**DANAI GEORGIA TOPOUZA**

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**EDUCATION**

**Master of Science Candidate in Experimental Medicine 2017-Present**

Department of Biomedical and Molecular Sciences Queen’s University, Kingston, Canada

Thesis: Biological networks and genomic variants modulating chemotherapy response in ovarian cancer

Supervisor: Dr. Qingling Duan

# Bachelor of Science Honours in Biology (Major), Computer Science (Minor) 2013 – 2017

Queen’s University, Kingston, Canada

Thesis: Copper induced stress response and programmed cell death in *Saccharomyces cerevisiae*

Supervisor: Dr. Paul G. Young

**RESEARCH EXPERIENCE**

**MSc Candidate May 2017 - Present**

Queen’s University, Kingston, Canada

* Supervisor: Dr. Q.L. Duan
* Identification of gene networks and variants involved in drug response
* RNA-Seq data processing, transcriptome and genomic variant analysis in a computational genomics laboratory

# Undergraduate Research Thesis Sept. 2016 – Apr. 2017

Queen’s University, Kingston, Canada

* Supervisor: Dr. P.G. Young
* Undergraduate thesis studying programed cell death in *S. cerevisiae*
* Transcriptome analysis using bioinformatics techniques
* Thesis submitted to BIOL 537 research course (select students only)

# Queen’s International Genetically Engineered Machine (iGEM) May 2016 – Oct. 2016 Team Executive

Queen’s University, Kingston, Canada

* Head of the Dry Lab research team in the Queen’s iGEM team for 2016
* Summer research project studying non-ribosomal peptide synthesis
* Molecular dynamics and modeling of protein interactions, machine learning algorithms and energy optimisation
* Part of QGEM’s 2016 research project for participation at the International Genetically Engineered Machine competition.

# Research Assistant Oct. 2015 – July 2016

Queen’s University, Kingston, Canada

* Supervisor: Dr. T. Babak
* Collaborated with Dr. B. DeVeale from University of California, San Fransisco
* Statistical analysis and visualization of data for a genome-wide association study on schizophrenia

# Lab Assistant Internship June 2015 - July 2015

IVF facility, Interbalkan Medical Center, Thessaloniki, Greece

* Supervisor: Dr. I. Tziafetas, MD
* Assisted in laboratory organisation and maintenance in a professional setting, became familiar with proper handling of human embryonic cells.

# Lab Volunteer Jan. 2015 – Oct. 2015

Queen’s University, Kingston, Canada

* Supervisor: Dr. S.C. Lougheed
* Tissue sampling and preservation of native Ontario snakes to investigate species distribution
* Genetic analysis (PCR, gel electrophoresis) of collected samples and participation in field work

**TEACHING EXPERIENCE**

**Teaching Assistant Sept. 2018 – Dec. 2018**

Queen’s Department of Biomedical and Molecular Sciences, Queen’s University, Kingston, Canada

* Instructor: Dr. Q. Duan
* BMED 370: Genetics and Genomics
* Participated in assignment and rubric design, assisted students in online course, marked student assignments

**Teaching Assistant Jan. 2018 – April 2018**

Queen’s Department of Biomedical and Molecular Sciences, Queen’s University, Kingston, Canada

* Instructor: Dr. Q. Duan
* BMED 370: Genetics and Genomics
* Assisted students in online course, marked student assignments

# Lab Teaching Assistant Sept. 2017 – Dec. 2017

Queen’s Biology Department, Queen’s University, Kingston, Canada

* Instructor: Dr. R. Snetsinger
* BIOL 102: Introductory Biology of Cells
* Oversaw and marked laboratory sections of the course

# Teaching Assistant Sept. 2016 – Dec. 2016

Queen’s School of Computing, Queen’s University, Kingston, Canada

* Instructor: Dr. W. Powley
* CISC 101: Elements of Computer Science, the Python version of the introductory programming course
* Marked assignments and exams, held lab office hours for course help, presented a guest lecture on programming exercises

# Teaching Assistant Sept. 2015 – Dec. 2015

Queen’s School of Computing, Queen’s University, Kingston, Canada

* Instructor: Dr. D. Skillicorn
* CISC 101: Elements of Computer Science, the Matlab version of the introductory programming course, with an emphasis on data mining techniques
* Oversaw and marked the laboratory component of the course, managed a class of 40 students and improved their understanding of data analysis and statistics methods

**LANGUAGES**

Greek Native

English Fluent, Cambridge Proficiency in English (May 2011), University of Michigan Proficiency in English (May 2011), TOEFL iBT (September 2012)

French Moderate, DELF B1 Certification (May 2011)

**PRACTICAL SKILLS**

* Programming languages: Java, Python, R, Matlab, C, Unix, Haskell, Prolog.
* Bioinformatics techniques: transcriptome and expression analysis and relevant software (SAMtools, Tuxedo suite), molecular dynamics software (PyMOL, PyRosetta).
* Data mining techniques: classification, clustering, prediction algorithms.
* Molecular techniques including agarose gel electrophoresis, PCR, DNA extraction and recombination, protein spectrophotometry and assays.

**POSTERS AND PRESENTATIONS**

**American Society of Human Genetics (ASHG) 2018 Meeting 16-20 Oct. 2018**

San Diego, USA

* Poster presentation #685:

Gene expression networks modulating chemotherapy response in ovarian cancer

**Toronto RNA Enthusiast’s Day 31 July 2018**

SickKids Peter Gilgan Centre for Research and Learning, Toronto, Canada

* Poster presentation:

Biological networks modulating chemotherapy response in ovarian cancer

**The Twenty-First Annual Scientific Meeting for Health Science Research Trainees 13 June 2018**

Queen’s University, Faculty of Health Sciences, Kingston, Canada

* Poster presentation:

Biological networks modulating chemotherapy response in ovarian cancer

# Masters Student Symposium Seminar Presentation 24 April 2018

Queen’s University, Department of Biomedical and Molecular Sciences, Kingston, Canada

* Oral presentation in series:

A pharmacogenomics analysis of biological networks regulating chemotherapy response among ovarian cancer patients

# Undergraduate Thesis Poster Presentation 10 Mar. 2017

Queen’s University, Department of Biology, Kingston, Canada

* Poster presentation about thesis:

Programmed cell death in the unicellular eukaryote *Saccharomyces cerevisiae*

# Undergraduate Thesis Seminar Presentation 11 Nov. 2016

Queen’s University, Department of Biology, Kingston, Canada

* Oral presentation in seminar series:

Programmed cell death in the unicellular eukaryote *Saccharomyces cerevisiae*

# International Genetically Engineered Machine Competition 27-31 Oct. 2016

Boston, USA

* Bronze medal standing with QGEM in the iGEM 2016 Competition
* Poster presentation on summer research project:

Pharming the Blues: Improving biosynthesis of natural products

# Scinapse Undergraduate Science Case Competition (Finalist) Feb. 2016

Western University, London, Canada

* Project presentation on science case proposal:

The role of mycorrhizal community assemblages in agricultural productivity

**AWARDS**

**Conference Travel Award (CTA) 2017-2018**

Queen’s University, Kingston, Canada

* Awarded to select graduate students in the Department of Biomedical and Molecular Sciences
* Funded travel to the American Society of Human Genetics 2018 Meeting
* Funds awarded: $ 250

**International Tuition Award (ITA) 2017-2018**

Queen’s University, Kingston, Canada

* Scholarship awarded to select international graduate students
* Funds awarded: $ 5,000

# Principal’s Scholarship 2013

Queen’s University, Kingston, Canada

* Scholarship awarded to students whose high school average is greater than 95%
* Funds awarded: $ 6,000