

Arvin Zaker

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SKILLS

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

WORK EXPERIENCE

Bioinformatics Researcher

University of Ottawa

Sep 2022 - Present

Ottawa, ON

- 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

Patient Care Coordinator & Receptionist

Chadha Medical Clinic

Sep 2022 - June 2023

Ottawa, ON

- Assisted with appointment scheduling, referrals, and testing coordination to 30+ patients weekly
- Collaborated with the medical team and to address patients' unique needs and backgrounds.
- Ensuring timely follow-ups and patient satisfaction in a fast-paced environment

Undergraduate Trainee - Laboratory rotations & TST program

University of Ottawa

Jan 2022 - Aug 2022

Ottawa, ON

- 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

University of Ottawa

Sep 2021 - Apr 2022

Ottawa, ON

- 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

University of Ottawa

Nov 2020 - Jul 2022

Ottawa, ON

- 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 Imiris program

Family Visitor and Program Assistant (Volunteer)

Garry J Armstrong Long Term Care Centre

Feb 2020 - May 2020

Ottawa, ON

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

Volunteer Sales & Stock Coordinator

Scope Charity Shop & Tenovus Cancer Care Charity Shop

Sep 2018 - Jun 2019

Cardiff, UK

- Collaborated with volunteer teams across two charity shops
- Managed sales, customer service, and donation tracking
- Created accounting records and priced items for sales events
- Assisted in developing marketing campaigns for store promotion
- Rearranged store merchandise to enhance customer experience

VOLUNTEER EXPERIENCE

Lets Talk Science Presenter <i>University of Ottawa</i>	Jan 2021 - Present Ottawa, ON
Founder of the University of Ottawa Canadians Sharing Locally and Globally <i>University of Ottawa Canadians Sharing Locally and Globally</i>	Dec 2020 - Present Ottawa, ON
Volunteer Coordinator & Co-Chair at Best Buddies club <i>Best Buddies club</i>	Sep 2020 - Present Ottawa, ON
Founder and Coordinator of Hands on Health Magazine <i>Interprofessional Health Association (IPHA) club</i>	Jun 2020 - Present Ottawa, ON
Childcare work experience <i>Cylch Meithrin Trelai Child Care Center</i>	Apr 2019 Cardiff, UK
Fundraising event participant <i>Allameh Helli 3 High School</i>	Jan 2016 Tehran, IR

EDUCATION

University of Ottawa <i>Honours Bachelor of Science (H.BSc) in Translational and Molecular Medicine (CGPA: 9.98/10)</i>	Sep 2019 - Apr 2023 Ottawa, ON
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PUBLICATIONS & PRESENTATIONS

Roy S., **Zaker, A.**, Mer, A., D'Amours, D. (2023). Large-scale phenogenomic analysis of human cancers uncovers frequent alterations affecting SMC5/6 complex components in breast cancer, *NAR Cancer*, 5(3). DOI: 10.1093/narcan/zcad047.

Wu, G., **Zaker, A.**, Tripathi, S., Mer, A. (2023). Text-Mining Based Feature Selection for Anticancer Drug Response Prediction. (submitted to Briefings in Bioinformatics)

Roy, S., **Zaker, A.**, Mer, A., D'Amours, D. (2023). Large-scale phenogenomic analysis of human cancers uncovers frequent alterations affecting SMC5/6 complex components. *Canadian Society for Molecular Biosciences (CSMB) International Conference*. Ottawa, ON.

Zaker, A., Mer, A. (2022). Comparative analysis of drug response metrics in patient-derived xenografts. *4th Annual Faculty of Medicine Research Day*. Ottawa, ON.

Friesen, R., Algharbi S., **Zaker, A.**, Mahdi, O., Gao, R., Ferri, O., et al. (2022). Investigating Nucleotide-binding Proteins in Bacteriophage JohnDoe. *SEA Symposium*. University of Pittsburgh, Pittsburgh, PA.

Featherstone, A., Radar, A., Salama, A., Tiukuvaara, S., Ferri, O., **Zaker, A.**, et al. (2022). Give Us a Millet of Your Time: Dehusking the Singleton Bacteriophage Arzan. *SEA Symposium*. University of Pittsburgh, Pittsburgh, PA.

Zaker, A., McRae, C., Renaud, J.M. (2021). Role of Adenosine Receptors on mice skeletal muscle fatigue kinetics. *UROP symposium*. University of Ottawa, Ottawa, ON.

AWARDS & ACHIEVEMENTS

CPR level C	July 2023
NSERC - Undergraduate Student Research Awards (USRA) (\$7500)	May 2023 - Aug 2023
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