DANAI GEORGIA TOPOUZA

danai.topouza@queensu.ca

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 **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

Toronto RNA Enthusiast's Day **31 July 2018**
SickKids Peter Gilgan Centre for Research and Learning, Toronto, Canada

- Poster presentation:
  Gene expression 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

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