

CURRICULUM VITAE

Mara H. Sherman, Ph.D.

PRESENT TITLE AND AFFILIATION

Assistant Professor
Oregon Health & Science University
Department of Cell, Developmental & Cancer Biology
Member, Knight Cancer Institute

ADDRESS

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EDUCATION

- 2010-2016 **Salk Institute for Biological Studies, La Jolla, CA**
Gene Expression Laboratory
Postdoctoral Fellow
Advisor: Ronald Evans. Transcriptional regulation of the tumor microenvironment
- 2005-2010 **University of California, Los Angeles, CA**
Ph.D. (Molecular Biology)
Advisor: Michael Teitell. Mechanisms regulating B cell lymphomagenesis
- 2001-2005 **Cornell University, Ithaca, NY**
B.A. (Biological Sciences), *cum laude*
Advisor: Danny Manor. Mechanisms of cellular transformation by the Dbl oncogene

HONORS AND AWARDS

- 2020 Pew-Stewart Scholar Award, Pew Charitable Trusts
- 2018 American Cancer Society Research Scholar Grant
- 2018 National Cancer Institute Research Project Grant (R01)
- 2018 DOD Peer Reviewed Cancer Research Program Career Development Award
- 2017 Hirshberg Foundation Seed Grant
- 2017 V Foundation V Scholar Award
- 2017 Forbeck Scholar Award
- 2017 Cancer Early Detection and Research Center Seed Grant

2017 Medical Research Foundation New Investigator Grant
2016 Brenden-Colson Center for Pancreatic Care Pilot Award
2015 Pathway to Independence (K99/R00) Award, National Institutes of Health
2010 Ruth L. Kirschstein National Research Service Award (Postdoctoral), NIH
2009 Molecular Biology Institute Dissertation Year Award
2007 Paul D. Boyer Outstanding Teaching Award
2006 Ruth L. Kirschstein National Research Service Award (Predoctoral), NIH
2005 *Cum laude*, Cornell University
2003 Biology Honors Program, Cornell University

GRANTS

Current

2019-2023 **American Cancer Society**
Identifying Metabolic Dependencies in the Pancreatic Tumor Microenvironment
Role: Principal Investigator

2018-2023 **National Cancer Institute (R01)**
Identifying and Targeting Metabolic Dependencies in the Pancreatic Tumor
Microenvironment
Role: Principal Investigator

2018-2021 **Department of Defense Peer Reviewed Cancer Research Program**
Understanding Stromal Fibroblast Heterogeneity in the Pancreatic Tumor
Microenvironment
Role: Principal Investigator

2016-2020 **National Cancer Institute (R00)**
Regulation of Cancer Metabolism and Growth by the Pancreatic Tumor Stroma
Role: Principal Investigator

Completed

2017-2019 **The V Foundation for Cancer Research**
Identifying and Targeting Metabolic Dependencies in the Tumor Microenvironment
Role: Principal Investigator

2017-2019 **Cancer Early Detection and Research Center**
Defining Early Determinants of Inflammation-Driven Pancreatic Tumorigenesis
Role: Principal Investigator

2017-2018 **Hirshberg Foundation**
Elucidating the Metabolic Functions of the Pancreatic Tumor Microenvironment
Role: Principal Investigator

2016-2018 **Brenden-Colson Center for Pancreatic Care**
Identification of Novel Chromatin-Interacting Therapeutic Targets in PDAC
Role: Principal Investigator

- 2017-2018 **Medical Research Foundation**
Metabolic and Gene-Regulatory Functions of the Pancreatic Tumor Microenvironment
Role: Principal Investigator
- 2015-2016 **National Cancer Institute (K99)**
Regulation of Cancer Metabolism and Growth by the Pancreatic Tumor Stroma
Role: Principal Investigator

PUBLIC AND PROFESSIONAL SERVICE

Ad hoc Reviewer

- 2020-present *Gut*
- 2020-present *Journal of Experimental Medicine*
- 2020-present *Cancer Cell*
- 2019-present *Nature*
- 2019-present *Proceedings of the National Academy of Sciences*
- 2019-present *Cancer Discovery*
- 2019-present *Cancer & Metabolism*
- 2019-present *Cell Reports*
- 2019-present *JCI Insight*
- 2019-present *Science Translational Medicine*
- 2019-present *eLife*
- 2019-present *Cancer Research*
- 2018-present *Nature Communications*
- 2018-present *Scientific Reports*
- 2017-present *Gastroenterology*
- 2017-present *Oncogene*
- 2017-present *Frontiers in Endocrinology*
- 2016-present *Cancer Immunology Research*

Grant Panels

- 2020 Ad hoc reviewer for NIH CAMP study section
- 2019 Ad hoc reviewer for DOD CDMRP PRCRP Horizon Award
- 2018 Ad hoc reviewer for NIH CAMP study section
- 2018-present Ad hoc grant reviewer for Pancreatic Cancer Research Fund
- 2018-present Ad hoc grant reviewer for Breast Cancer Now
- 2018-present Ad hoc grant reviewer for Medical Research Council
- 2018-present Ad hoc grant reviewer for Cancer Research UK

2017-present Ad hoc grant reviewer for the Horizon Pilot Project Award
2016-present Ad hoc grant reviewer for Pancreatic Cancer United Kingdom (PCUK)

Other

2019-present Dissertation Advisory Committee, graduate student Isabel English
2019-2020 Organizer, Knight Cancer Institute Basic & Translational Sciences Seminar Series
2019 Qualifying exam committee (Chair), graduate student Isabel English
2019-present Director, OHSU CDCB Summer Undergraduate Intern Program
2019 Dissertation Advisory Committee, graduate student Katherine Michaelis
2018-2019 Organizer, Knight Cancer Institute Basic & Translational Sciences Seminar Series
2018-present Dissertation Advisory Committee, graduate student Kyle Romine
2018 Co-director, OHSU CDCB Summer Undergraduate Intern Program
2018 Qualifying exam committee, graduate student Fatma Eryildiz
2018-present Co-leader, Knight Cancer Institute Cancer Biology Program
2018-present Cancer Biology Graduate Program Qualifying Exam Committee co-chair
2018-present Dissertation Advisory Committee, graduate student Clay Hudson
2018-present Dissertation Advisory Committee, graduate student Alexandra Quackenbush
2017 Qualifying exam committee, graduate student Keith Earley
2017 Qualifying exam committee, graduate student Clay Hudson
2016-2017 Co-instructor, OHSU Tumor Microenvironment Journal Club
2016-present Organizer, OHSU Mouse Models of Human Cancer monthly meeting
2016-present Group leader, On Track OHSU! Scientific Outreach Program
2007-2010 Research mentor, Center for Academic and Research Excellence Program

Professional Society Memberships

2013-present Member, American Association for Cancer Research

PUBLICATIONS

1. Zhu Z., Achreja A., Meurs N., Animasahun O., Owen S., Mittal A., Parikh P., Lo T., Franco-Barraza J., Shi J., Gunchick V., **Sherman M.H.**, Cukierman E., Pickering A.M., Maitra A., Sahai V., Morgan M.A., Nagrath S., Lawrence T.S., Nagrath D. (2020). Tumor-reprogrammed stromal BCAT1 fuels branched chain ketoacid dependency in stromal-rich PDAC tumors. *Nature Metabolism*. In press.
2. Bhattacharyya S., Oon C., Kothari A., Horton W., Link J., Sears R.C., **Sherman M.H.** (2020). Acidic fibroblast growth factor underlies microenvironmental regulation of MYC in pancreatic cancer. *Journal of Experimental Medicine*. In press.

3. Sahai E., Astsaturov I., Cukierman E., DeNardo D.G., Egeblad M., Evans R.M., Fearon D., Greten F.R., Hingorani S.R., Hunter T., Hynes R.O., Jain R.K., Janowitz T., Jorgensen C., Kimmelman A.C., Kolonin M.G., Maki R.G., Powers R.S., Puré E., Ramirez D.C., Scherz-Shouval R., **Sherman M.H.**, Stewart S., Tlsty T.D., Tuveson D.A., Watt F.M., Weaver V., Weeraratna A.T., Werb Z. (2020). A framework for advancing our understanding of cancer-associated fibroblasts. *Nature Reviews Cancer*. 20:174-186.
4. Helms E.*, Onate M.K.*, **Sherman M.H.** (2020). Fibroblast heterogeneity in the pancreatic tumor microenvironment. *Cancer Discovery*. 10(5):648-656. (*Co-first author)
5. Sanford-Crane H.*, Abrego J.*, **Sherman M.H.** (2019). Fibroblasts as modulators of local and systemic cancer metabolism. *Cancers (Basel)*. 11(5):619-633. (*Co-first author)
6. Auciello F.R.#, Bulusu V.#, Oon C., Tait-Mulder J., Berry M., Bhattacharyya S., Tumanov S., Allen-Petersen B.L., Link J., Kendsersky N.D., Vringer E., Schug M., Novo D., Hwang R.F., Evans R.M., Nixon C., Dorrell C., Morton J.P., Norman J.C., Sears R.C., Kamphorst J.J.*, **Sherman M.H.***. (2019). A stromal lysolipid-autotaxin signaling axis promotes pancreatic tumor progression. *Cancer Discovery*. 9(5):617-627. (#Co-first author, *Co-corresponding author)
 - Highlighted in *In This Issue, Cancer Discovery*, May 2019
 - Commentary by Biffi G. and Tuveson D.A., A FATal combination: Fibroblast-derived lipids and cancer-derived autotaxin promote pancreatic cancer growth, *Cancer Discovery*, May 2019
7. **Sherman, M.H.** (2018). Stellate cells in tissue repair, inflammation, and cancer. *Annual Review of Cell and Developmental Biology*. 34:333-355.
8. Wei Z., Yoshihara E., He N., Hah N., Fan W., Pinto A.F.M., Huddy T., Wang Y., Ross B., Estepa G., Dai Y., Ding N., **Sherman M.H.**, Fang S., Zhao X., Liddle C., Atkins A.R., Yu R.T., Downes M., Evans R.M. (2018). Vitamin D switches BAF complexes to protect β cells. *Cell*. 173(5):1135-1149.
9. **Sherman M.H.**, Yu R.T., Tseng T.W., Sousa C.M., Liu S., Truitt M.L., He N., Ding N., Liddle C., Atkins A.R., Leblanc M., Collisson E.A., Asara J.M., Kimmelman A.C., Downes M., Evans R.M. (2017). Stromal cues regulate the pancreatic cancer epigenome and metabolome. *Proceedings of the National Academy of Sciences*. 114(5):1129-1134.
10. Sousa C.M., Biancur D.E., Wang X., Halbrook C.J., **Sherman M.H.**, Zhang L., Kremer D., Hwang R.F., Witkiewicz A.K., Ying H., Asara J.M., Evans R.M., Cantley L.C., Lyssiotis C.A., Kimmelman A.C. (2016). Pancreatic stellate cells support tumour metabolism through autophagic alanine secretion. *Nature*. 536(7617):479-83.
11. Hah N.*, **Sherman M.H.***, Yu R.T., Downes M., Evans R.M. (2016). Targeting transcriptional and epigenetic reprogramming in stromal cells in fibrosis and cancer. *Cold Spring Harb Symp Quant Biol*. 80:249-255. (*Co-first author)
12. Ding N., Hah N., Yu R.T., **Sherman M.H.**, Benner C., Leblanc M., He M., Liddle C., Downes M., Evans R.M. (2015). BRD4 is a novel therapeutic target for liver fibrosis. *Proceedings of the National Academy of Sciences*. 112(51):15713-8.
13. Arensman M.D., Nguyen P., Kershaw K.M., Lay A.R., Ostertag-Hill C.A., **Sherman M.H.**, Downes M., Liddle C., Evans R.M., Dawson D.W. (2015). Calcipotriol targets LRP6 to inhibit Wnt signaling in pancreatic cancer. *Molecular Cancer Research*. 13(11):1509-19.

14. **Sherman M.H.**, Yu R.T., Atkins A.R., Ding N., Collisson E.A., Connor F., Van Dyke T., Kozlov S., Martin P., Engle D.D., Tiriach H., Tseng T.W., Dawson D.W., Donahue T.R., Masamune A., Shimosegawa T., Apte M.V., Wilson J.S., Ng B., Lau S.L., Gunton J.E., Wahl G.M., Hunter T., Drebin J.A., O'Dwyer P.J., Liddle C., Tuveson D.A., Downes M., Evans R.M. (2014). Vitamin D Receptor-mediated stromal reprogramming suppresses pancreatitis and enhances pancreatic cancer therapy. *Cell*. 159(1):80-93.
 - Highlighted in *Research Highlights, Nature Reviews Cancer*, October 2014
 - Commentary by Rowley D.R., Reprogramming the tumor stroma: A new paradigm, *Cancer Cell*, October 2014
 - Commentary by Froeling F.E. and Kocher H.M., Homeostatic restoration of desmoplastic stroma rather than its ablation slows pancreatic cancer progression, *Gastroenterology*, April 2015
15. Ding N., Yu R.T., Subramaniam N., **Sherman M.H.**, Wilson C., Rao R., Leblanc M., Coulter S., He M., Scott C., Lau S.L., Atkins A.R., Barish G.D., Gunton J.E., Liddle C., Downes M., Evans R.M. (2013). A Vitamin D Receptor/SMAD genomic circuit gates hepatic fibrotic response. *Cell*. 153(3):601-13.
16. Subramaniam N., **Sherman M.H.**, Rao R., Wilson C., Coulter S., Atkins A.R., Evans R.M., Liddle C., Downes M. (2012). Metformin-mediated Bambi expression in hepatic stellate cells induces pro-survival Wnt/ β -catenin signaling. *Cancer Prevention Research*. 5(4):553-61.
17. **Sherman M.H.**, Downes M., Evans R.M. (2012). Nuclear receptors as modulators of the tumor microenvironment. *Cancer Prevention Research*. 5(1):3-10.
18. **Sherman M.H.**, Bassing C.H., Teitell M.A. (2011). Regulation of cell differentiation by the DNA damage response. *Trends in Cell Biology*. 21(5):312-9.
19. **Sherman M.H.**, Kuraishy A.I., Deshpande C., Hong J.S., Cacalano N.A., Gatti R.A., Manis J.P., Damore M.A., Pellegrini M., Teitell M.A. (2010). AID-induced genotoxic stress promotes B cell differentiation in the germinal center via ATM and LKB1 signaling. *Molecular Cell*. 39(6):873-85.
20. Chen S., **Sherman M.H.**, Hertlein E., Johnson A.J., Teitell M.A., Byrd J.C., Plass C. (2009). Epigenetic alterations in a murine model for chronic lymphocytic leukemia. *Cell Cycle*. 8(22):3663-7.
21. Balatoni C.E., Dawson D.W., Suh J., **Sherman M.H.**, Sanders G., Hong J.S., Frank M.J., Malone C.S., Said J., Teitell M.A. (2009). Epigenetic silencing of Stk39 in B-cell lymphoma inhibits apoptosis from genotoxic stress. *American Journal of Pathology*. 175(4):1653-61.
22. Chen S., Raval A., Johnson A., Hertlein E., Liu T., Jin V.X., **Sherman M.H.**, Liu S., Dawson D.W., Williams K.E., Lanasa M., Liyanarachchi S., Lin T.S., Marcucci G., Pekarsky Y., Davuluri R., Croce C.M., Guttridge D.C., Teitell M.A., Byrd J.C., Plass C. (2009). Epigenetic changes during disease progression in a murine model of human chronic lymphocytic leukemia. *Proceedings of the National Academy of Sciences*. 106(32):13433-8.
23. Kuraishy A.I., French S.W., **Sherman M.**, Herling M., Jones D., Wall R., Teitell M.A. (2007). TORC2 regulates germinal center repression of the TCL1 oncoprotein to promote B cell development and inhibit transformation. *Proceedings of the National Academy of Sciences*. 104(24):10175-80.

24. Morley S., Wagner J., Kauppinen K., **Sherman M.**, Manor D. (2007). Requirement for Akt-mediated survival in cell transformation by the dbl oncogene. *Cellular Signaling*. 19(1):211-8.

INVITED SEMINARS

- 2021 Animal Models of Cancer Fusion Conference, Lisbon, Portugal
- 2021 UC Irvine Sue & Bill Gross Stem Cell Research Center Annual Scientific Symposium, Irvine, CA
- 2021 Gordon Research Conference on Pancreatic Diseases, Lucca, Italy
- 2021 Metabolism in Health and Disease Fusion Conference, Cancun, Mexico
- 2021 Lorne Cancer Conference, Lorne, Australia
- 2020 Cold Spring Harbor Laboratory Workshop on Pancreatic Cancer, Cold Spring Harbor, NY
- 2020 MD Anderson Ahmed Center Pancreatic Cancer Seminar Series, Houston, TX
- 2020 Distinguished Lecture in Cancer Research, University of Pennsylvania, Philadelphia, PA
- 2020 AACR Annual Meeting Educational Session on Metabolism and Tumor Microenvironment, San Diego, CA
- 2020 Basic Science Grand Rounds Seminar Series, Moffitt Cancer Center, Tampa, FL
- 2020 Basic Science Seminar Series, Washington University, St. Louis, MO
- 2020 Kimmel Cancer Center Research Seminar Series, Thomas Jefferson University, Philadelphia, PA (*Canceled due to coronavirus outbreak)
- 2020 EACR-AACR-ASPIC Basic and Translational Research Conference: Tumor Microenvironment, Lisbon, Portugal
- 2019 Cancer Biology & Genetics Program Research Seminar Series, Memorial Sloan Kettering Cancer Center, New York, NY
- 2019 Center for Organogenesis Seminar Series, University of Michigan, Ann Arbor, MI
- 2019 American Pancreatic Association Annual Meeting, Wailea, HI
- 2019 Gigi Shaw Arledge Conference on Pancreatic Disease, New York, NY
- 2019 National Cancer Institute Workshop on Tumor Heterogeneity: The Stromal Perspective, Rockville, MD
- 2019 UCSF Symposium on Cancer and Metabolism, San Francisco, CA
- 2019 AACR Special Conference on Pancreatic Cancer (Rising Star Keynote), Boston, MA
- 2019 PancWest Conference, Palo Alto, CA
- 2019 Gordon Research Conference on Pancreatic Diseases (Discussion Leader), Newry, ME
- 2019 Cold Spring Harbor Laboratory Workshop on Pancreatic Cancer, Cold Spring Harbor, NY

- 2019 AACR Annual Meeting Educational Session on Pancreatic Tumor Microenvironment (Session Chair), Atlanta, GA
- 2019 AACR Annual Meeting TME Town Hall, Atlanta, GA
- 2019 TEFAF Oncology Chair Inauguration and Symposium, Maastricht, Netherlands
- 2019 Banbury meeting on Cancer Fibroblasts and Therapies, Cold Spring Harbor, NY
- 2018 ASBMB meeting: Frontiers in RAS Pathobiology and Drug Discovery, Stratton Mountain, VT
- 2018 Biochemistry and Molecular Biology seminar, Mayo Clinic, Rochester, MN
- 2017 Forbeck Foundation Forum on Myc and Ras, Lake Geneva, WI
- 2017 Cold Spring Harbor Laboratory Workshop on Pancreatic Cancer, Cold Spring Harbor, NY
- 2016 PancWest Symposium, La Jolla, CA
- 2016 University of California, San Francisco Pancreatic Cancer Retreat, San Francisco, CA
- 2016 AACR Special Conference on Pancreatic Cancer: Advances in Science and Clinical Care, Orlando, FL
- 2016 Keystone Symposium on Cancer Pathophysiology: Integrating the Host and Tumor Environments, Breckenridge, CO
- 2013 Salk Institute Cancer Day Symposium: Epigenetics and Cancer, La Jolla, CA
- 2012 Salk Institute Cancer Center Retreat, La Jolla, CA
- 2009 Global Center of Excellence Summer Program, Tokyo, Japan

SELECTED PRESENTATIONS AT CONFERENCES AND SYMPOSIA

- 2018 AACR Special Conference on Metabolism and Cancer, New York, NY
- 2018 Keystone Symposium on Tumor Metabolism, Snowbird, UT
- 2017 Cold Spring Harbor Laboratory Meeting on Biology of Cancer: Microenvironment and Metastasis, Cold Spring Harbor, NY
- 2015 Mechanisms and Models of Cancer Meeting, La Jolla, CA
- 2015 Cold Spring Harbor Laboratory Meeting on Biology of Cancer: Microenvironment, Metastasis & Therapeutics, Cold Spring Harbor, NY
- 2013 Cold Spring Harbor Laboratory Workshop on Pancreatic Cancer, Cold Spring Harbor, NY
- 2013 Cold Spring Harbor Laboratory Meeting on Cancer Biology and Therapeutics, Cold Spring Harbor, NY

TEACHING

- 2020 Lecturer, CANB 616: Advanced Topics in Cancer Research

2019-20 Co-director and lecturer, CONJ 665: Development, Differentiation and Cancer
2019-20 Co-director, CONJ 650: The Practice and Ethics of Science
2019-20 Director, CANB 607/CELL 607A: Cancer Biology/Departmental Seminar Series
2019 Instructor, Cold Spring Harbor Laboratory Workshop on Pancreatic Cancer, Cold Spring Harbor, NY
2019 Lecturer, CANB 616: Advanced Topics in Cancer Research
2018-19 Co-director, CANB 607/CELL 607A: Cancer Biology/Departmental Seminar Series
2017 Instructor, Cold Spring Harbor Laboratory Workshop on Pancreatic Cancer, Cold Spring Harbor, NY
2007-2008 Teaching Assistant, Immunology, University of California, Los Angeles, CA
2006-2007 Teaching Assistant, Biology of the Cell, University of California, Los Angeles, CA

TRAINEES

2019-present Kathrina Onate, Graduate student
2019-present Kathryn Baker, Postdoctoral Fellow (secondary mentor)
2018-present Hannah Sanford-Crane, Graduate student
2018 Aayush Kothari, Undergraduate Researcher
2018-present Erin Helms, Graduate student
2018-present Jaime Abrego, Ph.D., Postdoctoral Fellow
2017-2018 Cameron Roberts, Undergraduate Researcher
2017-present Sohinee Bhattacharyya, Ph.D., Postdoctoral Fellow
2017 Nathan Coddington, Undergraduate Researcher
2015 Collin Nathans, High School Intern
2013 Nico Salvatierra, Undergraduate Researcher
2008-2010 Jacqueline Tran, Undergraduate Researcher