

MEGAN L. BURGER, Ph.D.

Assistant Professor
Oregon Health & Science University
Dept of Cell, Developmental & Cancer Biology
Dept of Hematology and Oncology
Member, Knight Cancer Institute

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EDUCATION

- 2015-2022 Massachusetts Institute of Technology, Cambridge, MA
Postdoctoral fellowship in Cancer Immunology with Dr. Tyler Jacks
Regulation of T cell responses against lung cancer
- 2008-2014 University of California, Berkeley, CA
Ph.D. in Molecular and Cell Biology in the division of Immunology with Dr. Astar Winoto
Aberrant signaling in developing T cells driving cancer and autoimmune pathology
- 2002-2006 University of Washington, Seattle, WA
B.S. in Biochemistry

HONORS AND AWARDS

- 2020 Margaret A. Cunningham Immune Mechanisms of Cancer Fellowship
- 2020 Ludwig Center for Molecular Oncology at MIT Postdoctoral Fellowship
- 2019 Koch Institute Marlena Felter Bradford Travel Award
- 2016 Jane Coffin Childs Memorial Fund Postdoctoral Fellowship
- 2013 Ruth L. Kirschstein NRSA Predoctoral Fellowship, NIH NCI F31
- 2013 American Association of Immunologists Trainee Abstract Travel Award
- 2013 UC Berkeley Graduate Division Travel Grant
- 2010 UC Cancer Coordinating Committee Predoctoral Fellowship

INVITED PRESENTATIONS

- 2022 Keystone: Cancer Neoantigens, Vaccines and Viruses, Banff, AB, Canada, Proffered Talk
- 2022 CIMT Annual Meeting, Mainz, Germany, Plenary Speaker
- 2021 AACR Tumor Immunology and Immunotherapy, Virtual, Poster
- 2020 CSHL Gene Expression and Signaling in the Immune System, Cold Spring Harbor, NY,
Proffered Talk
- 2019 AACR Tumor Immunology and Immunotherapy, Boston, MA, Proffered Talk and Poster
- 2018 Jane Coffin Childs Memorial Fund Symposium, Boston, MA, Poster
- 2017 Keystone: Cancer Immunology and Immunotherapy, Taking a Place in Mainstream
Oncology, Whistler, BC, Canada, Poster
- 2013 American Association of Immunologists Conference, Honolulu, HI, Proffered Talk

TEACHING AND SERVICE

2022	Panelist, KnightWalks Career Development Workshops, OHSU
2017-2020	Undergraduate Research Mentor and Thesis Advisor, Jacks Laboratory, MIT
2016-2022	Supervisor of technical staff, Jacks Laboratory, MIT
2015-2016	Rotating Graduate Student Mentor, Jacks Laboratory, MIT
2013-2014	Rotating Graduate Student Mentor, Winoto Laboratory, University of California, Berkeley
2011-2012	Graduate Student Divisional Representative, Immunology Division, University of California, Berkeley
2010-2013	Undergraduate Research Mentor and Thesis Advisor, Winoto Laboratory, University of California, Berkeley
2010-2011	Graduate Admissions Student Representative, Immunology Division, University of California, Berkeley
2010	Graduate Student Instructor, Molecular Immunology Lab, University of California, Berkeley
2009	Graduate Student Instructor, Molecular Immunology Lecture, University of California, Berkeley
2007-2008	Laboratory Instructor, Eddy Laboratory, Seattle Children's Hospital Research Institute

TRAINEES

2020-2022	Sara Tavana, Research Technician, MIT
2018-2020	Andrea Garmilla, Undergraduate Researcher, MIT
2018-2020	Grace Crossland, Research Technician, MIT
2017-2018	Izumi de los Rios Kobara, Undergraduate Researcher, MIT
2016-2018	Tamina Kienka, Research Technician, MIT
2012-2013	Nadia Kurd, Undergraduate Researcher, UC Berkeley
2011-2012	April Choi, Undergraduate Researcher, UC Berkeley
2010-2011	Kenneth Leung, Undergraduate Researcher, UC Berkeley

PROFESSIONAL ORGANIZATIONS

American Association for Cancer Research, Member

Society for Immunotherapy of Cancer, Member

PUBLICATIONS

Gaglia, G.*, **Burger, M.L.***, Ritch, C.C., Rammos, D., Yang, D., Crossland, G.E., Tavana, S.Z., Warchol, S., Jaeger, A.M., Coy, S., Johnson, A., Krueger, R., Lin, J.R., Pfister, H., Sorger, P., Jacks, T., Santagata, S. Lymphocyte networks are dynamic cellular communities in the immunoregulatory landscape of lung adenocarcinoma. *Preprint* doi: 10.1101/2022.08.11.503237 (2022)

Warchol, S., Krueger, R., Nirmal, A.J., Gaglia, G., Jessup, J., Ritch, C.C., Hoffer, J., Muhlich, J., Burger, M.L., Jacks, T., Santagata, S., Sorger, P.K., Pfister, H. Visinity: Visual Spatial Neighborhood Analysis for Multiplexed Tissue Imaging Data. *Preprint*. doi: 10.1101/2022.05.09.490039 (2022).

Patel, R., Romero, R., Liang, A., Watson, E., Burger, M.L., Westcott, P.M.K., Mercer, K., Bronson, R., Wooten, E., Bhutkar, A., Jacks, T., Elledge, S. A GATA4-regulated secretory program suppresses tumors through recruitment of cytotoxic CD8 T cells. *Nat Communications* 13(1):256. doi: 10.1038/s41467-021-27731-5 (2022).

Hamza, B., Miller, A.B., Meier, L., Stockslager, M., Ng, S.R., King, E.M., DeGouveia, K.L., Mulugeta, N., Calistri, N.L., Strouf, H., Lin, L., Chin, C.R., Bray, C., Rodriguez, F., Freed-Pastor, W.A., Jaramillo, G.C., Burger, M.L., Weinberg, R.A., Shalek, A.K., Jacks, T., Manalis, S. Measuring kinetics and metastatic propensity of CTCs by blood exchange between mice. *Nat Communications* 12(1):5680. doi:10.1038/s41467-021-25917-5 (2021).

Burger, M.L., Cruz, A.M., Crossland, G.E., Gaglia, G., Ritch, C.C., Blatt, S.E., Bhutkar, A., Canner, D., Kienka, T., Tavana, S., Garmilla, A., Schenkel, J.M., Hillman, M., de los Rios Kobara, I., Li, A., Hwang, W.L., Westcott, P.M.K., Regev, A., Santagata, S., Jacks, T. Antigen dominance hierarchies shape TCF1+ CD8 T cell phenotypes in tumors. *Cell* 184(19):4996-5014. doi:10.1016/j.cell.2021.08.020 (2021).

Schenkel, J.M., Herbst, R.H., Canner, D.A., Li, A., Hillman, M., Shanahan, S., Gibbons, G., Smith, O.C., Kim, J.Y., Westcott, P., Hwang, W., Freed-Pastor, W., Eng, G., Cucco, M.S., Rogers, P., Park, J.K., Burger, M.L., Rozenblatt-Rosen, O., Cong, L., Pauken, K.E., Regev, A., Jacks, T. Conventional type I dendritic cells maintain a reservoir of proliferative tumor-antigen specific TCF-1+ CD8+ T cells in tumor draining lymph nodes. *Immunity* 54(10):2338-2353.e6. doi:10.1016/j.immuni.2021.08.026 (2021).

Burger, M.L., Leung, K.K., Bennett, M.J., Winoto, A. T cell-specific inhibition of multiple apoptotic pathways blocks negative selection and causes autoimmunity. *eLIFE* 3:e03468. doi: 10.7554/eLife.03468 (2014).

Burger, M.L.*, Xue, L.*, Sun, Y., Kang, C., Winoto, A. Premalignant PTEN-deficient thymocytes activate miR-146a and miR-146b as a cellular defense against malignant transformation. *Blood* 123(26):4089-4100. doi: 10.1182/blood-2013-11-539411 (2014).

Thompson, J., Burger, M.L., Whang, H., Winoto, A. Protein kinase C regulates mitochondrial targeting of Nur77 and its family member Nor-1 in thymocytes undergoing apoptosis. *Eur J Immunol* 40(7):2041-2049. doi: 10.1002/eji.200940231 (2010).

Yamaguchi, I., Tchao, B.N., Burger, M.L., Yamada, M., Hyodo, T., Giampietro, C., Eddy, A.A. Vascular endothelial cadherin modulates renal interstitial fibrosis. *Nephron Exp Nephrol* 120(1):e20-31. doi: 10.1159/000332026 (2010).

FUNDING

2022	MIT/Harvard Bridge Project, Bridge Grant, Role: Key Personnel
2020-2021	MIT/Harvard Bridge Project, Footbridge Grant, Role: Key Personnel
2020-2021	Margaret A. Cunningham Immune Mechanisms of Cancer Fellowship, Role: PI
2020-2021	Ludwig Center for Molecular Oncology at MIT Postdoctoral Fellowship, Role: PI
2016-2019	Jane Coffin Childs Memorial Fund Postdoctoral Fellowship, Role: PI
2013-2014	NCI Ruth L. Kirschstein NRSA Predoctoral Fellowship, Role: PI
2010-2011	UC Cancer Coordinating Committee Predoctoral Fellowship, Role: Graduate Student