

BARBARA CRIPPES TRASK

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EDUCATION:

- 1994-1999: Washington University, St. Louis, Missouri. Ph.D. in Molecular Cell Biology. Thesis ('Microfibril associated glycoprotein-1 (MAGP-1) interactions within the extracellular matrix') defended February 1999. Degree awarded May, 1999.
- 1986-1988: Southern Illinois University at Edwardsville, Edwardsville, Illinois. B.S. with a major in Biology, minor in Chemistry, as well as Secondary Education teaching certification in both Missouri and Illinois. Degree awarded May, 1988.
- 1981-1982: Millikin University, Decatur, Illinois.
- 1978-1980: Hanover College, Hanover, Indiana.

TEACHING EXPERIENCE:

- 2014-Present: Professor, Department of Zoology, Weber State University, Ogden, Utah.
- 2009-2014: Associate Professor, Department of Zoology, Weber State University, Ogden, Utah.
- 2003-2009: Assistant Professor, Department of Zoology, Weber State University, Ogden, Utah.
- 2001-2002: Assistant Professor, Department of Biology, Westminster College, Salt Lake City, Utah.
- 2000-2001: Laboratory Coordinator/Instructor, Washington University, St. Louis, Missouri. Biology 297 (Fundamentals of Biology II) and Biology 3051 (Fundamentals of Biology III).
- 2001: Course-master, University College, Washington University, St. Louis, Missouri. Biology 405 (Introduction to Molecular Biology).
- 2000-2001: Adjunct Faculty, University of Missouri-St. Louis, St. Louis, Missouri. Co-Instructor, Biology 232 (Molecular Cell Biology), Course-master, Biology 489 (Graduate seminar: Cytoskeleton and Cell Motility).
- 1999: Laboratory Instructor, Washington University, St. Louis, Missouri. Biology 297 under direction of Mr. Shawn Cummings and Dr. Kathy Hafer.
- 1996: Mentor for the Young Scientist Program, Division of Biology and Biomedical Sciences, Washington University School of Medicine, St. Louis, Missouri.
- 1995: Teaching Assistant, Washington University, St. Louis, Missouri. Biology 297 under the direction of Dr. Kathy Hafer.
- 1990-1993: Volunteer, McDonnell Douglas Homework Hotline, St. Louis, Missouri.
- 1987-1988: Student teacher at O'Fallon Township High School, O'Fallon, Illinois. Biology and Chemistry under the direction of Ms. Ginger Johnson and Mr. Kyle Fink.

ADMINISTRATIVE & ADVISING EXPERIENCE

2013-Present: Associate Dean, College of Science, Weber State University, Ogden, Utah.

2005-2013, 2016-2020: Premedical Professional Advisor, Ezekiel R. Dumke Family Premedical Professional Programs, Weber State University, Ogden, Utah

RESEARCH EXPERIENCE

2003-Present: Faculty mentor to undergraduate researchers in molecular biology, cell biology, cancer biology and neuroscience, Weber State University, Ogden, Utah.

2002-2003 Post-doctoral Fellow, Nora Eccles Harrison Cardiovascular Research and Training Institute, University of Utah, Salt Lake City, Utah.

1999-2000: Post-doctoral Fellow, Department of Pediatrics, Allergy and Pulmonary Division, Washington University School of Medicine. Research directed by Steven Shapiro, M.D.

1994-1999: Graduate Student, Division of Biology and Biomedical Sciences, Washington University School of Medicine. Mentored by Dr. Robert P. Mecham.

1994: Research Technician, Department of Cell Biology, Washington University School of Medicine. Research directed by Robert P. Mecham, Ph.D.

1994: Research Biologist III at G. D. Searle, Inc., St. Louis, Missouri. Research directed by G. Allen Nickols, Ph.D.

1991-1994: Research Biologist II at Monsanto Company, St. Louis, Missouri. Research directed by Joseph E. DeLarco, Ph.D.

1989-1991: Research Biologist I at Monsanto Company, St. Louis, Missouri. Research directed by Joseph E. DeLarco, Ph.D.

1988-1989: Laboratory Technician, CDI Temporary Services, St. Louis, Missouri. Research directed by Joseph E. DeLarco, Ph.D.

PUBLICATIONS: (UNDERGRADUATES ARE UNDERLINED)

Hancock, J., Goff, Z. and **Trask, B.** 2013. From Ignoble Beginnings to the Nobel Prize: A conversation with Mario Capecchi. *The Contemporary West*, 30(1): 61-79.

Combs, M.D., Knutsen, R.H., Broekelmann, T.J., Toennies, H.M., Brett, T.J., Craft, C.S., Atkinson, J.J., Shipley, J.M., **Trask, B.C.** and Mecham, R.P. 2013. Microfibril-associated glycoprotein 2 (MAGP2) loss-of-function has pleiotropic effects in vivo. *Journal of Biological Chemistry*, 288(40): 28869-80.

Barrett, A., Gnehm, D., Jones, J. and **Trask, B.C.** 2013. α 1-Antitrypsin and C-Reactive Protein Levels in Tear Fluid After Continuous Contact Lens Wear. *Clinical and Experimental Optometry*, 97(1): 66-71.

Peters, R. and Trask, B. C. 2012. The Effects of Chlorpyrifos on the growth and viability of *Aspergillus Flavus*. *Ergo*, 6: 87-92.

Trask, B.C. and Francom, C. 2009. Participation in Undergraduate Research Benefits Pre-Medical Students by Developing Critical Skills. *The Advisor*, 29(2): 9-12.

Trask, B.C., Rote, N.S., Huether, S.E. Innate Immunity: Inflammation. In: Pathophysiology, The Biological Basis of Disease in Adults and Children. 5th Ed. K.L. McCance and S.E. Huether, Eds. 2006. Elsevier Mosby, St. Louis, MO.

- Rote, N.S. and **Trask, B.C.** Adaptive Immunity. In: Pathophysiology, The Biological Basis of Disease in Adults and Children. 5th Ed. K.L. McCance and S.E. Huether, Eds. 2006. Elsevier Mosby, St. Louis, MO.
- Werneck, C.C., **Trask, B.C.**, Broekelmann, T. J., Trask, T. M., Ritty, T.M., Segade, F., and Mecham, R. P. 2004. Identification of a major microfibril-associated glycoprotein-1-binding domain in fibrillin-2. *Journal of Biological Chemistry*, 279(22): 23045-51.
- Trask, B.C.**, Malone, M., Lum, E., Welgus, H.G., Crouch, E.C., and Shapiro, S. D. 2001. Induction of Matrix Metalloproteinase Biosynthesis in Human Alveolar Macrophages Exposed to Surfactant Protein D (SP-D). *Journal of Biological Chemistry*, 276(41): 37846-52.
- Segade, F., **Trask, B.C.**, Broekelmann, T. J., Pierce, R.A., and Mecham, R.P. 2002. Identification of a Matrix Binding Domain in MAGP1 and MAGP2 and Intracellular Localization of Alternative Splice Forms Interactions. *Journal of Biological Chemistry*, 277(13):11050-7.
- Trask, B.C.**, Broekelmann, T., Ritty, T.M., Trask, T.M., Tisdale, C., and Mecham, R.P. 2001. Post-Translational Modification of Microfibril-Associated Glycoprotein-1 (MAGP-1). *Biochemistry*.40(14): 4372-80.
- Trask, B.C.**, Trask, T., Broekelmann, T., and Mecham, R P. 2000. The Microfibrillar Proteins MAGP-1 and Fibrillin-1 form a Ternary Complex with the Chondroitin Sulfate Proteoglycan Decorin. *Molecular Biology of the Cell*. 11(5): 1499-1507.
- Trask, T.M., **Trask, B.C.**, Ritty, T.M., Abrams, W.R., Rosenbloom, J., and Mecham, R.P. 1999. Interaction of Tropoelastin with the Amino-terminal Domains of Fibrillin-1 and Fibrillin-2 Suggests a Role for the Fibrillins in Elastic Matrix Assembly. *Journal of Biological Chemistry*. 275: 24400-24406.
- Crippes, B.A.**, Engleman, V.W., Settle, S.L., DeLarco, J., Ornberg, R.L., Helfrich, M.H., Horton, M.A., and Nickols, G.A. 1996. Antibody to Beta 3 Integrin Inhibits Osteoclast-Mediated Bone Resorption in the Thyroparathyroidectomized Rat. *Endocrinology*. 137(3): 918-924.
- Wu, X., Wittwer, A.J., Carr, L.S., **Crippes, B.A.**, DeLarco, J.E., and Lefkowitz, J.B. 1994. Cytokine-Induced Neutrophil Chemoattractant Mediates Neutrophil Influx in Immune Complex Glomerulonephritis in Rat. *Journal of Clinical Investigation*. 94(1): 337-344.
- Crippes, B.A.**, Zagorski, J., Carr, L.S., Wittwer, A.J., Dolecki, G.J., and DeLarco, J.E. 1993. Investigation of Possible Autocrine Functions for Rat GRO/CINC (Cytokine-Induced Neutrophil Chemoattractant). *Journal of Cellular Physiology*. 156(2): 412-420.
- Wittwer, A.J., Carr, L S., Zagorski, J., Dolecki, G J., **Crippes, B.A.**, and DeLarco, J.E. 1993. High-Level Expression of Cytokine-Induced Neutrophil Chemoattractant (CINC) by a Metastatic Rat Cell Line: Purification and Production of Blocking Antibodies. *Journal of Cellular Physiology*. 156(2): 421-427.

NATIONAL AND INTERNATIONAL CONFERENCES:

- 2022: Ogdan Surgical-Medical Society: Student poster presentation (Michael Anaafi): Characterization of metformin's repression of chemokine production in triple-negative breast cancer cells
- 2022: 4th International Conference on Cytokines in Cancer. Student poster presentations (Benjamin [Drake] Alton): Characterization of metformin's repression of chemokine production in triple-negative breast cancer cells
- 2022: Utah Academy of Science Arts & Letters Annual Conference. Student poster presentation (Benjamin [Drake] Alton): Characterization of metformin's repression of chemokine production in triple-negative breast cancer cells

- 2018: Ogden Surgical-Medical Society: Student poster presentation (judged; 2nd place award Gabriel Creswell): The role of anti-hyperglycemia drugs in breast cancer progression
- 2014: National Conferences on Undergraduate Research Annual Meeting. Student poster presentation (Houda Nizam): “The Serotonin Transporter Gene Polymorphism as a Predictor of Novelty Seeking, Smoking Behavior, and Cognitive Assessment of Risk.”
- 2014: National Conferences on Undergraduate Research Annual Meeting. Student poster presentation (Daniel Linford) “The Association Between the Serotonin Transporter Promoter Region Polymorphism and Aggressive Behavior.”
- 2014: National Conferences on Undergraduate Research Annual Meeting. Student poster presentation (Desiree Wood): “The Role of a Serotonin Transporter Gene Polymorphism in Relation to Novelty Seeking and Risky Sexual Behavior.”
- 2011: National Conferences on Undergraduate Research Annual Meeting. Student poster presentation (Samuel Bartlett): “The effects of extremely low frequency electromagnetic fields (ELF-EMR) on the apoptosis of human fibroblasts.”
- 2010: National Association of Advisors for the Health Professions. Poster Presentation (Barb Trask & Ali Miller): A co-sponsored event can serve as a forum to develop and encourage an underrepresented population of premedical students.
- 2009: National Conferences on Undergraduate Research Annual Meeting. Student oral presentation (Carl Turner): “Poison in a Peanut Butter Sandwich: Can Turmeric Protect against Cirrhosis?”
- 2009: Utah Posters on the Hill, student poster presentation (Elizabeth Merrill): The Physiologic Relevance of an Interaction between MAGP-2 and TGF- β 1 in Elastic Extracellular Matrices
- 2009: National Conferences on Undergraduate Research Annual Meeting. Student oral presentation (Elizabeth Merrill): “The Physiologic Relevance of an Interaction between MAGP-2 and TGF- β 1 in Elastic Extracellular Matrices.”
- 2009: National Conferences on Undergraduate Research Annual Meeting. Student poster presentation (Paul Butters): Biological Function of the von Willebrand Domain in Fibrillin-2
- 2008: American Society for Cell Biology Annual Meeting. Student poster presentation (Christian Francom): “A Role for Microfibril-Associated Glycoprotein-2 in Wound Repair”
- 2007: Gordon Research Conference; Elastin and Elastic Fibers. Student poster presentation (Christian Francom & Joshua McBride): “The Structure, Function and Temporal Expression of Fibrillin in Zebrafish (*Danio rerio*).”
- 2006: National Conferences on Undergraduate Research Annual Meeting. Student oral presentation (Justin Harper): “Timing and Location of the Elastic Extracellular Matrix Protein MAGP During Embryonic Development.”
- 2000: American Thoracic Society International Conference. Oral presentation: ‘Induction of Matrix Metalloproteinase Biosynthesis in Human Alveolar Macrophages Exposed to Surfactant Protein D (SP-D).’
- 1999: Pathology of the Surfactant System of the Mature Lung
- 1994, 1998: National Meeting of the American Society of Cell Biology
- 1995, 1997, Gordon Research Conference; Elastin and Elastic Fibers.

1999: Poster Presentation (1997, 1999); Oral presentation: 'Identification of an MAGP-1 binding domain on fibrillin-2' (1999).

UNDERGRADUATE RESEARCH STUDENTS:

2003-5: Sean Tolbert, Jeffery Pack, Lauren Eimers, Clint Wooten: Cloning of *Danio rerio* (zebrafish) Microfibril-associated glycoprotein.
2005: Janica Peebly and Jennifer Stones: Gliaden allergies produced in rats
2005: Jason Becker: Quantifying Giardia using molecular techniques (Greater Salt Lake Ecosystems REU)
2005-7: Daniel Schmutz, Critt Aardema, Paul Garrett, James Summers, Alec Sharp: Several projects
2005-7: Justin Harper: Timing and Location of the Elastic Extracellular Matrix Protein MAGP During Embryonic Development
2006: Jesse Washburn: Lasik on collagen-rich extracellular matrices *ex vivo*
2006: Milt Poll & James Aston: Random migration of cancer cells
2006-8: Christian Francom: A Role for Microfibril-Associated Glycoprotein-2 in Wound Repair
2006-8: Cody Nebeker, Jeffrey Caldwell, JoshuaMcBride, Aric Elmer: several projects
2007: Jared Bell, Daniel Hiton, Tyson Christensen: several projects
2008-10: Paul Butters, Carl Turner, Elizabeth Merrill: several projects
2010-11: Tessnim Ahmad: Quantification of Collagen in wilt type and MAGP-2 deficient mice
2011: Samuel Bartlett: The effects of extremely low frequency electromagnetic fields (ELF-EMR) on the apoptosis of human fibroblasts
2011: Jared Eames & David Maybury: Regulation of aflatoxin-induced liver damage in mice by curcumin
2013-14: Daniel Linford, Desiree Wood, Houda Nizam, Eryberto (Eddie) Martinez: Several projects
2015-16: Andrew Alsup & Adam Henrie: Biguanides Tumor-Associated Macrophages, and Triple Negative Breast Cancer
2016-17: Gabriel Creswell: Triple-Negative breast cancer metastasis: Inhibition through anti-hyperglycemia drugs
2021-22: Benjamin (Drake) Alton: Characterization of metformin's repression of chemokine production by cancer cells
2022: Breanne Erickson & Michael Anaafi: Exploration of metformin's effects on breast cancer cells' matrix metalloproteinases

AWARDS:

2014: Exemplary Collaboration Award (with Drs. Matthew Schmolesky and Lauren Fowler of Psychology and Jim Hutchins of Health Sciences). For my role in establishing and maintaining a successful Neuroscience Minor at the University.
2013: Eccles Honors Fellowship (with Dr. Matthew Schmolesky). To teach a 'Science of Cooking' class for the Honors Program, Spring, 2014.
2013: Hemingway Collaborative Award (with Dr. Matthew Schmolesky). For the purchase of equipment and materials necessary to teach a laboratory-based 'Science of Cooking' class.
2007: Hemingway Faculty Collaborative Award (with Drs. Matthew Schmolesky, Lauren Fowler and Jim Hutchins). For development of a Neuroscience Minor, Weber State University, Ogden, UT.
1999-2001: Lucille P. Markey Special Emphasis Pathway in Human Pathobiology Program. Washington University, St. Louis, MO.
1999-2000: Developmental Cardiology and Pulmonary Training Grant. Washington University, St. Louis, MO.