Junior J. West

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Education

- **PhD Cell and Systems Biology**
  University of Toronto, Toronto, Ontario, 2013-2019
  Thesis: Spreading and Sealing: Epithelial morphogenesis regulated by the Arf-GEF Steppke (Supervisor: Dr. Tony Harris)

- **HBSc Human Biology Health & Disease and Cell & Molecular Biology**
  University of Toronto, Toronto, Ontario, 2008-2013
  Honors Thesis: An investigation into the E2 binding partners of ring finger domain containing protein 126 (Supervisor: Dr. C. Jane McGlade)

Research Interests

My research program is focused on studying dysregulation of cell-cell adhesion protein complexes during cancer cell invasion and metastasis.

Research Experience

- **Post-Doctoral Fellowship,** Johns Hopkins University, Baltimore, Maryland, 2019-Present,
  Supervisor: Prof. Andrew Ewald
  - Studying mechanisms of tight junction expression and function in normal mammary epithelia and during breast cancer progression.

- **Graduate Research,** University of Toronto, Toronto, Ontario, 2013-2019,
  Supervisor: Tony Harris.
  - Thesis Title – 'Spreading and Sealing: Epithelial Morphogenesis Regulated by the Arf-GEF Steppke'
  - Investigated the role of the Arf-GEF *steppke* during embryonic development of the model organism *Drosophila melanogaster*.

- **Undergraduate Research Student,** University of Toronto, Toronto, Ontario, 2011-2013,
  Supervisor: Dr. C. Jane McGlade.
  - Investigated the molecular basis of medulloblastoma tumor metastasis.
  - Studied the functional significance of genes amplified in medulloblastoma

- **Undergraduate Research Student,** University of Toronto, Toronto, Ontario, 2010-2011,
  Supervisor: Dr. Keiko Yoshioka.
  - Conducted lab maintenance to ensure the fidelity of lab experiments.
  - Performed a suppressor screen to identify novel *Arabadopsis* mutants.

Publications

- **West J**, Harris TJ. (2020). The Arf-GEF Steppke promotes F-actin accumulation, cell protrusions and tissue sealing during Drosophila dorsal closure. PLoS One. 15(11):e0239357. **doi:** 10.1371/journal.pone.0239357**.**

- Zheng S*, **West J*,** Yu CG, Harris, TJ. (2019) Arf-GEF localization and function at myosin-rich adherens junctions via coiled-coil hetero-dimerization with an adaptor. Mol Biol Cell. 30(26):3090-3103. doi: 10.1091/mbc.E19-10-0566.
    - *These authors contributed equally to the work.

- **West J**, Zulueta-Coarasa T, Fernandez-Gonzalez R, Harris TJ. (2017) An actomyosin-Arf-GEF negative feedback loop for tissue elongation under stress. Curr Biol. 27(15):2260-2270.e5. doi: 10.1016/j.cub.2017.06.038.
    - Recommended by the faculty 1000 (https://f1000.com/prime/727835470?ref=ypp&utm_medium=email&utm_source=prime_ypp)
    - Highlighted in Current Biology: Stockinger P, Solon J. (2017) Tissue Morphogenesis: Take a Step Back and Relax! Curr Biol. 27(16):R813-R815. doi: 10.1016/j.cub.2017.07.029.

- **West J**, Harris TJ. (2016) Cadherin trafficking for tissue morphogenesis: control and consequences. Traffic. 17(12):1233-1243. doi: 10.1111/tra.12407. Review.

Grants and Fellowships

- Postdoctoral Fellowship, **Black in Cancer/Emerald Foundation**, $250 000, 2022-2025
    - Postdoctoral fellowship for research and career development expenses.
- Postdoctoral Enrichment Program for Underrepresented Minorites, **Burroughs Wellcome Fund,** $60 000, 2021-2023
    - Postdoctoral fellowship funding for research and career development expenses.
- Ontario Graduate Scholarship, **Province of Ontario Scholarship**, $15 000, 2017-2018
    - Graduate Scholarship to pursue PhD work.
- University of Toronto, **University of Toronto Fellowship**, $36 630, 2013-2019
    - Doctoral fellowship to pursue PhD work.

Honours and Awards

- Postdoctoral Research Accelerator Award, Johns Hopkins University School of Medicine, 2021 ($1989)
- DeLill Nasser Travel Award for Professional Development in Genetics, Genetics Society of America (GSA), 2018 ($1000)
- School of Graduate Studies Conference Grant, School of Graduate Studies, University of Toronto, 2016 ($690)
- Poster prize at CanFly, 2015
- Ontario Woodsworth Memorial Foundation Scholarship, 2013
- Labatt Brain Tumor Research Centre Summer Studentship Award, 2012
- SickKids Summer Research Program Symposium Poster Award, 2012

Presentations

Oral Presentations:

- **West J**, Cho Chae Yun, Golloshi R, Roberts I, Ewald AJ. Claudin 7 restricts cancer invasion and metastasis by suppressing smooth muscle actin networks. Gordon Research Conference. June, 2023.

- **West J**, Cho Chae Yun, Golloshi R, Roberts I, Ewald AJ. Barrier Breakdown: Claudin proteins restrict cancer invasion and metastasis. Invited Talk: University of Michigan Ann Arbor. June, 2023.

- **West J**, Cho Chae Yun, Golloshi R, Roberts I, Ewald AJ. Claudin 7 restricts cancer invasion and metastasis by suppressing smooth muscle actin networks. MIT Catalyst Symposium. May, 2023.

- **West J**, Cho Chae Yun, Roberts I, Ewald AJ. The tight junction inhibits cancer invasion and metastasis. London, England, United Kingdom. Black in Cancer Conference. October, 2022.

- **West J**, Cho Chae Yun, Roberts I, Ewald AJ. The tight junction inhibits cancer invasion and metastasis. Boston, Massachusetts. Cancer Target Discovery and Development Network Annual Meeting (National Cancer Institute). September, 2022.

- **West J**, Cho Chae Yun, Ewald AJ. Tight junction proteins restrict aggressive cancer cell behaviors. Baltimore, Maryland. Rising Stars Symposium (Johns Hopkins School of Medicine). April, 2022.

- **West J**, Bang JM, Yu CG, Scepanovic G, Fernandez-Gonzalez R, Harris TJ. The Arf-GEF Steppke promotes actin-based cell protrusion for normal tissue sealing and disruptive epithelial dissociation. Toronto, Canada. Canadian Fly Conference (CanFly). June, 2019.

- **West J**, Zulueta-Coarasa T, Fernandez-Gonzalez R, Harris TJ. An actomyosin-Arf-GEF negative feedback loop for tissue elongation under stress. New Hampshire, USA. Gordon Research Conference [Cell Contact and Adhesion]. June, 2017

- **West J**, Zulueta-Coarasa T, Fernandez-Gonzalez R, Harris TJ. An actomyosin-Arf-GEF negative feedback loop for tissue plasticity. Orlando, Florida, USA. The Allied Genetics Conference (International). Genetics Society of America. July, 2016.

Poster Presentations:

- **West J**, Cho Chae Yun, Golloshi R, Roberts I, Ewald AJ. Claudin 7 restricts cancer invasion and metastasis by suppressing smooth muscle actin networks. Gordon Research Conference. June, 2023.

- **West J**, Cho Chae Yun, Roberts I, Ewald AJ. Tight junction proteins restrict cancer cell metastasis. Washington DC, USA. Cell Bio 2022 (American Society for Cell Biology). December, 2022.

- **West J**, Bang JM, Yu CG, Scepanovic G, Fernandez-Gonzalez R, Harris TJ. The Arf-GEF Steppke promotes actin-based cell protrusion for normal tissue sealing and disruptive epithelial dissociation. Les Diablerets, Switzerland. Gordon Research Conference [Cell contact and Adhesion] June, 2019.

- **West J**, Bang JM, Yu CG, Scepanovic G, Fernandez-Gonzalez R, Harris TJ. A cytohesin Arf-GEF (Steppke) promotes actin protrusions for tissue morphogenesis in vivo. San Diego, California, USA. ASCB/EMBO Meeting. December, 2018.

- **West J**, Zulueta-Coarasa T, Fernandez-Gonzalez R, Harris TJ. An actomyosin-Arf-GEF negative feedback loop for tissue elongation under stress. New Hampshire, USA. Gordon Research Conference [Cell Contact and Adhesion]. June, 2017.

- **West J**, Zulueta-Coarasa T, Fernandez-Gonzalez R, Harris TJ. An actomyosin-Arf-GEF negative feedback loop for tissue plasticity. Orlando, Florida, USA. The Allied Genetics Conference (International). Genetics Society of America. July, 2016.

- **West J**, Harris T. The Arf-GEF Steppke Promotes Epithelial Tissue Plasticity. Montreal, Quebec, Canada. CanFly (National). June 2015.

Service and Leadership Experience

- **Committee Member**, Diversity Postdoc Alliance Committee (DPAC) HBCU Metorship Committee, Johns Hopkins University School of Medicine, Baltimore, Maryland, 2021-Present.
    - Served as a mentor for undergraduate students interested in STEM who attended historically black colleges and universities (HBCUs).
    - Developed surveys for mentors and mentees who participated in the program to track the effectiveness of mentor-mentee relationships.
    - Organized networking sessions for mentors and mentees.
- **Reviewer,** Student Spaceflight Experiments Program, National Center for Earth and Space Science, 2021-Present
    - Reviewed grant proposals from high school students.
    - Selected winning proposals to perform a zero-gravity experiment on the international space station.
- **Chair**, Gordon Research Seminar (Cell Contact and Adhesion, June 2019), Gordon Research Conferences, Les Diablerets, Switzerland, 2018-2019
    - Developed diverse program for international two-day seminar.
    - Acquired and distributed funding to ensure successful execution of programming.
    - Managed applications to ensure those participating could benefit from the programming.
- **Student Representative,** Collaborative Program in Developmental Biology, University of Toronto, Toronto, Ontario 2015-2019
    - Led the organization of social events, annual retreats, and other relevant meetings of the program.
    - Attended regular meetings of the steering committee of the program.
    - Reached out to students of the program to solicit feedback and assess student

satisfaction with the program.

- **Co-Chair**, Cell and Systems Biology Graduate and Post-Doc Seminar Series, University of Toronto, Toronto, Ontario, 2014-2018
    - Helped in the organization of monthly seminars by recruiting speakers, hosting the seminars, advertising the seminars, and ordering lunch.
    - Developed innovative ways to engage trainees in the seminar series.

- **Director of External Relations**, S.E.E.D.S., Toronto, Ontario, 2013-2016
    - Organized science outreach programs for youth ages 12-18 in high priority neighborhoods in Toronto.
    - Increased outreach of organization from 100 participants to over 500 participants.
    - Developed sponsorship portfolio for this not for profit organization.
    - Led a team of 5 in reaching out to external organizations and businesses.

- **Lead Residence Assistant,** Woodsworth College, University of Toronto, Toronto, 2010-2013.
    - Helped in the management of a team of 9 Residence Assistants to ensure everyone was fulfilling their contracts.
    - Organized events within and outside of the residence to aid students in academic, personal, and social development.
    - Resolved challenging situations, such as roommate conflict, and medical emergencies, efficiently and effectively while working both independently and as a part of a team.

- **Orientation Coordinator**, Woodsworth College, University of Toronto, Toronto, 2011-2012.
    - Organized academic orientation events for incoming students to help prepare them in transitioning to University academics.
    - Supervised a team of 20 volunteers in the planning and execution of the events.

- **Intramural Volleyball Team Captain**, University of Toronto, Toronto, Ontario, 2011-2013.
    - Organized practices, and team socials for the team.

Teaching Experience

- **Teaching Assistant, Stem Cell Biology**, Department of Cell and Systems Biology, University of Toronto 2017-2019
    - Aided in the creation and grading of in-class assignments, midterm, and final examinations.
- **Teaching Assistant, Developmental Biology**, Department of Cell and Systems Biology, University of Toronto 2014-2019
    - Prepared lectures and class activities focusing on the study of developmental biology for 20 third year students.
    - Aided in the creation and grading of tutorial assignments, midterm, and final examinations.
- **Teaching Assistant, Molecular and Cell Biology,** Department of Cell and Systems Biology, University of Toronto 2013-2015
    - Prepared lectures and led lab demonstrations focusing on the study of cell and molecular biology to 50-75 first year students.

- Aided in the creation and marking of quizzes and lab assignments.

- **Teaching Assistant, From Genes to Organisms,** Department of Cell and Systems Biology, University of Toronto 2013-2014
  - Prepared lectures and led lab demonstrations focusing on the study of cell and molecular biology to 50 second year students.
  - Aided in the creation and marking of quizzes and lab assignments.

Mentoring Activities

- **Mentor**, Johns Hopkins University School of Medicine, 2019-Present
  - Mentored two PhD rotation students in the Ewald lab for 6 weeks.
  - Mentored two Master of Science Student during their two-year degree.
  - Mentored an HBCU undergraduate student for 10 weeks during the summer of 2022.
  - Aided in the design, training, execution of experiments, and written reports.

- **Mentor**, University of Toronto, 2015-2019
  - Mentored four (4) undergraduate students as they carried out their fourth-year honor's projects in the lab.
  - Aided in the design, training, execution of experiments, and written reports.

Journal Review Activities

- **Reviewer**, Gene Expression Patterns, Elsevier
  - Number of Works Reviewed/Refereed: 1

Course Development

- Teaching Assistant, Cell and Systems Biology, University of Toronto, 2017
  Course Title: Stem Cell Biology: Developmental Models and Cell-Based Therapeutics
  Course Level: Undergraduate
  - Taught the first cohort of students in this new course.
  - Developed and evaluated new topics to be covered during the course.
  - Developed course evaluations including exams and assignments.

- Teaching Assistant, Cell and Systems Biology, University of Toronto, 2015
  Course Title: Developmental Biology
  Course Level: Undergraduate
  - Developed new laboratory experiments for students to perform during lab sections.
  - Developed student evaluations (in-lab assignments, midterms, and final exams).

Technical Skills

- Proficient in Adobe photoshop, ImageJ, Velocity, Imaris.
- Extensive experience operating Compound, Dissecting, Spinning Disk and laser Scanning microscopes.

- Laboratory Technical Skills: general *Drosophila* and *mus musculus* husbandry, 3D tissue culture, fluorescent microscopy, confocal microscopy, immunofluoresence, DNA/RNA/protein isolation, qRT-PCR, Western blot, DNA cloning, and SDS-PAGE.

Languages

- English: Fluent
- French: Fluent