

# Arvin Zaker

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## EDUCATION

**University of Ottawa** Sep 2019 - Apr 2023 (Expected)  
*Honours Bachelor of Science (H.BSc) in Translational and Molecular Medicine (CGPA: 9.96/10)* Ottawa, ON

**Cardiff Sixth Form College** Sep 2018 - Jun 2019  
*General Certificate of Education Advanced Subsidiary Level (Avg: 100%)* Cardiff, UK

## SKILLS

- **Programming languages:** R, Python, Bash
- **Software:** ImageJ, Imlris, Microsoft Office Suite
- **Bioinformatic skills:** Transcriptomic and genomic analysis, bioinformatic pipeline development
- **Lab techniques:** phage extraction and amplification, fluorescent imaging, electrophysiological recordings

## RESEARCH EXPERIENCE

**Bioinformatics Researcher** Sep 2022 - Present  
*University of Ottawa* Ottawa, ON

- Supervisor: Dr. Arvind Mer
- Creating computation tools for analyzing cancer drug response
- Developing novel *in vivo* drug response quantification metrics
- Correlational study between cancer gene biomarkers and drug response
- Open source package development and developing analysis pipelines

**Undergraduate Trainee - Laboratory rotations & TST program** Jan 2022 - Aug 2022  
*University of Ottawa* Ottawa, ON

- Supervisor: Dr. Arvind Mer
- Utilized the R programming language in genomic and transcriptomic data analysis
- Cancer phenotype and survival analysis of novel DNA repair complexes
- Data extraction and processing from Pan-cancer databases
- Utilizing text mining algorithms for biomarker discovery

**Undergraduate Trainee - SEA-PHAGES program** Sep 2021 - Dec 2021  
*University of Ottawa* Ottawa, ON

- Supervisor: Dr. Adam Rudner
- Performed environmental sampling and phage extraction techniques
- Performed DNA extraction and genomic analysis via gel electrophoresis
- Used Python and ImageJ to analyze the restriction digest pattern of phages
- Phage discovery and characterization (Arzan and Khorshid)

**Research Assistant - UROP program** Nov 2020 - Jul 2022  
*University of Ottawa* Ottawa, ON

- Supervisor: Dr. Jean-Marc Renaud
- Designing experiments and setting up research equipment for data collection
- Performing experiments on mouse muscles using electrophysiological equipment
- Performing antibody staining, fluorescent imaging, and analysis of muscle tissue in the Imlris program

## WORK EXPERIENCE

**Family Visitor and Program Assistant (Volunteer)** Feb 2020 - May 2020  
*Garry J Armstrong Long Term Care Centre* Ottawa, ON

- Communicated effectively with residents
- Aided residents to perform group activities
- Channeled residents' questions to the nursing staff

**Stock Manager and Coordinator (Volunteer)***Scope Charity Shop*

Sep 2018 - Jun 2019

*Cardiff, UK*

- Communicated with a team of volunteers and employees
- Created accounting records to manage incoming donations
- Priced items during sales events
- Rearranged store merchandise to ensure customer satisfaction

**Sales Associate (Volunteer)***Tenovus Cancer Care Charity Shop*

Sep 2018 - Jun 2019

*Cardiff, UK*

- Coordinated with a team of volunteers
- Managed sales and provided excellent customer service
- Aided in designing marketing campaigns to promote the store's merchandise
- Tracked customer donations and returns

**PUBLICATIONS**

**Large-scale phenogenomic analysis of human cancers uncovers frequent alterations affecting chromosome architecture proteins in breast cancer** (under revision in NAR Cancer)

*Shamayita Roy, Arvin Zaker, Arvind Mer & Damien D'Amours*

**Text-Mining based Feature Selection for Machine Learning in Anti-Cancer Drug Response Prediction** (submitted)

*Grace Wu, Ishaan Goswami, Arvin Zaker, Arvind Mer*

**Comprehensive analysis of drug response metrics in patient-derived xenografts** (in preparation)

*Arvin Zaker, Arvind Mer***VOLUNTEER EXPERIENCE****Lets Talk Science Presenter***University of Ottawa*

Jan 2021 - Present

*Ottawa, ON***Founder of the University of Ottawa Canadians Sharing Locally and Globally***University of Ottawa Canadians Sharing Locally and Globally*

Dec 2020 - Present

*Ottawa, ON***Volunteer Coordinator & Co-Chair at Best Buddies club***Best Buddies club*

Sep 2020 - Present

*Ottawa, ON***Founder and Coordinator of Hands on Health Magazine***Interprofessional Health Association (IPHA) club*

Jun 2020 - Present

*Ottawa, ON***POSTERS & PRESENTATIONS****Poster and Seminar Presentation "Analysis of Drug Response in Patient-Derived Xenograph"***Faculty of Medicine, University of Ottawa*

Feb &amp; Sep 2022

*Ottawa, ON***Poster and Presentation "Discovery and Characterization of Bacteriophage Arzan"***Faculty of Medicine, University of Ottawa*

Dec 2021

*Ottawa, ON***Poster "Role of Adenosine Receptors on mice skeletal muscle fatigue kinetics"***Faculty of Medicine, University of Ottawa*

Apr 2021

*Ottawa, ON***AWARDS & ACHIEVEMENTS****TMM Summer Training & Work in Biomedical Research Scholarship (\$8200)**

May 2022 - Aug 2022

**UROP Scholarship, University of Ottawa (\$1000)**

Dec 2020 - Apr 2021

**Dean's Honour List & Merit Scholarship, University of Ottawa (\$1000 per term)**

Sep 2019 - Present

**Admission Scholarship, University of Ottawa (\$3000)**

Sep 2019 - Apr 2020

**Academic Excellence Scholarship, Cardiff Sixth Form College (\$14000)**

Sep 2018 - Jun 2019