

CURRICULUM VITAE

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EDUCATION

- 2010-2014 Ruth L. Kirschstein National Research Service Award Postdoctoral Fellowship, Mitochondrial Systems Biology, Van Andel Research Institute, Grand Rapids, Michigan.
- 2004-2009 Ph.D. Cellular & Molecular Biology, University of Michigan, Ann Arbor, Michigan.
- 1999-2003 B.S., Biology (Genetics and Cellular & Molecular Biology Emphasis, Chemistry Minor), Grand Valley State University, Allendale, Michigan.

RESEARCH EXPERIENCE

- 2014-Present Principle Investigator, mitochondrial signaling biology: mapping mitochondrial proteins and functions to disease. California State University, Los Angeles.
- 2010-2014 Postdoctoral Fellow, mitochondrial systems biology: defining the metabolic and bioenergetic determinants of mitochondrial biology. Van Andel Research Institute.
- 2004-2009 Graduate Student, growth hormone signal transduction: University of Michigan.
- 2002-2004 Research Technician, signal transduction in cancer biology; Van Andel Research Institute.

HONORS AND AWARDS

- 2017-2020 R15 Academic Research Enhancement Award (AREA), National Institutes of Health, National Institute of General Medical Sciences
- 2016-2017 California State University Program for Education & Research in Biotechnology (CSUPERB) New Investigator Award
- 2016-2017 CSULA Research, Scholarship, and Creative Activities Minigrant Award
- 2012-2014 Ruth L. Kirschstein National Research Service Award (F32), National Institutes of Health, National Cancer Institute
- 2013 Van Andel Research Institute Research Leadership Council Equipment Proposal Award
- 2009 Rackham Regents Fellowship, Horace H. Rackham School of Graduate Studies, University of Michigan
- 2006-2008 Organogenesis Pre-doctoral Fellowship, University of Michigan Center for Organogenesis (National Institutes of Health, T32)
- 2005-2006 Cellular & Molecular Biology Pre-doctoral training grant, University of Michigan
- 1999-2003 Dean's List, Grand Valley State University

- 1999-2003 Award for Excellence, Grand Valley State University
1999-2003 Faculty Scholarship, Grand Valley State University

TEACHING AND MENTORING EXPERIENCE

Teaching

- 2014-Present Assistant Professor, California State University, Los Angeles:
Introductory Biology II (BIOL 100B, 1100)
Introductory Biology III (BIOL 100C)
General Genetics (BIOL 340)
Cell Biology (BIOL 380)
Integrative Organismal Biology (BIOL 3600)
Gene Manipulation (BIOL 417, 4170)
Signal Transduction (BIOL 4370)
Cellular Basis of Disease (BIOL 541)
Cancer Metabolism (BIOL 5460)
- 2010-2014 Adjunct Professor, Grand Valley State University:
General Biology I (BIO 120)
Cellular & Molecular Biology (BIO 405)
- 2011-2014 Assistant Lecturer, Van Andel Research Institute Graduate School:
Genetics and Metabolism of Brain Cancer (VAI 809)
- 2010-2011 Adjunct Laboratory Instructor, Grand Rapids Community College:
Introduction to Cells, Molecules, and Genes (BI 151)
- 2007 Teaching Assistant, University of Michigan:
Signal Transduction (BIOLCHEM 576)

Mentoring

- 2014-Present California State University, Los Angeles
- Amelia Abdullah, MS Graduate Student
 - Joshua Alvarado, Bridges Undergraduate Student
 - Maxine Bravo, LSAMP-BD MS Graduate Student
 - Ernesto Castellanos, Undergraduate Student
 - Nicholas DeCuzzi, MS Graduate Student
 - Candice Larson, LSAMP-BD MS Graduate Student
 - Joshua Silva, LSAMP-BD MS Graduate Student
 - Jonah Bautista, Undergraduate Student
 - Jesse Garcia, Undergraduate Student
 - Carlos Gonzalez-Figueroa, MS Graduate Student (Sally Casanova Awardee)
 - Jessica Hsueh, Honors Thesis Undergraduate Student
 - Kadie Ishida, Undergraduate Student
 - Andre Leon, Undergraduate Student
 - Sarah Madira, Honors Thesis Undergraduate Student
 - Deshna Majmudar, Honors Thesis Undergraduate Student
 - Elizabeth Masciale, Honors Thesis Undergraduate Student
 - DeVonte Matthews, U.S. Army Research Laboratory High School Student
 - Ryan Meraz, Undergraduate Student
 - Flor Merlos, Undergraduate Student

Anh Phuong Nguyen, MS Graduate Student
Benjamin Nittayo, MARC U*STAR Undergraduate Student
Bea Parcutela, MS Graduate Student
Jocelyn Rodriguez, Bridges to the PhD MS Graduate Student
Neilanie Yadao, Undergraduate Student
Helma Zecena, Undergraduate Student

ACADEMIC SERVICE AND MEMBERSHIP

Committees and Service

2018-Present College of Natural and Social Sciences Assessment Coordinator
2018-Present Educational Effectiveness & Assessment Council (University)
2018-Present Educational Policy Committee (College of NSS)
2017-Present Fiscal and Enrollment Management (Department of Biological Sciences)
2017-Present Great Place to Work Consultative Group (University)
2017-Present American Society for Cell Biology (ASCB) CSULA Ambassador
2017-2018 Strategic Planning Committee (College of NSS; Chair of Research subcommittee)
2016-2017 CSULA Faculty Policy Committee (University)
2015-Present Co-Sponsor, CSULA Pre-Veterinary Club and Animal Welfare Club
2015-Present Co-Sponsor, Chicanos/Latinos for Community Medicine of CSULA
2014-Present Assessment Committee (Department of Biological Sciences) (Chair 2015 - 2018)
2014-Present Co-Sponsor, Cancer Research and Awareness Society of CSULA
2013-2014 VARI Postdoctoral Program Council Member
2013 VARI Confocal Microscopy Conference Organizing Committee
2013 VARI Grant Writers' Seminars and Workshops Postdoctoral Program Organizing Committee
2013 VARI *ad hoc* Nikon A1 siR confocal manager
2012-2013 Van Andel Institute Graduate School Curriculum Committee
2012-2013 VARI Grant Writers' Seminars and Workshops Institutional Organizing Committee
2012-2013 VARI Postdoctoral Program Travel Award Committee
2012 Van Andel Institute Confocal Microscopy Committee
2011 Van Andel Institute Postdoctoral Association Postdoctoral Program Handbook Committee
2008 CMB Admissions Committee, University of Michigan
2006-Present Assigned *ad hoc* reviewer for
Biochemie
Cancer Reports
Cell Communication and Signaling
Cell Reports
Cells
Chinese Journal of Cancer
Endocrinology
European Journal of Neuroscience
Molecular Endocrinology
Proteomics
PLoS ONE
Biochemie

Scientific Reports
Science Signaling

- 2006-2008 Program in Biomedical Sciences Graduate Student Council Member, University of Michigan Medical School
- 2005-2009 CMB student recruit host, University of Michigan
- 2005-2008 Student Organizing Committee for the Cellular & Molecular Biology Symposium, University of Michigan
- 2005-2006 CMB Short Course Planning Committee (New Frontiers in Signal Transduction), University of Michigan

Society Membership

- 2014-Present American Society for Biochemistry and Molecular Biology
- 2014-Present American Society for Cell Biology (Current ASCB Ambassador for CSULA)
- 2008-2009 The Endocrine Society

EXTERNAL INVITED LECTURES

1. *Cellular Models of Leigh Syndrome*. CSUPERB Conference, Orange County, CA. 2019.
2. *Mapping the mitochondrial bioenergetic landscape for therapeutic targets*. University of California, Merced. 2017.
3. *Surveying the Mitochondrial Bioenergetic Landscape for New Therapeutic Targets*. California State University, Long Beach. 2016
4. *Mapping the mitochondrial bioenergetic landscape*. Southern California Systems Biology Conference. University of California Irvine. 2016
5. *AK4 Loss Supports Glioma Cell Biology through Dual AMPK and mTOR Activation*. Mechanisms and Models of Cancer Conference. Salk Institute, La Jolla, CA. 2015
6. *Defining the genetic determinants of mitochondrial bioenergetics*. Metabolism, Diet, and Disease Conference. Georgetown University, Washington D.C. 2014.
7. *A systems approach to mitochondrial biology*. California State University, Los Angeles. 2013
8. *Systems analysis of metabolic networks in response to varied carbon fuel sources*. Grand Valley State University Bioinformatics Course. 2013.
9. *A systems approach to mitochondrial biology*. Grand Valley State University 2nd Annual Symposium in Bioinformatics and Computational Biology. 2013.
10. *Cancer Biology: Back to the Basics. How biochemistry of the early 20th century is revolutionizing cancer research today*. Aquinas College Biology Departmental Seminar. 2012.
11. *Cancer research at Van Andel Institute*. Duncan Lake Middle School. 2011.
12. *Subcellular localization regulates SH2B1-mediated signal transduction*. Grand Valley State University Biology Department Seminar Series. 2009.
13. *Research in the Biomedical Sciences*. American Society for Biochemistry and Molecular Biology, Grand Valley State University Chapter. 2006.

BIBLIOGRAPHY

Research Papers

1. Lanning NJ, Van Opstall C, Goodall ML, MacKeigan JP, Looyenga BD. LRRK2 Deficiency impairs trans-Golgi to lysosome trafficking and endocytic cargo degradation in human renal proximal tubule epithelial cells. *Am J Physiol Renal Physiol*. 2018; Aug 8. PMID: 30089035

2. Lanning NJ, Castle JP, Singh SJ, Leon AN, Tovar EA, Sanghera A, MacKeigan JP, Filipp FV, Graveel CR. Metabolic profiling of triple-negative breast cancer cells reveals metabolic vulnerabilities. *Cancer & Metabolism*. 2017; Aug 22;5:6. eCollection 2017. PMID: 28852500
3. Sasi NK, Bhutkar A, Lanning NJ, MacKeigan JP, Weinreich M. DKK Promotes Tumor Chemoresistance and Survival via Multiple Pathways. *Neoplasia*. 2017; 19(5):439-450. PMID: 28448802
4. Lanning NJ, Looyenga BD, Kauffman AL, Niemi NM, Sudderth J, DeBerardinis RJ, MacKeigan JP. A mitochondrial RNAi screen defines cellular bioenergetics determinants and identifies an adenylate kinase as a key regulator of ATP levels. *Cell Reports*. 2014; 8;7(3):907-17. PMID: 24767988
5. Niemi NM, Sacoman JL, Westrate LM, Gaither LA, Lanning NJ, Martin KR, MacKeigan JP. The pseudophosphatase MK-STYX physically and genetically interacts with the mitochondrial phosphatase PTPMT1. *PLoS One*. 2014; 9(4):e93896. PMID: 24709986
6. Su HW, Lanning NJ, Morris DL, Argetsinger LS, Lumeng CN, Carter-Su C. Phosphorylation of the adaptor protein SH2B1 β regulates its ability to enhance growth hormone (GH)-dependent macrophage motility. *J Cell Sci*. 2013; 126(8):1733-43. PMID: 23444381
7. Niemi NM, Lanning NJ, Westrate LM, MacKeigan JP. Downregulation of the mitochondrial phosphatase PTPMT1 is sufficient to promote cancer cell death. *PLoS One*. 2013; 8(1):e53803. PMID: 23326511
8. Lanning NJ, Su HW, Argetsinger LS, Carter-Su C. Identification of SH2B1 β as a focal adhesion protein that regulates focal adhesion size and number. *J Cell Sci*. 2011; 124(18):3095-105. PMID: 21878491
9. Cui TX, Lin G, LaPensee CR, Calinescu AA, Rathore M, Streeter C, Piwien-Pilipuk G, Lanning N, Jin H, Carter-Su C, Schwartz J. C/EBP β mediates growth hormone-regulated expression of multiple target genes. *Mol Endocrinol*. 2011; 25(4):681-93. PMID: 21292824
10. Niemi NM, Lanning NJ, Klomp JA, Tait SW, Xu Y, Dykema KJ, Murphy LO, Gaither LA, Xu HE, Furge KA, Green DR, MacKeigan JP. MK-STYX, a catalytically inactive phosphatase regulating mitochondrially dependent apoptosis. *Mol Cell Biol*. 2011; 31(7):1357-68. PMID 21262771
11. Jin H*, Lanning NJ*, Carter-Su C. JAK2, But Not Src Family Kinases, Is Required for STAT, ERK and Akt Signaling in Response to Growth Hormone in Preadipocytes and Hepatoma Cells. *Mol. Endocrinol*. 2008; 22(8) 1825-41. PMID: 18499741 *These authors contributed equally to this work.
12. Zhang YW, Su Y, Lanning N, Swiatek PJ, Bronson RT, Sigler R, Martin RW, Vande Woude GF. Targeted disruption of Mig-6 in the mouse genome leads to early onset degenerative joint disease. *Proc. Natl. Acad. Sci. U S A*. 2005; 102(33):11740-5. PMID: 16087873

13. Zhang YW, Su Y, Lanning N, Gustafson M, Shinomiya N, Zhao P, Cao B, Tsarfaty G, Wang LM, Hay R, Vande Woude GF. Enhanced growth of human met-expressing xenografts in a new strain of immunocompromised mice transgenic for human hepatocyte growth factor/scatter factor. *Oncogene*. 2005; 24(1):101-6. PMID: 15531925

Reviews

14. Fogg VC, Lanning NJ, MacKeigan JP. Mitochondria in cancer: at the crossroads of life and death. *Chin. J. Cancer*. 2011; 30(8):526-39 PMID: 21801601
15. Lanning NJ, Carter-Su C. Recent advances in growth hormone signaling. *Rev. Endocr. Metab. Disord.* 2006. 7(4):225-35. PMID: 17308965