

Gabriel L. Eades

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EDUCATION

- 2009 – 2015 **Ph.D.**, Molecular Medicine, University of Maryland, Baltimore
2004 – 2009 **B.S., Biology**, Magna Cum Laude, Virginia Commonwealth University, Richmond, VA

RESEARCH EXPERIENCE

- 2015 – 2020 **Postdoc**, Mentor: Michael McManus Ph.D. University of California, San Francisco
2010 – 2015 **Graduate Research Assistant**, Mentor: Qun Zhou M.D., Ph.D. University of Maryland, Baltimore
2008 – 2009 **Laboratory Assistant**, Mentor: Joyce A. Lloyd Ph.D. Department of Human and Molecular Genetics, Virginia Commonwealth University

HONORS & AWARDS

- 2016 **Komen Research Fellowship Award**. Postdoctoral Fellowship from Susan G. Komen foundation
2015 **Ruth L. Kirschstein National Research Service Award** Postdoctoral Fellowship from National Cancer Institute. F32CA203256
2015 **Ph.D. Thesis of the Year**. University of Maryland, Baltimore Graduate School. Awarded annually to one PhD or MD/PhD student who successfully defended their dissertation and has made a significant scientific impact in their field of study. \$2,500 prize.
2014 **Ruth L. Kirschstein National Research Service Award** Predoctoral Fellowship from National Cancer Institute. F31CA183522
2012 **Outstanding Ph.D. Scholar of the Year**. University of Maryland, Baltimore Graduate School. Awarded annually to one PhD or MD/PhD student who demonstrates outstanding academic performance and shows great potential as a future scientist. \$2,500 prize
2012 **Training Grant Reappointment**. National Cancer Institute T32CA154274. Competitive awardees. Only 2 predoctoral training appointments available for all UMB graduate students in 2012
2011 **Institution Training Grant in Cancer Biology** Competitive awardee. Only one predoctoral appointment available for all UMB graduate students. National Cancer Institute T32CA154274 Cancer Biology Training Grant Appointment
2009 **B.S. Biology Magna cum laude**. Virginia Commonwealth University

PEER-REVIEWED PUBLICATIONS

- **Eades G**, Zhang Y, Li Q, Zhou Q. (2015) *lincRNA-RoR and miR-145 Regulate Invasion in Triple-negative Breast Cancer via Targeting ARF6*. Mol Cancer Res. 13(2): 330-338. PMC4336811
- Duru N, Gernapudi R, **Eades G**, Eckert R, Zhou Q. (2015) *Epigenetic Regulation of miRNAs and Breast Cancer Stem Cells*. Current Pharmacology Reports. 1(3): 161-169. PMC4452008
- Zhang Y, Xia J, Li Q, Yao Y, **Eades G**, Gernapudi R, Zhou Q (2014) *Nrf2 Regulation of Mammary Stem Cell Renewal via Long Noncoding RNA ROR*. J Biol Chem.289(45):31310-8. PMC4223331
- Zhang Y, **Eades G**, Zhou Q. (2014) *Chapter 4: Examining Estrogen Regulation of Cancer Stem Cells via Multicolor Lineage Tracing*. Springer-Humana. Steroid Receptors: Methods and Protocols. Methods in Molecular Biology, vol 1204. DOI 10.1007/978-1-4939-1346-6_4.
- **Eades G**, Zhang y, Li Q, Xia J, Yao Y, Zhou Q. (2014) *Long Non-Coding RNAs in Stem Cells and Cancer*. World J Clin Oncol. 5(2): 134-141. PMCID: PMC4014785
- Li Q, **co-1st Eades G**, Yao Y, Liu Z, Zhang Y, Zhou Q. (2014) *Characterization of a Stem-like Subpopulation in Basal-like Ductal Carcinoma In Situ Lesions*. J Biol Chem. 289(3):1303-12. PMCID: PMC3894316
- Chiplunkar A, Curtis B, **Eades G**, Kane M, Fox S, Haar J, Lloyd J. (2013) *The Krüppel-like factor 2 and Krüppel-like factor 4 genes interact to maintain endothelial integrity in mouse embryonic vasculogenesis*. BMC Dev Biol 13: 40. PMID: 24261709
- Mercado C, **Eades G**, Zhou Q (2013) *MicroRNAs: A New Class of Master Regulators of Adipogenesis*. Human Genetics & Embryology 3(2). NIHMSID# 484378. doi: 0.4172/2161-0436.1000108

- Li Q, Yao Y, **Eades G**, Liu Z, Zhang Y, Zhou Q (2013) *Downregulation of miR-140 Promotes Cancer Stem Cell Formation in Basal-like Early Stage Breast Cancer*. *Oncogene* 33(20):2589-600. PMID: PMC3883868
- **Eades G**, Yao Y, Zhou Q (2013) *Chapter 1: Breast Cancer MicroRNAs: Signaling Networks*. *MicroRNAs in Cancer*, ISBN 1466576766, Science Publishers, Enfield, NH.
- Zhang Y, **Eades G**, Yao Y, Li Q, Zhou Q (2012) *Estrogen Receptor α Signaling Regulates Breast Tumor-initiating Cells by Downregulating miR-140 which Targets the transcription factor SOX2*. *J Biol Chem*, 287(49):41514-22. PMID: PMC3510847
- Qun Zhou, **Eades G** (2012) *MicroRNA Regulatory Networks Provide Feedback Mechanisms for Steroid Receptor Signaling*. *J Steroids Hormon Sci* 3:e103. PMID: PMC3898794
- **Eades G**, Yang M, Yao Y, Zhang Y, Zhou Q (2011) *miR-200a Regulates Nrf2 Activation by Targeting Keap1 mRNA in Breast Cancer Cells*. *J Biol Chem*, 286 (47):40725-40733. PMID: PMC3220489.
- **Eades G**, Yao Y, Yang M, Zhang Y, Chumsri S, Zhou Q (2011) *miR-200a Regulates SIRT1 Expression and Epithelial to Mesenchymal Transition (EMT)-like Transformation in Mammary Epithelial Cells*. *J Biol Chem*, 286(29): 25992-26002. PMID: PMC3138315
- Yang M, Yao Y, **Eades G**, Zhang Y, Zhou Q (2011) *MiR-28 regulates Nrf2 expression through a Keap1-independent mechanism*. *Breast Cancer Res Treat*, 129(3):983-991. PMID: PMC3752913

MANUSCRIPTS IN PREPERATION

- Grasset E, co-1st **Eades G**, Ewald A, McManus M. (2020) *Ex Vivo Organoid CRISPR Screening Reveals P53 as Key Regulator of Clonal Metastatic Seeding in Mammary Tumors*
- **Eades G**, Farmer D, McManus M. (2020) *In Vivo Genetic Interaction Screens of Driver Mutations Using Recombinase-Regulatable Synthetic CRISPR Arrays*

SELECTED TALKS

- **Eades G**. *Uncovering Genetic Interactions Between Drivers using Multimer GEMMs*. June 2019. Cancer Target Discovery and Development (CTD2) Network Annual Face-to-Face. Knight Cancer Research Center. Oregon Health & Science University. Portland, OR. Sponsored by National Cancer Institute, NIH
- **Eades G**. *Engineering Mouse Models of Cancer using CRISPR*. June 2019. Cancer Target Discovery and Development (CTD2) Network Annual Face-to-Face. Knight Cancer Research Center. Oregon Health & Science University. Portland, OR. Sponsored by National Cancer Institute, NIH
- **Eades G**. *Targeting Recalcitrant Tumor Persister Cells*. June 2018. Cancer Target Discovery and Development (CTD2) Network Annual Face-to-Face. NIH Main Campus, Bethesda, MD
- **Eades G**. Long non-coding RNA RoR and microRNA-145 regulate tumor cell invasion in triple-negative breast cancer via targeting of ADP-ribosylation factor. Feb. 2014. RNA Interest Group. University of Maryland, Baltimore
- **Eades G**. MicroRNA-140 Regulates Breast Cancer Stem Cells by Targeting the Pluripotency-associated Transcription Factor SOX2. Nov. 2012. 8th Annual Cancer Biology Chair and Directors Retreat (CABTRAC) La Jolla, CA. Sponsored by The Salk Institute for Biological Studies

ABSTRACTS

- **Eades G**. *In Vivo Genetic Interaction Screens of Driver Mutations Using Recombinase-Regulatable Synthetic CRISPR Arrays*. June 2019. Cancer Target Discovery and Development (CTD2) Network Annual Face-to-Face. Knight Cancer Research Center. Oregon Health & Science University. Portland, OR. Sponsored by National Cancer Institute, NIH
- **Eades G**. McManus M. *Mapping Complex Driver Gene Interactions In Vivo Using Synthetic Recombinase-CRISPR Arrays*. Diabetes Center Annual Retreat. Santa Cruz, CA. Sep. 2019
- **Eades G**. McManus M. *Targeting Recalcitrant Tumor Persister Cells*. Diabetes Center Annual Retreat. Santa Cruz, CA. Sep. 2018
- **Eades G**. McManus M. *Unlocking the Hidden Architecture of Gene Interactions*. Innovative Genomics Institute Open House. Berkeley, CA. Oct 2017
- **Eades G**, Zhou Q. *Long non-coding RNA RoR and microRNA-145 regulate tumor cell invasion in triple-negative breast cancer via targeting of ADP-ribosylation factor 6*. AACR Meeting Abstract No. 6448 (temporary) San Diego, CA, April 2014

- Zhang Y, **Eades G**, Yao Y, Li Q, Zhou Q. *Estrogen signaling promotes cancer stem cell expansion via microRNA-140 targeting of pluripotency-associated factor SOX2 in ER α positive breast cancer cells*. 104th AACR meeting. Washington DC, April 2013
- **Eades G**, Zhang Y, Yao Y, Li Q, Zhou Q. *microRNA-140 Regulates Breast Cancer Stem Cells by targeting the pluripotency-associated transcription factor SOX2*. CABTRAC. Cancer Biology Chair & Director's Retreat. La Jolla, CA. November 2012
- **Eades G**, Yao Y, Yang M, Zhou Q. *Epigenetic Activation of miR-200a Targets the Nrf2-dependent Chemoprevention Pathway in Breast Cancer*, 103rd AACR meeting, Poster no. 2302, Chicago IL, April 2012
- **Eades G**, Yang M, Yao Y, Zhang Y, Zhou Q. *miR-200a Targets SIRT1 in Malignant Transformation*, 102nd AACR meeting, Poster no. 107, Orlando FL, April 2011

RESEARCH SUPPORT

- Komen Postdoctoral Research Fellowship Award (PDF). Postdoctoral Fellowship from Susan G. Komen foundation. October 2016 – October 2019
- Ruth L. Kirschstein National Research Service Award Postdoctoral Fellowship (F32). National Cancer Institute F32CA203256. March 2016 – September 2016
- Ruth L. Kirschstein National Research Service Award Predoctoral Fellowship (F31). National Cancer Institute F31CA183522. April 2014 – May 2015
- Cancer Biology T32 Trainee Reappointment (competitive). PI Toni M. Antalis. Agency: National Cancer Institute. July 2012 – July 2013
- Cancer Biology T32 Trainee Appointment (competitive) (1T32CA154274-01). PI Toni M. Antalis. Agency: National Cancer Institute. July 2011 – July 2012

PROFESSIONAL MEMBERSHIP

Associate Membership in the American Association for Cancer Research (AACR ID# 265072)

CAREER DEVELOPMENT

- Introduction to R with Basic Statistics. UCSF Data Science initiative. 2017 San Francisco, CA
- Programming with R. Software Carpentry. April 2016. San Francisco, CA
- 17th Annual Grant Writing Workshop at the AACR Annual Meeting 2014 San Diego
- Frontiers in Oncology lecture series sponsored by the Greenebaum Cancer Center. 2011 – 2014
- Scientific Leadership & Professional Development Symposium for Basic Science and Translational Researchers. 2013 University of Maryland, Baltimore
- NRSA Grant Application Workshop hosted by the UMB Office of Research and Graduate Studies Career Development Series. October 2010 & 2011

MISCELLANEOUS

- Organizer for UCSF RNA Journal Club. Oct. 2015 – Mar. 2020
- Organizer for Cancer Biology Research in Progress Seminar Series, UMB. Oct. 2012 – May 2013
- Served on Organizing Committee for the UMB Annual Cancer Biology Retreat. May 2011, May 2012, and May 2013
- Preceptor for BIOL 310: Genetics. VCU. Supervising Instructor: Fenando Tenjo Ph.D., Spring 2008

REFERENCES

- Michael McManus Ph.D. (Postdoc Mentor) University of California, San Francisco. Diabetes Center. michael.mcmanus@ucsf.edu (415) 476-4661
- Qun Zhou M.D., Ph.D. (Graduate Mentor) University of Maryland, Baltimore. Department of Biochemistry and Molecular Biology. gzhou@som.umaryland.edu (410) 706-1615
- Toni Antalis Ph.D. (Molecular Medicine program director) University of Maryland, Baltimore. Department of Physiology. tantal@som.umaryland.edu (410) 706-8222