

Poly302

Education

University of Oregon, Eugene, OR, Expected 2018

Polymer Chemistry Master of Science

University of Washington, Seattle, WA, June 2017

Biochemistry Bachelor of Science

Chemistry Bachelor of Science

Research Experience

Supervisor: Dr. Sharona Gordon

Research assistant April 2015 – June 2017

UW Dept. of Biophysics and Physiology, Seattle, WA

Mobility of TRPV1, a ligand-gated Ca²⁺ ion channel

- Analyzed the mobility of fluorescently tagged TRPV1 channels when opened by the ligand, capsaicin (the active ingredient in hot chili peppers), by capturing images and videos using a Total Internal Reflection Fluorescence (TIRF) microscope.
- Recorded currents of TRPV1 channels in HEK293T cells by whole-cell patch clamping to indicate flow of Ca²⁺ into the cell.
- Determined the mobility of TRPV1 channels while the channels were open by processing images and videos on ImageJ and applying spot tracking MATLAB functions.
- Ensured experiments were conducted on schedule by splitting cells and transfecting cells with fluorescently tagged proteins days in advance while balancing a full academic workload.

Dissociation kinetics of membrane-associated proteins

- Performed experiments to determine dissociation kinetics by unroofing transfected HEK293T cells via sonication while capturing live images and videos using a TIRF microscope.
 - Improved on a previous protocol to unroof cells, which has been utilized by other experiments in the lab group, by analyzing the results of sonication in over 40 experiments to find more consistent unroofing of cells.
 - Investigated the kinetics of membrane-associated protein disassociation from the membrane by live imaging unroofing cells using a TIRF microscope.
 - Determined loss of fluorescence immediately after unroofing to calculate protein dissociation constants by utilizing ImageJ to process the images and videos captured from TIRF microscopy.
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Volunteer Experience

Supervisor: Catherine Buckley

Tutor September 2013 – December 2013

Boys and Girls Club of America, Seattle, WA

- Facilitated grade schoolers in the Homework Club on a weekly basis by guiding them through homework problems in math, reading, writing, and science in groups of 10-15 students.
- Encouraged the students to focus on schoolwork by building positive relationships and fostering mutual respect.

- Created a fun and active environment for the children by assisting in arranging extracurricular activities such as basketball and billiards tournaments.

Supervisor: Meg Fallows

Emergency Dept. Volunteer August 2012 – January 2013

Kadlec Regional Medical Center, Richland, WA

- Assisted the nurses in the emergency department on a weekly basis by checking in patients efficiently and escorting patients throughout the hospital, following safety procedures on wheelchairs, and lending physical support when needed.
 - Gained broader knowledge about working in a team by developing relationships and effectively communicating with the nursing staff and physicians in the emergency department.
 - Performed under high-volume and high-stress times in the emergency department by multitasking and assisting the nursing staff in any tasks necessary.
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Work Experience

Supervisor: Kent Parker

ICS (Inventory Control Specialist) associate July 2013 – September 2013

Wal-Mart, Kennewick, WA

- Succeeded in keeping the company on schedule by utilizing the company inventory system database efficiently and offering to work overtime whenever needed.
 - Reduced time emptying trucks from 3 to 2 hours by listening to feedback and following the advice of more experienced associates.
 - Practiced proper time management skills by taking the initiative to restock shelves on priority items as well as assist in other departments.
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Languages

Native speaker of Spanish

Hobbies/Interests

UW intramural soccer, March 2014 - June 2014

Richland High School Boys' Soccer, March 2009 – May 2013

- Voted by teammates to captain status from Spring 2011 to Summer 2013 by developing close bonds with the coaches and players in the program.
- Qualified for the WIAA State tournament for 4A schools in 2013 reaching the quarterfinal.

Three River Soccer Club, June 2007 - March 2013

- Won Under-18 Washington State tournament.
 - Represented Washington in a regional tournament.
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