

NAHEDA SAHTOUT

Education

University of Saskatchewan, Saskatoon, SK, Canada

Doctor of Philosophy, Chemistry – Dr. David A. R. Sanders Laboratory 09/2013 - Present

Thesis: Characterizing the thioredoxin system from organisms living in extreme environmental temperatures.

Instructional Skills Workshop 04/2017

Graduate Professional Skills Certificate 09/2016 – 12/2016

University of Guelph, Guelph, ON, Canada

05/2011 - 08/2013

Master of Science, Molecular and Cellular Biology – Dr. Janet M. Wood Laboratory

Thesis: Analyzing the homodimeric and heteromeric nature of the osmosensory transporter ProP from *Escherichia coli*.

Global TESOL College

02/2007 - 08/2012

Advanced Teachers of English to Speakers of Other Languages (TESOL) Diploma

Specialization: Teaching Grammar, Teaching ESL Locally and Teaching Children English

University of Waterloo, Waterloo, ON, Canada

09/2007 - 08/2010

Bachelor of Science, Honours Biology (Molecular Biology and Biotechnology Specialization), Economics Minor

Alliance Française

01/2003 - 12/2005

Diplôme D'études en Langue Française (DELF) 1st and 2nd Degree

Graduate Scholarships and Awards

Dr. Gerhard Herzberg Thesis Acceleration Award (Value - \$15,750) 09/2017 – 04/2018

Awarded by the Department of Chemistry to senior Ph.D. students with an outstanding record of academic performance and research achievement

Walter C. Sumner Memorial Fellowship (Value - \$ 8,000) 06/2017 – 01/2018

Awarded by the Walter C. Sumner Memorial Foundation as one of 40 awards that are awarded nationally to exceptional doctoral students in the Departments of Chemistry, Physics, Electrical Engineering, or Computer Science.

Jabir Ibn Hayyan Scholarship for Women in Graduate Chemistry Programs (Value - \$2,500) 2017

Awarded by the Muslim Awards for Excellence Gala and sponsored by Dr. Hind A. Al-Abadleh, Associate Professor of Chemistry at Wilfred Laurier University.

University of Saskatchewan "Canada 150" Citizen 2017

Awarded by the University of Saskatchewan in recognition of striving to live the University of Saskatchewan's values of diversity, inclusiveness, sustainability and collaboration and for the many exceptional contributions to Canada and the University of Saskatchewan.

- Biomolecular Crystallography (B. Rupp) and Garland Science Poster Prize** 2017
Awarded at the 24th International Union of Crystallography Congress and General Assembly held on August 21-28 in Hyderabad, India.
- University of Saskatchewan Travel Award** (Value - \$350) 2017
Awarded by the College of Graduate and Postdoctoral Studies, the International Student and Study Abroad Center, the Graduate Students' Association and the University of Saskatchewan Students Union to attend the 31st Annual Symposium of the Protein Society held on July 24-27, 2017 in Montreal, Quebec.
- Protein Structure Function and Malfunction Symposium Poster Prize** (Value - \$200) 2017
Awarded by Proteomics Research in Interactions and Structure of Macromolecules (PRISM) at the 5th Annual Protein Structure Function and Malfunction (PSFaM) Symposium held on June 14-16, 2017 at the University of Saskatchewan.
- IUCr Young Scientist Award** (Value - INR 25,000) 2017
Awarded by the International Union of Crystallography 2017 Bursary Committee to attend the 24th International Union of Crystallography Congress and General Assembly in Hyderabad, India
- Larry Calvert Travel Award** (Value - \$1,500) 2017
Awarded by the Canadian National Committee for Crystallography to attend the 24th International Union of Crystallography Congress and General Assembly in Hyderabad, India
- Provost's Outstanding Graduate Student Teacher Award** (Value - \$1,000) 2017
Awarded by the University of Saskatchewan in recognition of a graduate student who shows outstanding promise as a teacher and who has a strong commitment to reflecting, documenting and improving their teaching skills.
- Dr. Gerhard Herzberg International Conference Award** (Value - \$2,500) 09/2016 - 08/2017
Awarded by the Department of Chemistry, University of Saskatchewan to attend the 24th International Union of Crystallography Congress and General Assembly in Hyderabad, India
- Saskatchewan Innovation and Opportunity Scholarship** (Value - \$20,000) 09/2016 - 04/2017
Awarded by the Government of Saskatchewan and the University of Saskatchewan for post-graduate research on an emerging area of study where innovative work is being completed.
- Graduate Teaching Fellowship** (Value - \$8,454) 09/2015 - 08/2016
Awarded by the Department of Chemistry.
- Harold Ross Saddington Memorial Award** (Value - \$6,000) 2015
Awarded by the Department of Chemistry based on high academic achievement.
- Dr. O. Kenneth Johansson Memorial Scholarship** (Value - \$500) 09/2014 - 08/2015
Awarded by the Department of Chemistry for outstanding achievements as a Teaching Assistant in a second year organic chemistry course.
- Graduate Teaching Fellowship** (Value - \$8,454) 09/2014 - 08/2015
Awarded by the Department of Chemistry.

Nominated by the College of Graduate Studies and Research, Graduate Awards and Scholarships Committee for the 2015-2016 NSERC PhD Scholarship National Competition and for the 2016-2017 Walter C. Sumner Memorial Fellowship National Competition. Nominated by the Saskatoon Open Door Society for the 2017 Silver Spoon Sterling Award for Volunteering in the Community and by the Department of Chemistry for the 2017 Gail Appel Global Citizenship Award.

Teaching Experience

- Department of Chemistry, University of Saskatchewan** 09/2013 - Present
 General Chemistry Lecture Demonstrator, *supervision of Dr. Alexandra Bartole-Scott*
 Introduction to Organic Chemistry Laboratory, *supervision of Dr. Marcelo Sales*
 General Chemistry I Laboratory, *supervision of Dr. Alexandra Bartole-Scott*

College of Biological Sciences, University of Guelph 09/2011 - 04/2013
Foundations Molecular Biology and Genetics Tutorial, *supervision of Dr. Christine Schisler*
Introduction to Molecular and Cellular Biology Tutorial, *supervision of Kim Kirby*

Department of Biology, University of Waterloo 09/2008 - 03/2010
Principles of Human Physiology 1 Laboratory, *supervision of Dr. Bruce R. Wolff*
Fundamentals of Microbiology Laboratory, *supervision of Dr. Cheryl Duxbury*

International House, Selangor Darul Ehsan, Malaysia 04/2007 – 06/2007
English Language Teacher

Research Experience

Department of Molecular and Cellular Biology, University of Guelph
Research Assistant – Dr. Janet M. Wood Laboratory 01/2011 - 04/2011
Nature of Work: Participated in research related to the osmosensory transporter ProP of *Escherichia coli*.

Department of Genetics and Development, Institut de Recherches Cliniques de Montréal
Research Assistant – Dr. Marie Kmita Laboratory 09/2010 - 09/2010
Nature of Work: Participated in research related to understanding the importance of *Hox* genes in bone development.

Department of Biology, University of Waterloo
Volunteer Research Assistant – Dr. Barbara A. Moffatt Laboratory 11/2009 - 05/2010
Nature of Work: Participated in research related to understanding how gene expression and enzymatic activity are regulated to meet a plant's metabolic needs.

Department of Medical Genetics and Microbiology, University Health Network
Laboratory Assistant – Dr. John Dick Laboratory 08/2008 - 12/2008
Nature of Work: Participated in research related to the isolation of stem cells from human cord blood and the cloning of candidate genes that could potentially be important in the formation of leukemia stem cells.

Publications and Presentations

A. THESIS

Naheda Mohamad Fayez Sahtout. (2013). Analyzing the homodimeric and heteromeric nature of the osmosensory transporter ProP from *Escherichia coli*. Master's Thesis. Available online: <<https://dspace.lib.uoguelph.ca/xmlui/handle/10214/7410>>. University of Guelph, Guelph, Ontario, Canada.

B. ARTICLES PUBLISHED IN REFEREED JOURNALS

Sahtout, N., Kuttiyatveetil, J. R., Fodje, M. and Sanders, D. A. (2016). Putative thioredoxin Trx1 from *Thermosipho africanus* strain TCF52B: expression, purification and structural determination using S-SAD. *Acta Crystallogr F Struct Biol Commun*, **F72**:443-7.

C. NON-REFEREED CONTRIBUTIONS

Oral Presentations (*Presenter)

Naheda Sahtout* and David Sanders. "Characterizing the Thioredoxin System from the Thermophilic Eubacteria *Thermosipho africanus*". Regional. 4th Annual Protein Structure Function and Malfunction Symposium. June 23-24, 2016. University of Saskatchewan, Saskatoon, Saskatchewan, Canada

Naheda Sahtout* and David Sanders. "Characterizing the Thioredoxin System from Psychrophilic and Hyperthermophilic Organisms". Institutional, April 10, 2014. University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

Naheda Sahtout* and Janet M. Wood. "Analyzing the homodimeric and heteromeric nature of the osmosensory transporter ProP from *Escherichia coli*". Institutional, August 18, 2013. University of Guelph, Guelph, Ontario, Canada.

Naheda Sahtout* and Janet M. Wood. "The importance of the cytoplasmic carboxyl terminal sequence of ProP for ProP function, localization and interaction". Institutional, November 18, 2011. University of Guelph, Guelph, Ontario, Canada.

Poster Presentations (*Presenter)

Naheda Sahtout*, Jijin R. A. Kuttiyatveetil and David Sanders. "The Thioredoxin System from *Thermosipho africanus*: Structure and Function.". International. 31st Annual Symposium of the Protein Society. July 24-27, 2017, Montreal, Quebec. AND 24th International Union of Crystallography Congress and General Assembly. August 21-28, 2017. Hyderabad, India

Naheda Sahtout*, Jijin R. A. Kuttiyatveetil and David Sanders. "Structural Studies of the Thioredoxin System from the Thermophilic Eubacteria *Thermosipho africanus*". Regional. 5th Annual Protein Structure Function and Malfunction Symposium. June 15-16, 2017. University of Saskatchewan, Saskatoon, Saskatchewan, Canada

Karen Gonzalez*, **Naheda Sahtout**, Limei Chang, Craig Kerr, Doreen E. Culham, Chelsea Coumoundouros, Lindsay Murdock, Peter Villa, Raymond J. Turner and Janet M. Wood. Application of the BACTH system: Exploring roles of protein interactions in localization and function for the osmoregulatory transporter ProP of *Escherichia coli*. National. Canadian Society of Microbiologists 65th Annual Conference. June 15-18, 2015. University of Regina, Saskatchewan, Canada.

Naheda Sahtout* and David Sanders. "Psychrophile vs. Mesophile: A Comparison of Two Different Thioredoxin Systems.". Regional. 3rd Annual Protein Structure Function and Malfunction Symposium. May 6-7, 2015. University of Saskatchewan, Saskatoon, Saskatchewan, Canada

Naheda Sahtout* and David Sanders. "The Thioredoxin System: A Model for Protein-Protein Interactions in Extremophiles". Regional. 2nd Annual Protein Structure Function and Malfunction Symposium. June 13-15, 2014. University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

Limei Chang, Craig Kerr, Tanya Romantsov, **Naheda Sahtout**, Raymond J. Turner and Janet M. Wood*. "Polar localization of osmosensory transporter ProP in *Escherichia coli* cells". International. The Gordon Research Conference on Mechanisms of Membrane Transport. June 16-21, 2013. Mount Holyoke College, South Hadley, Massachusetts, USA.

Naheda Sahtout* and Janet M. Wood. Analyzing the effects of the N- and C-terminal His tag on ProP function, expression and oligomeric state in *Escherichia coli*. Institutional, 9th Annual Graduate Student Symposium, April 25, 2013. University of Guelph, Guelph, Ontario, Canada.

Leadership and Community Involvement

Career Day Talks at the Department of Chemistry 09/2017 – 05/2018

Organizer, University of Saskatchewan

The goals of the Career Day Talks are to provide students with an important opportunity to network and understand future employment availabilities.

Graduate Students' Association 08/2017 – 04/2018

Vice-President External, University of Saskatchewan

The Vice-President External serves as a liaison officer between the GSA executive and the Canadian Federation of Students, including its sub-bodies such as the National Graduate Caucus. This position is also accountable for liaising between other national and international student unions and associations and implementing any campaigns.

1st ThinkGrad Conference, Graduate Students' Association 03/2017 – 04/2017

Organizing Committee, University of Saskatchewan

The purpose of this conference is to bring together graduate student representatives from across Canada and provide them a platform to network, share best practices and strategically plan research themes for the upcoming year.

Elections and Referenda Committee 09/2016 – 04/2017

Graduate Student Association, University of Saskatchewan

The committee is responsible to conduct elections and referenda and preside over the vote counting mechanism and election data for the Graduate Student's Association.

Governance Review Committee 09/2016 – 04/2017

Graduate Student Association, University of Saskatchewan

The committee is responsible to make any and all recommendations it feels necessary with respect to maintenance and changes to the governance, policies, procedures, etc., of the Graduate Student's Association.

Bursaries Selection Committee 09/2016 – 04/2017

Graduate Student Association, University of Saskatchewan

The committee is responsible for reviewing bursary applications and determining who the recipients for the Bursaries, offered by the Graduate Student's Association, will be for each term.

Bridge City Bicycle Co-op

05/2016 – 08/2016

Volunteer, Saskatoon, Saskatchewan, Canada

The Bridge City Bicycle Co-op is a volunteer-run, non-profit offering a drop-in workspace, tool and supplies, and bicycle maintenance education. As a volunteer, I assisted in registering people, dismantling old bikes for parts and assisting members of the community with bike repairs.

Saskatoon Open Door Society

12/2015 - Present

Volunteer, Saskatoon, Saskatchewan, Canada

Assisted in a variety of programs aimed at welcoming refugees to Saskatoon to reduce the barriers involved in moving to a new country. This included mentoring a Syrian family, overseeing the Structured Conversation Circle program, whereby I prepared lesson plans to teach English, and volunteering at youth tutoring sessions and English language practice sessions. I assist in translational services when necessary and assist the employees when asked.

Chemistry Course Council, Department of Chemistry

01/2015 - 07/2017

Member, Representative Course Council in the Graduate Student Association

The Chemistry Course Council is a body of graduate students in the Department of Chemistry that addresses the needs of graduate students. As the representative councilor, it is my responsibility to voice any concerns that the graduate students in the Department of Chemistry may have to the Graduate Student Association.

Research Training Supervisor

09/2014 - Present

Department of Chemistry, University of Saskatchewan

I have trained Catherine Zhang, a fourth year undergraduate student who completed her honors project under the supervision of Dr. David A. R. Sanders, and Renelle Humphreys, an undergraduate student who spent two summers working in the lab. I have also been the main point of contact for lab related questions, research support and guidance for both graduate and undergraduate students entering the lab.

Graduate Student Symposium, Department of Chemistry

09/2014 - Present

Co-founder, organizing committee, University of Saskatchewan

This 1st symposium was held on May 29, 2015 and the 2nd symposium was held on May 3-4, 2017. The goal is to have this organized on a biennial basis so that students can experience giving oral and poster presentations to a larger audience.

Protein Structure Function and Malfunction Symposium

09/2013 - 08/2014

Organizing committee, University of Saskatchewan

This symposium attracted students and researchers from across Canada and special keynote speakers from the University of Arizona, the University of Manitoba and the University of Toronto. As part of the organizing committee, I was in charge of determining where student interest lies, developing a poster to advertise the conference and organizing the poster session for the conference.

Let's Talk Science and Science Outreach

09/2011 - Present

Volunteer, Saskatoon, Saskatchewan, Canada and Guelph, Ontario, Canada

I have participated in a number of different outreach activities at the University of Guelph and University of Saskatchewan and by the local community. As a volunteer, I have had the opportunity to visit numerous schools, help host competitions and travel to remote areas to teach science in a fun and enjoyable manner. I have had the great privilege of visiting Northern parts of Saskatchewan and Alberta and working with both non-indigenous and indigenous communities.