanium Dioxide on the Growth of *Brassica rapa* by Kristin Kaser, Ashley Haney, Catherine Black, Barbara Frank, April 2014

College Survival Workshops – Declared a Health Major...Now What? – February, 2014

University of Utah SOM Pre-Health Advisor symposium – Essay Writing Skills – August, 2013

American Chemical Society Sectional Meeting - Effects of Titanium Dioxide Nanoparticles and Titanium Dioxide Microparticles on Populations of *Turbatrix acetii* by Tina Jackson, Catherine Black, Barbara Frank, May, 2013

Undergraduate Research Symposium at ISU – Effects of Titanium Dioxide Nanoparticles and Titanium Dioxide Microparticles on Populations of *Turbatrix acetii* by Tina Jackson, Catherine Black, Barbara Frank, April, 2013

Biology Undergraduate Research Symposium at ISU – Effects of Titanium Dioxide on the Growth of *Brassica rapa* by Kristin Kaser, Ashley Haney, Catherine Black, Barbara Frank, April 2014

Textbook Reviews

2005 A Brief Guide to Biology by David Krogh, Chapter 14

2005 Science for Life, Second Edition by Colleen Belk and Virginia Borden, Chapter 9

2009 Scientific American: Biology for a Changing World, Chapters 7-10

2010 Cell biology textbook for Jones and Bartlett Publishers, Full text

2011 Scientific American: Biology for a Changing World, Chapter 28

2011 Immunology by Coico and Sunshine, Full text

2012 What is Life? A guide to Biology by Phelan, Chapter 4

2012 Biology: Science for Life by Belk and Borden-Maier, Chapters 1 and 10

2013 Biology: Science for Life by Belk and Borden-Maier, Chapter 1

2014 What is Life? A guide to Biology by Phelan, Chapter 8

2017 McGraw-Hill Reverse Class Test for Non-Majors Biology

Laboratory and Technical Skills

Molecular Biological Techniques	Cell isolation, metabolic labeling of cells with radioisotopes, and cell identification using microscopy
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Protein Chemistry Techniques	HPLC chromatography, polyacrylamide gel electrophoresis, western analysis, membrane isolation and protein assay
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Gene Expression Techniques	cDNA synthesis, cloning, nucleotide sequencing, PCR analysis, Northern and Southern analysis
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Organic Chemistry Techniques	Organic extraction, chromatography, NMR
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Software Applications:	MS Office Suite, MS Excel, Banner, Moodle, WebCT
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Honors and Awards

2017	ASISU-IF Club Advisor of the Year Award
2017	SAB Staff Spotlight Award
2016	Phi Kappa Phi Inductee/Keynote Speaker
2014-2015	Distinguished Teacher, Idaho State University
2009, 2013	Faculty Member of the Year (ASISU-IF)
2006-2009	Affiliate Faculty of Idaho State University (for significant contributions to ISU)
2007	CHC Grant and Wal-Mart Grant for Ballo Capesso
2006	Faculty Research Grant
2005, 2006	Nominated for Who's Who in American Teaching
1989	Nominee for Outstanding Women Graduate Student Award
1988	Society for Study of Reproduction Young Investigator Finalist
1985	Chemistry 3M Award for Teaching, WSU
1984	C. Glenn King Award, WSU

ISU Service

ISU-IF campus event participant (freshman registration, majors fair, etc), 2004-present
ISU Club advisor, Future Healthcare Practitioners of America, 2004-present
Advisor on IF campus, Department of Biological Sciences, 2002 –present
Pre-health Advisor on IF campus, 2006-present
Pre-health Professions Advisory Committee Member, 2006-present
WWAMI mini medical school moderator, 2007-2009
Faculty Senator for IF campus, 2008-2009
Blood Drive coordinator, ISU campus, 2008, 2009, 2010, 2011
Water Festival Presenter, Department of Biological Sciences, 2007-present
Search Committee Member for IF Academic Advisor position, 2012, 2014, and 2015
Teaching Committee member for Biological Sciences, 2012
Co-supervisor of Idaho Falls Lab Materials Supervisor, 2013- present
Panelist for Guardian Scholars Symposium, 2013
Panelist for TRIO STEM Upward Bound students, 2013
Search Committee Member for IF Lab Material Supervisor – 2014
Search Committee Member, Biology Non-tenure Assistant Professor, 2015-2016
Search Committee Member, Advisor-Program Coordinator, 2017
Strategic Planning Working Group (SPWG) member, 2016-2017

Undergraduate Mentoring/Research Training

2018	Allie Lords
2017	Kyle Brotherton, Samantha Graves
2016	Paden Foster
2015	Mike Hart, Jordan Schenk, Martha Maldonado, Kolt Piquet, Jordan Trively
2014	Kristin Kaser
2013	Tina Jackson, David Bush, Brain Hopkins, Brandon Miller, Kristin Kaser, Ashley Haney
2012	Ben Searcy, Tina Jackson, Adrien Murray, Stephen Miller
2011	Adam Hoopes, Dusty Eck, Brianna Weller, Kirk Bigley, Jamie Hively
2010	Diana Bayes
2009	Tory Alldridge, Kim Roth, William Sayer, Loren Mickelson
2008	Kim Roth, Jeremy Fullmer, Jared Beck, Heather Erickson