

DWAYNE RICARDO TUCKER

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PERSONAL SUMMARY

Detail-oriented PhD researcher in health sciences with nine (9) years of experience in laboratory medicine. Skilled in predictive analytics, machine learning, statistics, and clinical research. Looking to integrate my knowledge in healthcare, clinical research, and data science to improve population health, particularly in underserved communities.

EDUCATION

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| PhD, Women’s + & Children Health Sciences University of British Columbia (UBC), Vancouver, Canada Co-supervisors: Dr. Paul Yong and Dr. Aline Talhouk | 2019 – 2024 (expected) |
| MSc., Oncology (Merit) University of Nottingham (UoN), Nottingham, United Kingdom Supervisor: Dr. Monica Pallis | 2016 - 2017 |
| BSc., Medical Technology Northern Caribbean University, Manchester, Jamaica | 2006 - 2010 |

RESEARCH EXPERIENCE

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| PhD Researcher <i>University of British Columbia, Canada BC Children’s and Women’s Hospital</i> <ul style="list-style-type: none">Machine Learning: Developed high-accuracy models to predict pain-related outcomes after surgery.Clinical Data Analysis: Managed tasks including extraction, cleaning, feature engineering, and visualization.Biomarker Identification: Conducted histopathological analysis to identify biomarkers for endometriosis severity.Training and Mentorship: Conceptualized and supervised research projects conducted by medical students and visiting fellows, providing training in data analytics, histopathology, and journal manuscript preparation.Statistical and Analytical Support: Consult on analysis plans, conduct data analyses, and lead R coding tutorials. | April 2020 - present |
| Research Assistant <i>British Columbia Centre for Disease Control, Canada HIV/STI prevention</i> <ul style="list-style-type: none">Qualitative Research: Mixed-methods study on HPV vaccination and cervical cancer screening adoption among Trans Men in Canada:<ul style="list-style-type: none">Completed ethics application including drafting all affiliated documents.Aided in designing questionnaires and interview protocols for healthcare providers and study participants.Data Analysis: Cleaned and analyzed multi-provincial cancer screening data on patient-reported experiences. | May 2023 - present |
| PhD Student <i>University of British Columbia, Canada Vancouver Prostate Centre</i> <ul style="list-style-type: none">Optimized the PCR detection of a novel circular RNA (circKLK3-2345) encoded by the KLK3 (PSA) gene using divergent primers and confirmed its presence in MR49F prostate cancer cell lines by cloning and sequencing. | Sept 2019 - Mar 2020 |
| Research Fellow <i>Fox Chase Cancer Center, Philadelphia USA Ragin Lab</i> <ul style="list-style-type: none">Genotyped DNA samples to assess the prevalence of three unique SNPs in the Black-Caribbean population.Measured urinary NNAL from tobacco smokers evaluating its metabolism in African Americans living in Philadelphia. | July - Aug 2019 |
| Research Coordinator <i>Caribbean Institute for Health Research, Jamaica Epidemiology Unit</i> <i>Investigated specific SNPs in predicting cardiometabolic disease in Black-Caribbean men receiving androgen deprivation therapy for prostate cancer.</i> <ul style="list-style-type: none">SOP Development: Designed the standard operating procedures for sample collection (blood, urine, saliva), processing, and storage in compliance with ISO standards for medical testing.Recruitment: Led participant recruitment of prostate cancer survivors from urology clinics in Jamaica, including conducting follow-up interviews and anthropometric measurements.Sample Handling: Conducted all sample collection (including phlebotomy), processing and storage for study participants. | Feb 2018 - Aug 2019 |
| Master’s Student <i>University of Nottingham, UK Hematology Dept.</i> | Jan 2017 - Sept 2017 |

- **In Vitro Model Development:** Designed reproducible bone marrow models using acute myeloid leukemia cell lines to study the effects of dormancy and sub-lethal drug exposure on Integrin Beta-3 protein expression.

WORK EXPERIENCE

Lab administrator July 2020 - Dec 2022

Skidmore Goodman Research Wet lab | WHRI | BC Children's and Women's Hospital

- **Strategic Procurement:** Orchestrated the acquisition and commissioning of ~300,000 CAD worth of scientific equipment, and the new lab space set-up.
- **Lab Administration:** Spearheaded all facets of laboratory upkeep, including the development of standard operating procedures, meticulous management of procurement and inventory, and training all new and visiting personnel.
- **Creative Contribution:** Helped conceptualize, direct videos, and generate materials for donor engagement.

Senior Clinical Laboratory Scientist July 2010 - Aug 2019

University of the West Indies, Jamaica | Pathology

- **Streamlined High-Volume Analysis:** Processed over 5600 medical samples monthly in accordance with ISO 15189 guidelines. Additionally, conducted biochemical analysis on over 900 renal calculi.
- **Quality Assurance:** Performed quality audits for medical labs and upheld current standard operating procedures.
- **Policy Changes:** Influenced medical testing changes that saved over \$1,000,000 JMD (10,000 CAD) annually.
- **System Implementation:** Helped to optimize and validate the company's first laboratory information system.
- **Training and Mentorship:** Trained and mentored over 100 medical students and medical technology interns. Supervised over 35 undergraduate clinical laboratory projects as clinical rotation facilitator.
- **Education Leadership:** Taught over 700 medical students in clinical chemistry principles.
- **Team Leadership:** Regularly served as **Chief Technologist**, overseeing a team of 20 employees, and ensuring exceptional result quality and turnaround times.

Medical Technology Intern Jan 2010 - June 2010

University Hospital of the West Indies, Jamaica

- Practical rotation of medical laboratories: Clinical Chemistry, Haematology, Histology, Cytology, Clinical Microbiology, Blood Bank, Immunology/ Serology, and Clinical Microscopy.

SELECTED HONORS, AWARDS & GRANTS (\$197,900 CAD)

- Best Oral Communication - 10th Society for Endometriosis & Uterine Disorder (SEUD) Congress in Geneva, Switzerland (2024); 500 euros (~740 CAD)
- SEUD International Travel Award (2024) – 10th SEUD; 1000 euros (~ 1,470 CAD)
- Faculty of Medicine Travel Award (2024) – UBC; 500 CAD
- Shaughnessy Hospital Society Fellowship in Health Care (2022-2023) - UBC; 8,350 CAD
- Michael Smith Memorial Fellowship (2022-2023) - UBC; 4,275 CAD
- Anti-racism Initiative Grant winner & Graduate Postdoctoral Studies (2021) – UBC; 11,000 CAD
- Top Three Oral Presentation (2021) – CanSAGE Conference, Canada
- Graduate Research Award in Women's Health (2021-2022) - BC Women's Health Research Institute; 13,500 CAD
- Graduate Student Travel Award (2022) – UBC; 500 CAD
- The Presidents Academic Excellence Initiative PhD Award (2020-2024) – UBC; 6,000 CAD
- Faculty of Medicine Graduate Awards (2019-2024) – UBC; 8,000 CAD
- International Tuition Awards (2019-2024) – UBC; 16,000 CAD
- **Declined:** Developing Solution Scholarship (2016-2017) – The University of Nottingham (UK); £19,300 (~33,500 CAD)
- Outstanding Service Award to Clinical Chemistry (2019) – University of the West Indies, Jamaica
- University of Nottingham's Partnership scholarship award (UK) (2016-2017); £19,300 (~ 33,500 CAD)
- British Chevening Scholarship (2016-2017) – Foreign & Commonwealth Office (UK); £34,500 (~60,000 CAD)
- Development Fund Awardee (2016) – University of the West Indies; 100,000 JMD (~ 900 CAD)

SELECTED PUBLICATIONS

[Link to Google Scholar](#)

Journal Articles

- Sreya M, **Tucker DR**, et al. [Nerve Bundle Density and Expression of NGF and IL-1 \$\beta\$ Are Intra-Individually Heterogenous in Subtypes of Endometriosis](#). Biomolecules. 2024.
- Dungate B, **Tucker DR**, et al. [Assessing the Utility of artificial intelligence in endometriosis: Promises and pitfalls](#). Womens Health (Lond). 2024.

- Zoet G, **Tucker DR**, et al. [Standardized protocol for quantification of nerve bundle density as a biomarker for endometriosis](#). Front Reprod Health. 2023.
- **Tucker DR**, et al. [Pelvic pain comorbidities associated with quality of life after endometriosis surgery](#). Am J Obstet Gynecol. 2023.
- **Tucker D**, et al. [Circular RNA and its potential as prostate cancer biomarkers](#). World J Clin Oncol. 2020.

Book Chapters

- Miller, F., Anderson, M., **Tucker, D.**, et al. [Diabetes: biopsychosocial features affecting metabolic control and treatment adherence](#). Biopsychosocial Perspectives and Practices for Addressing Communicable and Non-Communicable Diseases, 106-133. Hershey, PA: IGI Global, 2020.
- Anderson, M., **Tucker, D.**, et. al. [Quality of Life and Well-Being of Breast Cancer Patients](#). In Psycho-Social Perspectives on Mental Health and Well-Being, 67-94. Hershey, PA: IGI Global, 2020.
- McGrowder, D., **Tucker, D.**, et al. [Accreditation of Medical Laboratories: Challenges and Opportunities](#). Handbook of Research on Modern Educational Technologies, Applications, and Management, 600-616. Hershey, PA: IGI Global, 2021.
- **Tucker D**, et. al. [Dietary Antioxidants in the Chemoprevention of Prostate Cancer. Antioxidants](#). IntechOpen; 2019.

SELECTED PRESENTATIONS & COMMUNICATIONS

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| 10 TH SEUD Congress, Geneva, Switzerland | May 2024 |
| * Best Oral Communication Award | |
| The World Congress on Endometriosis, Scotland, UK | May 2023 |
| Canadian Student Health Research Forum (National Poster Competition) & Gairdner Symposium | June 2022 |
| Canadian Society for the Advancement of Gynecologic Excellence (CanSAGE) conference | Sept 2021 |
| * Top 3 Oral Communication | |
| OGYN Academic Day, Faculty of Medicine, UBC | March 2021 |
| Other Knowledge Translation opportunities | |
| @WomensResearch Episode 21: Checking in with Dr. Nikki Salmond and Dwayne Tucker | Sept 2022 |
| Op-ed: Dwayne Tucker: My Journey Through Mentorship | Feb 2021 |

SKILLS & COMPLEMENTARY LEARNING

Programming and statistical software: Proficient in R (R Markdown, *ggplot*, *Tidyverse*, *Shiny*, *Caret*, *Quarto*) and SPSS.

Wet lab: PCR, DNA transfection & cloning, bacterial transformation, RNA extraction, electrophoresis, culture & sensitivity, cell culture, cell viability assays, flow cytometry, Immunohistochemistry, ELISA, FISH, Western Blot, BCA protein assay.

Complementary Learning/ Certificates:

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| Data Analyst in R, Datacamp | Feb 2024 |
| Hypothesis Testing in R, Datacamp | Feb 2024 |
| Machine Learning with Caret, Datacamp | Sept 2022 |
| Supervised Learning in R: Classification, Datacamp | Aug 2022 |
| Population Health: Predictive Analytics, Leiden University (Coursera) | Feb 2021 |
| Introduction to Statistics & Data Analysis in Public Health, Imperial College London (Coursera) | Jan 2021 |

SERVICE

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| Founder/Coordinator - The Effective Mentorship of Racialized Graduate Students Initiative , UBC | Sept 2021- Mar 2023 |
| <ul style="list-style-type: none"> ○ Secured Funding: Primary applicant for the successful grant application to fund the initiative. ○ Survey Development: Created and implemented surveys and conducted focus-groups to gather qualitative data. ○ Workshop Organization: Planned and emceed a successful workshop on racism in education. ○ Policy Recommendations: Proposed recommendations to enhance mentorship for racialized students, earning commendation from the Dean of Graduate Studies. | |
| Coordinator - Black History Month Event with Graduate Studies, UBC | Feb 2021 |
| Adjudicator - Multidisciplinary Undergraduate Research Conference at UBC (Online canvas) | May 2020 |
| Medical Laboratory Expert – Co-designed COVID-19 medical testing protocols in Jamaica, UWI | May 2020 |
| Graduate Student Ambassador - UBC | May 2020 -Mar 2021 |
| Medical laboratory scientist volunteer - Free health fairs in Kingston, Jamaica | 2010-2018 |
| <ul style="list-style-type: none"> ○ Administered free urinalyses and blood tests to over 400 patrons at each event. | |