

## EDUCATION

Institute	Location	Year	Area of Study
University of Notre Dame	Notre Dame, IN	Present	Bioengineering ( <i>PhD Student</i> )
University of Rochester	Rochester, NY	2018	Neuroscience ( <b>BS</b> ) Mathematics ( <b>BA</b> )

## RESEARCH EXPERIENCE

- 2018 - Present **Graduate Research & Teaching Assistant**  
University of Notre Dame, Notre Dame IN  
*Objective:* Develop a xeno-free protocol to differentiate stem cells into the lymphatic lineage.  
Advisor: Donny Hanjaya-Putra, Ph.D.
- 2015 - 2018 **Undergraduate Research Assistant**  
University of Rochester Medical Center, Rochester NY  
*Objective:* Continuing research on oxidant microdomains in order to determine why antioxidants have failed clinical trials.  
Advisor: Andrew Wojtovich, Ph.D.
- 2014 - 2015 **Technical Assistant & Undergraduate Research Assistant**  
University of Rochester Medical Center, Rochester NY  
*Objective:* Maintaining *C. elegans* stock; Observing the effects that different forms of oxidants have on novel *C. elegans* models using optogenetic tools in the mitochondria.  
Advisors: Keith Nehrke, Ph.D. and Andrew Wojtovich, Ph.D.
- 2013 **High School Summer Research Assistant**  
Center for Gene Therapy and Neuroscience, Nationwide Children's Hospital, Columbus OH  
*Objective:* Reprogramming ALS patient fibroblasts to neuronal progenitor cells, then to astrocytes.  
Advisors: Brian Kaspar, Ph.D. and Kathrin Meyer, Ph.D.

## AWARDS & HONORS

- 2018 **Honors in Research** | University of Rochester  
Thesis and defense on sensing oxidant microdomains using fluorescent proteins.
- 2016 & 2017 **Dean's Award** | University of Rochester | Undergraduate Research Exposition - Research Award
- 2016 & 2018 **Dean's List** | University of Rochester

## PUBLICATIONS

- Trewin AJ, Bahr LL, Almast A, **Wei AY**, Foster TH and Wojtovich AP. "Mitochondrial ROS generated at the complex-II matrix or intermembrane space microdomain have distinct effects on redox signaling and stress sensitivity in *C. elegans*" *Antioxidants and Redox Signaling (ARS)*. 2019.
- Alderfer L, **Wei AY**, Hanjaya-Putra D. "Lymphatic Tissue Engineering and Regeneration". 2018. *Journal of Biological Engineering (JBE)*. Review Article. 12:32.
- Trewin AJ, Berry BJ, **Wei AY**, Bahr LL, Foster TH and Wojtovich AP. "Light-induced Production of Oxidants by Fluorescent Proteins." 2018. *Free Radical Biology and Medicine (FRBM)*. Review Article. In Press.
- Wojtovich AP, **Wei AY**, Sherman TA, Foster TH, Nehrke K. "Chromophore-Assisted Light Inactivation of Mitochondrial Electron Transport Chain Complex II in *Caenorhabditis elegans*." *Scientific Reports*. 2016. 6:29695.

## FELLOWSHIPS

2017      **American Heart Association, Founders Affiliate**  
Undergraduate Student Summer Fellowship Program | \$5,000

## PRESENTATIONS

2019      May      **Lymphatic Forum 2019**  
AT & T Conference Center, TX | Poster

2018      September      **Translational Research in Mitochondria, Aging and Disease Symposium**  
Pennsylvania State University of State College, PA | Poster (Data Contribution)

            April      **National Conference on Undergraduate Research (NCUR)**  
University of Memphis, TN | Talk

2017      July      **Mitochondria Research Interest Group**  
University of Rochester, NY | Talk

            April      **Undergraduate Research Exposition**  
University of Rochester, NY | Talk

            April      **National Conference on Undergraduate Research (NCUR)**  
University of Memphis, TN | Talk

2016      October      **Undergraduate Research and Visitation Day**  
University Of Rochester, NY | Poster

            April      **Undergraduate Research Exposition**  
University of Rochester, NY | Talk

            April      **National Conference on Undergraduate Research (NCUR)**  
University of North Carolina - Asheville, NC | Talk

            March      **Western New York Worm Group Seminar Series**  
University of Rochester, NY | Talk

2015      October      **Undergraduate Research and Visitation Day**  
University Of Rochester, NY | Poster

            October      **Western New York Worm Group Seminars - Undergraduate Research Day**  
University of Rochester, NY | Talk

            July      **URMC Summer Scholars Program**  
University of Rochester, NY | Poster

2014      May      **Southern California Academy of Sciences (SCAS)**  
California State University - Channel Islands, CA | Talk

            February      **American Junior Academy of Sciences (AJAS)**  
University of Chicago, IL | Talk, Poster

2013      May      **Southern California Academy of Sciences (SCAS)**  
California State University - Long Beach, CA | Talk

## VOLUNTEER WORK

2019      April      **Stem Cell Outreach** | University of Notre Dame  
*Making stem cell research more accessible to young kids.*

2019	March	<b>Expanding Your Horizons (EYH)</b>   University of Notre Dame <i>Volunteer photographer</i>
		<b>AWIS   Networking Workshop</b>   University of Notre Dame <i>Volunteer photographer</i>
		<b>ND Pi-Day 5K/10K Race</b>   AWIS   University of Notre Dame <i>Volunteer photographer</i>
		<b>Northern Indiana Regional Science &amp; Engineering Fair</b>   University of Notre Dame <i>Science fair judge for grades 10-12.</i>
	February	<b>Stem Cell Outreach</b>   University of Notre Dame <i>Making stem cell research more accessible to young kids.</i>
		<b>St. Joseph Valley Regional Mathcounts Competition</b>   University of Notre Dame <i>Helping to run the event for middle school mathletes.</i>
2017	November	<b>Undergraduate Research Fair: Neuroscience</b>   University of Rochester <i>Q&amp;A panel guiding undergraduates interested in beginning research.</i>
	September	<b>Undergraduate Research: Speaker</b>   University of Rochester <i>Speaker - how I began conducting undergraduate research.</i>
	August	<b>National Science Foundation Summer Outreach</b>   Rochester YMCA <i>STEM outreach initiative aimed for local third graders.</i>
2016	December	<b>Hospital Volunteer &amp; English Tutor</b>   Atlantis Project   Székesfehérvár, Hungary Szent György Egyetemi Oktató Kórház (St. George's University Teaching Hospital) <i>Volunteering at the hospital during my free time   Helping locals with their English.</i>
2014 - 2018		<b>Fencing Club</b>   University of Rochester <i>Opening club to community members   Coordinating charity tournaments with RIT.</i>
2012 - 2013		<b>Calculus Tutor</b>   Walnut High School <i>Helping high school juniors and seniors understand AP Calculus AB and BC.</i>
2009 - 2013		<b>Math Tutor</b>   Premier Academy <i>Helping kids from primary through junior high school understand math.</i>

## MENTORING | UNDERGRADUATE STUDENTS

2018 - Present	Grace Petrosini	Undergraduate Science Business, University of Notre Dame. <i>Accomplishments:</i> Received NDnano Undergraduate Research Fellowship (Declined the fellowship because studying abroad).
2019 - Present	Abigayle Batkoff	Undergraduate Science Business, University of Notre Dame. <i>Accomplishments:</i> Received Center for Stem Cells and Regenerative Medicine Summer Undergraduate Research Fellowships.
2019 - Present	Dominic Mancini	Undergraduate Applied Computational Mathematics and Statistics, University of Notre Dame. <i>Accomplishments:</i> Received Center for Stem Cells and Regenerative Medicine Summer Undergraduate Research Fellowships.

## LABORATORY SKILLS

Live Worm (*C. elegans*) imaging  
Stem Cell Culture  
Viral Transduction  
Immunofluorescence Staining

Genetic Cloning Techniques  
Cellular Fluorescent Staining and Imaging  
DNA/RNA/Protein Isolation  
FACS

Electrophysiology  
Histology  
PCR  
MACS

## TECHNICAL SKILLS

**Tools** LaTex, Image J, Prism, AutoCAD, Python, Unix

**Microsoft** Word, Excel, Powerpoint, Endnote

**Photo Processors** Photoshop CS6, Capture One, SlideBook 6

**Machine Fabrication** Techno Router, Band Saw, Drill Press, Scroll Saw, Belt & Disc Sander, Manual Lathe, Manual Mill