Joseph Frentzel PhD

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EDUCATION

2008 **PhD in Biochemistry & Molecular Biology (Michigan State University)**

Department of Biochemistry and Molecular Biology (East Lansing, MI)

Dissertation Title: *Disruption of Apoptotic Signaling Pathways in Glucocorticoid-Induced Survival of Human Neutrophils*

2000 **BS in Biology (Indiana University – Purdue University at Ft. Wayne)**

Department of Biology (Ft. Wayne, IN)

Honors Project: *Detection of PKC Activation in Phorbol-Ester Stimulated Murine Splenocytes and Thymocytes*

Distinctions: Tri-Beta National Biological Honor Society; president of Biology Club

PROFESSIONAL EXPERIENCE

2018 – Present **Grace College (Winona Lake, IN)**

Assistant Professor of Anatomy and Physiology
Dr. Eugene Inman Endowed Chair of Science and Math

Instruct a variety of science courses, including General Biology and Chemistry; Organic Chemistry and Microbiology. Serve as chair of the Human Subjects Research Committee for the Campus and as primary coordinator for chemical hygiene. Lead research scientist for taxonomy of algae in local waterways.

2017 – 2018 **Ivy Tech Community College (Warsaw, IN)**

Assistant Professor of Anatomy and Physiology

Taught anatomy and physiology courses to healthcare-track students which includes pre-nursing (ASN), pre-dental hygiene/assistant and medical assisting student populations. Also taught *Introductory Biology*, in addition to physical science courses such as *Introductory Chemistry* and *Earth Science*. Other responsibilities included hosting regular review sessions, prepping laboratory supplies for all faculty, offering laboratory demonstrations to visiting students/schools and active participation in campus student life activities.

2014 – 2017 **Ivy Tech Community College – Elkhart County –**

Elkhart Campus Natural Science Chair

Supervised all aspects of natural science courses at the Elkhart County Ivy Tech campus. Responsibilities included mentoring up to eight faculty per semester (2 FT; 6 PT), inventorying and maintaining laboratory supplies, evaluating dual-credit courses offered at local high schools, developing new course offerings and supervising part-time laboratory technicians. Reported directly to the Northcentral Ivy Tech region University Transfer Division (UTD) Dean.

2014 – 2017 **Ivy Tech Community College – Elkhart County –**

Assistant Professor of Biology and Chemistry

Taught both life and physical sciences to traditional and non-traditional students in a community college setting. Course-load included *Introductory Biology*, *Introductory Chemistry*, *General Microbiology*, *Earth Science* and *Astronomy*. Also responsible for advising undergraduate students including formulating academic completion plans and scheduling classes. Helped establish and advise a very active Science & Computing club on campus. In addition, advised the *Beta Beta Alpha* Chapter of the Phi Theta Kappa Honor Society.

2013 **Southwestern Michigan College –** *Adjunct Faculty*

Taught *Fundamentals of Chemistry Course* to general studies and health science majors. Responsibilities included teaching and prepping for laboratory experiments.

2012 – 2013 **Ivy Tech Community College – Elkhart County –** *Adjunct Faculty*

Served as adjunct instructor for *Introductory Biology*, *Introductory Chemistry*, *Chemistry I* and *General Microbiology* courses. Taught biological and chemical sciences to general education and health science students. As an adjunct instructor, helped design and establish microbiology and chemistry course offerings at the Elkhart campus. Responsible for evaluating the first dual-credit science courses offered at Elkhart County high schools. Became a certified Blackboard online course management system user.

2012 – 2013 **Indiana Tech – Elkhart/Mishawaka –** *Adjunct Faculty*

Adjunct instructor for *Introduction to Biology* and *Contemporary Issues in Science* courses offered in 5-week format. Developed andragogical techniques for teaching working student populations which emphasized experiential through use of hands-on critical thinking exercises. Developed both content and hands-on student engagement activities for the *Contemporary Issues* course. Also tutored students in math on an as-needed basis.

2011 – 2013 **Trine University – Mishawaka/South Bend –** *Adjunct Faculty*

Instructor for 8-week format *General Biology* and *Weather and Climate* courses. These courses were tailored for non-science majors and explored scientific phenomenon through the lens of contemporary social issues.

2002 – 2008 **Michigan State University –** *Research Assistant*

Employed modern molecular tools to explore the well-documented, yet poorly understood phenomena of increased human neutrophil survival in response to stress hormones. The hypothesis that enhanced survival of neutrophils was due to alterations in cell death-related genes was evaluated using contemporary biochemical and molecular biology techniques. Laboratory skills mastered during scientific investigation include:

Gene Expression	Cell Biology	Murine (Mouse) Dissection & Surgeries
Real-time PCR (qPCR)	Flow Cytometry	Bone marrow extraction
Microarray	Density Gradient Cell Separation	Thymectomy/Spleenectomy and cell harvest
Antisense Knockdown	Fluorescent Microscopy	Stapled steroid implants

2000 **Michigan State University –** *Biochemistry Research Trainee*

Developed radioimmunoassay techniques for quantifying corticosterone hormone levels in experimental mice. After one semester in this certificate program, transitioned into graduate school.

AWARDS & GRANTS

2018 K21 Foundation Grant Recipient for $22,000 toward Anatomy and Physiology supplies

2016 President's Award for Excellence in Instruction (North Central region)

PUBLICATION

King LE, Frentzel JW, Mann JJ, Fraker PJ. *"Chronic zinc deficiency In mice disrupted T cell lymphopoiesis and erythropoiesis while B cell lymphopoiesis and myelopoiesis were maintained."* J Am Coll Nutr 24: 494-502, 2005.

POSTER PRESENTATIONS

Frentzel, JW and Fraker, PJ. *"Positive Expression of Glucocorticoid-inducible leucine zipper (GILZ) Correlated with Glucocorticoid-mediated Human Neutrophil Survival*." Federation of American Societies for Experimental Biology, San Diego, CA, April 2005.

Frentzel, JW and Fraker, PJ. *"Role of Glucocorticoid-inducible leucine zipper (GILZ) in Glucocorticoid-induced Neutrophil Survival."* Federation of Clinical Immunology Societies, Montreal, Quebec, Canada, August 2004.

CONTINUING EDUCATION

2018 Ft. Wayne Teaching Conference (IPFW; Ft. Wayne, IN)

2016 National College Science Teacher Association Meeting (Nashville, TN)

2015 Phi Theta Kappa Honor Society Advisor Institute (Philadelphia, PA)

2014 Windy City Science Seminar: "Improving Student Outcomes with Technology" hosted by Pearson Publishing Company (College of Dupage)

2005 Federation of American Societies for Experimental Biology (FASEB) National Meeting (San Diego, CA)

2004 American Association of Immunology International Meeting (Montreal, Quebec)

2001 Federation of American Societies for Experimental Biology (FASEB) National Meeting (Orlando, FL)

2002 American Association of Immunology (AAI) Advanced Course in Immunology (Stanford University, Palo Alto, CA)

VOLUNTEERISM

2020 – 2024 Keyboardist for Sunday Morning Worship Service (First Christian Church, Warsaw, IN)

2017 - 2018 Recording secretary for 4-H Kosciusko County poultry committee.

2015 - 2017 Volunteer for ETHOS Science Center community events. Demonstrated scientific principles to visiting elementary students using fun and engaging educational activities.

2011 - 2013 Children's discussion group leader and pianist for Bible Study Fellowship (Elkhart, IN)

2010 - 2011 Keyboardist/pianist for Oak Creek Community Church worship team (Mishawaka, IN)

2008 - 2011 Student coach for 5-Star Life afterschool youth program. Helped student teams of 5 or more view some of life's toughest issues through the lens of integrity. (Grissom Middle School; Mishawaka, IN)

PROFESSIONAL AFFILIATIONS

American Chemical Society

Phycological Society of America

DIGITAL TOOLBOX

Microsoft Word, Excel, Powerpoint; SigmaPlot; Adobe Photoshop, Adobe Illustrator, Adobe Acrobat; Camtasia; ImageJ