

## Tuğba Nur Öztürk-Dalpe

Ph.D. Candidate  
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## EDUCATION

### Doctorate in Physics — Concordia University; Montréal, Canada

September 2014 - June 2019 (expected)

Research area: Molecular modelling, Molecular Dynamics, Homology Modelling, Free Energy Calculations, Reproducible Data Analysis, Computational Chemistry, Bioinformatics.

### Graduate Certificate in University Teaching — Concordia University; Montréal, Canada

September 2017 - November 2018

Main interest: Active learning, Flipped Classroom, Incorporating computational thinking into undergraduate education.

### Master of Science in Computational Science & Engineering — Koç University; İstanbul, Turkey

September 2012 - August 2014

Research area: Molecular modelling, Molecular Dynamics, Bioinformatics, Monte Carlo, Thermodynamics, Reproducible Data Analysis, Computational Chemistry.

### Bachelor of Science in Physics Engineering — İstanbul Technical University; İstanbul, Turkey

September 2006 - June 2011

## AWARDS

- Conference and Exposition Award, Concordia University (2x\$1000) — 2016, 2017
- FEBS Youth Travel Fund (\$1800) — 2017
- Biophysical Society of Canada Travel Award (\$500) — 2017
- Faculty of Arts and Science Student Conference Travel Support, Concordia University (\$375) — 2016
- Mostafa Showleh Physics Teaching Assistant Award, Department of Physics, Concordia University (\$500) — 2016
- PROTEO Graduate Student Scholarship (\$8000) — 2015
- International Tuition Fee Remission Award Tuition Rate — 2014
- Faculty of Arts and Science Graduate Fellowship (\$4250) — 2014-2016
- Concordia University Graduate Fellowship (\$32400) — 2014
- Koç University Full Scholarship for the Graduate Program — 2012

## PUBLICATIONS

### Peer-reviewed Journals

- Krohn\*, Öztürk\*, Vanderperre\* *et al.* (Minor Revisions received). Genetic, structural and functional evidence link TMEM175 to synucleinopathies. ***Annals of Neurology***.
- Culham *et al.* (2018). Dual role of the C-terminal domain in osmosensing by bacterial osmolyte transporter ProP, ***Biophysical Journal*** (Accepted, doi: 10.1016/j.bpj.2018.10.023)
- Öztürk, T. N. and Keskin, S. (2014). Computational Screening of Porous Coordination Networks for Adsorption and Membrane-Based Gas Separations, ***J. Phys. Chem. C***, 118 (25), 52 (49), 13988-13997.
- Öztürk, T. N. and Keskin, S. (2013). Predicting Gas Separation Performances of PCNs using Atomistic Simulations, ***Ind. Eng. Chem. Res.***, 52 (49), 17627-17639.

## Conference Proceedings

- Ozturk, T. N. and Lamoureux, G. (Submitted). Ion permeation through Orai proteins. *Biophysical Journal*.
- Ozturk, T. N. and Lamoureux, G. (2017). Molecular Modelling of Hexamer and Tetramer Forms of the Orai Calcium Channel. *Biophysical Journal*, 112(3), 506a.
- Ozturk, T. N. and Demiralp, M. (2012). Classical Dynamics of Isolated Univariate Quartic Anharmonic Oscillator via Probabilistic Evolution, *Proceedings of 12th WSEAS International Conference on Systems Theory and Scientific*, 224-228.
- Ozturk, T. N. and Demiralp, M. (2012). Probabilistic evolution in purely second order one unknown autonomous explicit ODEs under initial conditions, *Proceedings of 13th WSEAS International Conference on Mathematics and Computers in Biology and Chemistry, Mathematical Models and Methods in Applied Sciences*, 63-68.

## WORK EXPERIENCE

### Research

**Research Assistant** — Under Prof. Dr. Guillaume Lamoureux's supervision, Department of Physics, Concordia University; 2014 - PRESENT

Focus: Molecular modelling of ion permeation through Orai calcium channels, computational investigation of structural dynamics of TMEM175 potassium channel and its variants associated with Parkinson's disease, computational analysis of the ProP transporter's C-terminal domain in osmosensing.

T. Öztürk designed the computational studies on ion channels and transporters. She supervised summer interns, performed Molecular Dynamics, Umbrella Sampling simulations and free energy calculations, analyzed the simulation data, contributed in writing two peer-review journal articles and she is currently writing two other articles as well as her Ph.D. thesis.

**Research Assistant** — Under Prof. Dr. Seda Keskin's supervision, Koç University; 2012 - 2014

Focus: Computational investigation of small gas adsorption and diffusion through nanoporous crystals named as porous coordination networks, performing Grand Canonical Monte Carlo and Equilibrium Molecular Dynamics simulations for assessing adsorption-based and membrane-based separation performances of different porous crystals.

T. Öztürk designed and conducted two projects, wrote two peer-review journal articles and gave oral and poster presentations in the national and international conferences.

### Teaching

**Lecturer** — Department of Physics, Concordia University; 2018

Teaching the undergraduate level Mechanics course (PHYS 204).

**Workshop Facilitator/IT Workshop Leader** — GradProSkills, Concordia University; 2017 - PRESENT

Designing and facilitating Python and R workshop for graduate students.

**Workshop Facilitator** — Center of Teaching and Learning, Concordia University; 2017 - PRESENT

[Irregular Basis]

Co-facilitating two teaching workshops (32-hour graduate-level graduate seminar in university teaching and TA orientation workshops).

**Teaching Assistant** — Department of Physics, Concordia University; 2014 - PRESENT

Grading, instructing the laboratory experiments and demonstrating the problem solving sessions for the first year physics courses: Mechanics, Electricity and Magnetism, Optics.

**Teaching Assistant** — Koç University; 2012 - 2014

Grading, instructing laboratory experiments, demonstrating science documentaries, facilitating discussion groups, designing assignments, demonstrating problem solving sessions for different courses including : SCI 103 Life Sciences, SCI 107 Energy and Environment, SCI 110 Physics of Sphere, CHEM 301 Physical Chemistry, CHBI 585 Molecular Modelling, MECH 204 Thermodynamics.

## Other (Leadership, Mentorship, Supervision and Organization)

**Supervision**, Department of Physics, Concordia University — 2018.

T. Öztürk supervised an undergraduate student from the University of Guelph for her summer internship in Lamoureux Research Group at Concordia University. The aim of this project was computational investigation of coiled-coil interaction of the C-terminus domain of the ProP peptide.

**The Graduate Student Committee Member for the Academic Chair Search Process**, Department of Physics, Concordia University — 2017.

T. Öztürk has been chosen as the graduate student member of the academic chair search committee. She also took part in evaluating the faculty position applicants in the Department of Physics as a senior Ph.D. student.

**Science Discussion Community Leader**, Department of Physics, Concordia University — 2018.

A science communication project organized by T. Öztürk and funded by Department of Physics. It aimed to promote science communication between graduate students and involved mini-tutorials on teaching, writing, presenting, communication skills.

**Head of External Sponsors**, Chemistry and Biochemistry Graduate Student Conference, Concordia University — 2016 and 2017.

A total of ~5000\$ raised by T. Öztürk through company donations. She also took part in organizing various events before, during and after the day of the conference.

**Mentor**, High Altitude Ballooning Project, Department of Physics, Concordia University — 2014 - 2015.

This project's aim was to offer undergraduate women in physics opportunities to develop valuable research experience and to connect with female mentors in the graduate program. It involved designing and executing a high altitude balloon payload. T. Öztürk mentored and supervised three female undergraduate students on designing a microcontroller sensor board to gather, store and send data acquired from the balloon's flight.

## COMPUTER SKILLS

- **Bash**, C, C++, Matlab, **Octave**, **Python**, **R**, **Tcl**.
- Molecular Modelling: **Bio3D**, BioPython, CHARMM, **MDAnalysis**, Modeller, MDtraj, **NAMD**, PyMOL, **VMD**.
- Latex, Microsoft Office, Google Docs/Sheets/Slides, Adobe Photoshop.
- **Linux** (Ubuntu), Mac OS, and Windows.

## LANGUAGES

English (fluent), French (Beginner) and Turkish (native).

## PROFESSIONAL MEMBERSHIPS

- RLadies Montreal & RLadies Istanbul
- The Biophysical Society
- The Biophysical Society, Education Committee Member
- The Biophysical Society of Canada
- PROTEO (The Quebec Network for Research on Protein Function, Engineering, and Applications)
- Centre for Research in Molecular Modeling - Concordia University
- epiSTEM Türkiye - A group of Turkish academicians promoting scientific thinking