Miranda V. Hunter, Ph.D

NCI K99/R00 Postdoctoral Fellow
Cancer Biology and Genetics
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Education

2018	Ph.D, University of Toronto Cell and Systems Biology Developmental Biology
2012	B.Sc, McGill University Anatomy and Cell Biology

Research experience

2018-	Postdoctoral fellow, Memorial Sloan Kettering Cancer Center Supervisor: Richard White, M.D., Ph.D *Relocated to the Mara Sherman lab upon White lab move to Oxford (fall 2023)*
2012-2018	Graduate researcher, University of Toronto Supervisor: Rodrigo Fernandez-Gonzalez, Ph.D
2011-2012	Undergraduate researcher, McGill University Supervisor: Nathalie Lamarche-Vane, Ph.D
2010, 2011	Undergraduate researcher, University of Western Ontario Supervisor: David Litchfield, Ph.D

Additional research training

2019	MSKCC Scientific Education course: Advanced Image Analysis
2017	MBL Physiology Course, Woods Hole, MA

Full publication list Google Scholar Pubmed

2024 **Hunter MV***, Montal E, Ma Y, Moncada R, Yanai I, Koche RP, White RM*. Mechanical confinement governs phenotypic plasticity in melanoma. *bioRxiv* (2024). Full text link *Co-corresponding

2023 Zhang H, **Hunter MV**, Chou J, Quinn JF, Zhou M, White RM, Tansey W. BayesTME: An end-to-end method for multiscale spatial transcriptional profiling of the tissue microenvironment. *Cell Systems* (2023). Full text link

2023 Suresh S, Rabbie R, Garg M, Lumaquin D, Huang T, Montal E, Ma Y, Cruz NM, Tang X, Nsengimana J, Newton-Bishop J, **Hunter MV**, Zhu Y, Chen K, de Stanchina E, Adams D, White RM. Identifying the transcriptional drivers of metastasis embedded within localized melanoma. *Cancer Discovery* (2023). Full text link

2022 Weiss JM, **Hunter MV**, Cruz NM, Baggiolini A, Tagore M, Ma Y, Misale S, Marasco M, Simon-Vermot T, Campbell NR, Newell F, Wilmott JS, Johansson PA, Thompson JF, Long GV, Pearson JV, Mann GJ, Scolyer RA, Waddell N, Montal ED, Huang T, Jonsson P, Donoghue M, Harris CC, Taylor BS, Xu T, Chaligne R, Shliaha PV, Ariyan C, Solit DB, Wolchok JD, Merghoub T, Rosen N, Hayward NK, White RM. Anatomic position determines oncogenic specificity in melanoma. *Nature* (2022). Full text link

- Commentary in *Nature*: Marine, J-C and Soengas, MS. Cell position matters in tumour development. Full text link

2021 **Hunter MV*,** Moncada R*, Weiss JM, Yanai I†, White RM†. Spatially resolved transcriptomics reveals the architecture of the tumor-microenvironment interface. *Nature Communications* (2021). Full text link *Equal contribution †Equal supervision

- Named one of the most read *Nature Communications* articles in health sciences in 2021: 2021 Top 25 Health Sciences Articles

2021 Campbell NR, Rao A, **Hunter MV**, Sznurkowska MK, Briker L, Zhang M, Baron M, Heilmann S, Deforet M, Kenny C, Ferretti L, Huang T, Perlee S, Garg M, Nsengimana J, Saini M, Montal E, Tagore M, Newton-Bishop J, Middleton MR, Corrie P, Adams DJ, Rabbie R, Aceto N, Levesque MP, Cornell RA, Yanai I, Xavier JB, White RM. Cooperation between melanoma cell states promotes metastasis through heterotypic cluster formation. *Developmental Cell* (2021).
Full text link

- Commentary in *Developmental Cell*: Frantz, F and Ceol, C. Working together: heterotypic clusters and collective cell migration in melanoma invasion. Full text link

2021 Baggiolini A, Callahan SJ, Montal E, Weiss JM, Trieu T, Tagore MM, Tischfield SE, Walsh RM, Suresh S, Fan Y, Campbell NR, Perlee SC, Saurat N, **Hunter MV**, Simon-Vermot T, Huang T, Ma Y, Hollmann T, Tickoo SK, Taylor BS, Khurana E, Koche R, Studer L, White RM. Developmental chromatin programs determine oncogenic competence in melanoma. *Science* (2021). Full text link

- Commentary in *Science*: Vredevoogd, D and Peeper, D. Enabling oncogenes. Full text link
- Recommended on Faculty Opinions

2021 Scepanovic G, **Hunter MV**, Kafri R, Fernandez-Gonazlez R. p38-mediated cell growth and survival drive rapid embryonic wound repair. *Cell Reports* (2021). Full text link

2020 Baron M, Tagore M, **Hunter MV**, Kim IS, Moncada R, Yan Y, Campbell NR, White RM, Yanai I. The stress-like cancer cell state is a consistent component of tumorigenesis. *Cell Systems* (2020).
Full text link

- Recommended on Faculty Opinions

2018 **Hunter MV**, Willoughby PM, Bruce AEE, Fernandez-Gonzalez R. Oxidative stress orchestrates cell polarity to promote embryonic wound healing. *Developmental Cell* (2018). Full text link

2017 **Hunter MV**, Fernandez-Gonzalez R. Coordinating cell movements in vivo: junctional and cytoskeletal dynamics lead the way. *Current Opinion in Cell Biology* (2017). Full text link [Review]

2017 Wang MFZ, **Hunter MV**, Wang G, McFaul C, Yip CM, Fernandez-Gonzalez R. Automated cell tracking identifies mechanically-oriented cell divisions during Drosophila axis elongation. *Development* (2017). Full text link

2015 **Hunter MV**, Lee DM, Harris TJC, Fernandez-Gonzalez R. Polarized E-cadherin endocytosis directs actomyosin remodeling during embryonic wound repair. *Journal of Cell Biology* (2015). Full text link

- Recommended on Faculty Opinions

2014 **Hunter MV**, Fernandez-Gonzalez R. Cell migration: a force to be reckoned with. *Nature Physics* (2014). Full text link [Commentary]

2013 **Hunter MV**, Fernandez-Gonzalez R. Gastrulation: cell polarity comes full circle. *Current Biology* (2013). Full text link [Commentary]

Funding

2023-2028 NCI K99/R00 Pathway to Independence Award
$1,096,032 USD

2023-2026* Scholarship for the Next Generation of Scientists, Cancer Research Society (Canada)
$170,000 CAD
**Rescinded to accept K99*

2020-2023 CIHR Postdoctoral Fellowship *(analogous to NIH F32)*
$150,000 CAD

2017-2018 Ontario Graduate Scholarship
$15,000 CAD

2015-2017 NSERC Postgraduate Fellowship - Doctoral *(analogous to NSF GFRP)*
$42,000 CAD

Honors and awards

2023 Honorable mention, ASCB Porter Prize for Postdoctoral Research Excellence
2023 Einstein ExCEL Scholar Award, Montefiore Einstein Cancer Center
2022 Leading Edge Fellow
2020 Best talk, Memorial Sloan Kettering Postdoctoral Research Symposium
2020 Runner-up, Larry Sandler Award for best *Drosophila* Ph.D thesis, Genetics Society of America
2018 Departmental nominee, Governor-General's Gold Medal, University of Toronto
2018 Best talk, Cell Polarity Signaling Gordon Research Seminar
2016 Poster prize, 8th Canadian Developmental Biology Meeting
2015 Vietnamese-Canadian Community Graduate Award in Zoology, University of Toronto
2013 Elizabeth Ann Wintercorbyn Award for Academic Excellence, University of Toronto
2013 School of Graduate Studies Conference Grant, University of Toronto
2013 CIHR Institute Community Support Travel Award

Talks

2024 Developmental Biology Alumni Symposium, University of Toronto, Toronto, ON
2023 Cell Bio 2023, Boston, MA
2023 Einstein ExCEL Symposium, Montefiore Einstein Cancer Center, Bronx, NY
2023 Department of Cell Biology, Johns Hopkins University School of Medicine, Baltimore, MD
2022 Cell Bio 2022, Washington, DC
2022 Developmental Mechanics Seminar Series, virtual
2022 IRCM, Montreal, QC
2022 Leading Edge Symposium, virtual
2022 17th International Zebrafish Conference, Montreal, QC
2022 Single-Cell Cancer Biology Gordon Research Conference, Easton, MA
2021 Albert Einstein College of Medicine, Bronx, NY
2021 CSHL Single-Cell Analysis Meeting, virtual
2021 Society for Melanoma Research 18th International Congress, virtual
2021 14th Annual Zebrafish Disease Models Conference, virtual
2021 International Melanoma Networking Event, virtual
2021 10X Genomics Spatial Analysis Symposium, virtual
2021 University of Toronto, Department of Cell and Systems Biology, virtual
2020 Memorial Sloan Kettering Annual Postdoc Symposium, virtual
2018 Cell Polarity Signaling Gordon Research Seminar, Dover, VT
2017 ASCB Annual Meeting, Philadelphia, PA
2016 ASCB Annual Meeting, San Francisco, CA
2016 8th Canadian Developmental Biology Meeting, Banff, AB
2015 Cell Contact and Adhesion Gordon Research Seminar, Andover, NH
2015 56th Annual Drosophila Research Conference, Chicago, IL
2014 55th Annual Drosophila Research Conference, San Diego, CA

Posters (selected)

2022 Society for Melanoma Research 19th International Congress, Edinburgh, UK

2019 12th Annual Zebrafish Disease Models Conference, Boston, MA
2019 New York Academy of Sciences Tumor Heterogeneity Meeting, New York, NY
2018 Cell Polarity Signaling Gordon Research Conference, Dover, VT
2018 8th Canadian Developmental Biology Meeting, Banff, AB
2015 Cell Polarity Signaling Gordon Research Conference, Andover, NH
2014 Signaling by Adhesion Receptors Gordon Research Conference, Lewiston, ME
2013 Canadian Drosophila Research Conference (CANFLY XII), Vancouver, BC

Teaching (*virtual instruction)

Academic Year	Institution	Course	Teaching Contribution
2021*, 2022, 2023	Weill Cornell Medicine, Gateways summer program (undergraduates)	Introduction to Transcriptomics	Course director, course designer, instructor
2021*	City College of New York (undergraduates)	Bio425: Cancer Biology	Guest lecturer (1 lecture)
2012-2014	University of Toronto (undergraduates)	BIO270/271: Animal Physiology I & II	Laboratory teaching assistant

Mentorship (†women and/or underrepresented minority)

Years	Name	School	Role
2021	Jenna Snyder†	Gerstner Sloan Kettering Graduate School	Rotation mentor
2019	Valerie Gallegos†	Weill Cornell Medical College	Rotation mentor
2016-2017	Vicky Zhang†	University of Toronto	Undergraduate mentor
2016	Hester van Dorst†	University of Toronto	Visiting student mentor
2013-2014	Rachel Lanning†	University of Toronto	Undergraduate mentor

Service

2023- Cancer Research Interest Group Junior Leader, Zebrafish Disease Models Society
2023- Early Career Investigator Committee, Zebrafish Disease Models Society
2023 Postdoc representative, Cancer Biology and Genetics faculty search committee, MSKCC
2022 Abstract Planning Committee, Cell Bio 2022
2020-2023 Doctoral Awards Review Committee, Canadian Institutes of Health Research
2015- *Ad hoc* reviewer:
Nature, *Nature Cell Biology*, *Nature Communications*, *Biophysical Journal*, *Communications Biology*
2016-2018 Elementary classroom scientific outreach, Toronto District School Board
2015-2017 Lab Operations Committee, Ted Rogers Center for Heart Research
2012-2014 Graduate Seminar Organizing Committee, Department of Cell and Systems Biology