CURRICULUM VITAE

Tracy Vargo-Gogola, Ph.D.

CONTACT INFORMATION

152 Raclin-Carmichael Hall
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South Bend, IN 46617
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EDUCATION

1996-2002 Doctoral Student
Department of Cancer Biology
Laboratory of Dr. Lynn Matrisian
Vanderbilt University, Nashville, TN
Degree conferred December of 2002

1992-1996 Undergraduate Student
Bachelor of Science, Zoology/Genetics
Laboratory of Dr. Pamela Green
Michigan State University, E. Lansing, MI
Degree conferred May of 1996

PROFESSIONAL EXPERIENCE

2014-present Senior Lecturer
Department of Biochemistry and Molecular Biology
Indiana University School of Medicine, South Bend, IN
Adjunct Assistant Professor
Department of Aerospace and Mechanical Engineering
University of Notre Dame, Notre Dame, IN

2008-2014 Assistant Professor
Tenure Track Teaching and Research Faculty
Department of Biochemistry and Molecular Biology
Indiana University School of Medicine, South Bend, IN
Adjunct Assistant Professor
Department of Biological Sciences
University of Notre Dame, Notre Dame, IN

2002-2007 Postdoctoral Fellow

Department of Molecular and Cellular Biology
Laboratory of Dr. Jeffrey Rosen
Baylor College of Medicine, Houston, TX

TEACHING EXPERIENCE

2016-present	IUSM 71XM620 Human Structure, Site Leader, Indiana University School of Medicine-South Bend
2016-present	IUSM 71XM630 Molecules to Cells and Tissues, Instructor, Indiana University School of Medicine-South Bend
2015-present	IUSM 71ZI700, Student Outreach Clinic Service Learning Elective, Course Director, Indiana University School of Medicine-South Bend
2014-present	Navari Student Outreach Clinic Grand Rounds Director, Indiana University School of Medicine
2011-2013	BIOS 28498, Introduction to Undergraduate Research Course, Instructor, University of Notre Dame
2009	BIOS 60540, Advanced Cell Biology, Lecturer, University of Notre Dame
2008-2009	BIOS 67570, Topics in Cancer Biology, University of Notre Dame
2008-2015	IUSM 60505/BIOS 80301, Medical Histology, Course Director, Indiana University School of Medicine-South Bend

SERVICE

2016-present	Curriculum Consultant, Histology Discipline, Indiana University School of Medicine
2016-present	Curriculum Council Foundational Component Committee, Indiana University School of Medicine
2015-present	Curriculum Council Steering Committee, Indiana University School of Medicine
2014-2015	Faculty Development Coordinator, Indiana University School of Medicine-South Bend
2014-present	Admissions Committee, Indiana University School of Medicine
2014-present	Medical Student Academic Advisor, Indiana University School of Medicine
2014-present	Summer Medical Student Research Coordinator, Indiana University School of Medicine-South Bend
2012-2014	Harper Cancer Research Institute, Co-director of Cellular, Organotypic, and Mouse Models Focus Group, Indiana University School of Medicine and University of Notre Dame

2012-2014	Undergraduate Research Honors Thesis Committee, University of Notre Dame
2011-2014	Harper Cancer Research Institute, Oncology Advisory Board, University of Notre Dame and Indiana University School of Medicine
2010-2011	Ad-hoc curriculum committee member, Department of Biological Sciences, University of Notre Dame
2010-2014	Faculty mentor for First and Second Year Medical Student's Annual Self and Peer Review
2009	Faculty search committees, Indiana University School of Medicine and University of Notre Dame
2009-2011	Undergraduate Research Committee, University of Notre Dame
2008-present	Building Bridges Undergraduate Minority STEM Student Mentor, University of Notre Dame
2008-present	Pink Zone Women's Basketball Breast Cancer Research Fundraiser, University of Notre Dame

HONORS AND GRANTS

2016	Indiana University Trustees Teaching Award
2016	Kelly Cares Foundation and St. Joe Regional Medical Center Grant, Co-Investigator (PI: Ryan Roeder)
2015-2016	Harper Cancer Research Institute and Loyal University Medical Center Pilot Grant, Co-Investigator (PIs: Ryan Roeder and Clodia Osipo)
2015-2016	Walther Cancer Research Foundation, ABC Grant, Co-Investigator (PIs: Ryan Roeder, Karen Cowden Dahl)
2014-2015	Walther Cancer Research Foundation, Seeding Research in Cancer Grant, Co-Investigator (PI: Ryan Roeder, University of Notre Dame)
2014-2017	National Science Foundation Grant, Consultant (PI: Ryan Roeder)
2013	Indiana University Trustees Teaching Award
2013-2014	Navari Family Foundation Research Grant (PI)
2013-2014	Walther Cancer Research Foundation SHIIRT Grant (PI)
2013-2014	St. Joseph Regional Medical Center Breast Cancer Imaging Grant (Co-PI)
2012-2013	Walther Cancer Research Foundation SRC Grant (Co-PI)
2010-2012	Indiana University Clinical Translational Science Initiative Core Facilities Grant (PI)
2008-2009	Indiana University School of Medicine Research Support Funds Grant (PI)
2007-2013	Howard Temin National Cancer Institute Pathway to Independence K99/R00 Award in Cancer Research (PI)

2003-2006	Department of Defense Breast Cancer Research Program Postdoctoral Fellowship (PI)
2002-2003	Molecular Endocrinology Postdoctoral T32 Grant Trainee, Baylor College of Medicine, Houston TX
1999–2001	Susan G. Komen Breast Cancer Foundation Predoctoral Fellowship
1998	American Association for Cancer Research travel award for predoctoral students
1997-1999	Predoctoral Trainee, T32 NIH Breast Cancer Institutional Training Grant, Vanderbilt University, Nashville, TN

HONORS AND GRANTS AWARDED TO TRAINEES

2014	National Science Foundation Predoctoral Fellowship, awarded to Elizabeth Loughran
2013	Walther Cancer Research Foundation Predoctoral Grant, awarded to Lisa Cole
2013	University of Notre Dame, College of Science-Summer Undergraduate Research Fellowship, awarded to Matthew Mattera
2013	The Society of Minerals, Materials, and Metals Annual Conference, Best Poster Presentation awarded to Lisa Cole, co-mentored graduate student
2011	University of Notre Dame and Indiana University School of Medicine, Clare Booth-Luce Fellowship, awarded to Zachary Yochum for summer undergraduate research
2010	University of Notre Dame and Indiana University School of Medicine, Clare Booth-Luce Fellowship, awarded to Peggy Chang for summer undergraduate research
2010	Walther Cancer Institute Postdoctoral Research Fellowship (Peter McHenry)
2009	Indiana University School of Medicine, Fern Groves Hardiman Scholarship awarded to Ko Un Clara Park for excellence in research

PUBLICATIONS (25 Peer-reviewed, 1 Editorial)

1. De Rocher EJ, **Vargo-Gogola T**, Diehn SH, Green PJ, "Direct evidence for rapid degradation of *Bacillus thuringiensis* toxin mRNA as a cause of poor expression in plants." (1998) *Plant Physiology* 117:1445-1461. PMID: 9701600

2. Fingleton B, **Vargo-Gogola T**, Crawford HC, Matrisian LM, "Matrilysin expression selects for cells with reduced sensitivity to apoptosis". (2001) *Neoplasia* 3(6): 459-468. PMID: 11774028

3. **Vargo-Gogola T**, Fingleton B, Crawford HC, Matrisian LM, "Identification of novel matrix metalloproteinase-7 (matrilysin) cleavage sites in murine and human Fas ligand." (2002) *Archives of Biochemistry and Biophysics* 408(2): 155-61. PMID: 12464266

4. **Vargo-Gogola T**, Fingleton B, Crawford HC, Matrisian LM, "Matrilysin (MMP-7) selects for apoptosis-resistant mammary cells in vivo." (2002) *Cancer Research* 62(19): 5559-63. PMID: 12359768

5. Lynch CC, Hikosaka A, Acuff HB, Martin MD, Kawai N, Singh RK, **Vargo-Gogola T**, Betrup JL, Peterson TE, Fingleton B, Shirai T, Matrisan LM, Futakuchi M, "MMP-7 promotes prostate cancer-induced osteolysis via the solubilization of RANKL." (2005) *Cancer Cell* 7(5): 485-496. PMID: 15894268

6. Xian W, Schwertfeger KL, **Vargo-Gogola T**, Rosen JM, "Pleiotropic effects of FGFR1 on cell proliferation, survival and migration in a 3D mammary epithelial cell model." (2005) *Journal of Cell Biology* 171(4): 663-673. PMID: 16301332

7. **Vargo-Gogola T**, Heckman BH, Chodosh LA, Rosen JM, "P190-B RhoGAP overexpression disrupts ductal morphogenesis and induces hyperplastic lesions in the developing mammary gland." (2006) *Molecular Endocrinology* 20(6): 1391-1405. PMID: 16469769

8. Heckman BH, Chakravarty G, **Vargo-Gogola T**, Gonzales-Rimbau M, Hadsell D, Wysolmerski J, Rosen JM, "Cross-talk between the p190-B RhoGAP and IGF signaling pathways is required for embryonic mammary bud development." (2007) *Developmental Biology* 309(1): 137-49. PMID: 17662267

9. Lynch CC, **Vargo-Gogola T**, Martin MD, Linggi B, Fingleton B, Crawford HC, Carpenter G, Matrisian LM, "MMP-7 mediates mammary epithelial cell tumorigenesis through the ErbB4 receptor." (2007) *Cancer Research* 67(14): 6760-7. PMID: 17638887

10. **Vargo-Gogola T** and Rosen JM, "Modeling breast cancer: one size does not fit all." (2007) *Nature Reviews Cancer* 7(9): 659-72. PMID: 17721431

11. Heckman-Stoddard BM, **Vargo-Gogola T**, Jiang V, Herrick M, Settleman J, Rosen JM, "Haploinsufficiency for p190-B RhoGAP inhibits MMTV-Neu tumor progression." (2009) *Breast Cancer Research* 11(4): R61. PMID: 19703301

12. Lynch CC, **Vargo-Gogola T**, Matrisian LM, and Fingleton B, "Cleavage of E-cadherin by MMP-7 promotes cellular proliferation in non-transformed cell lines," (2010) *Journal of Oncology*, 530745 Epub 2010 Jun 10. PMID: 20628524

13. **Vargo-Gogola T**, "Putting the Brakes on Breast Cancer: Therapeutic Opportunities to Bring Cancer Stem Cells and the Tumor Microenvironment to a Screeching Halt." (2010) Editorial, *Current Drug Targets*, 11(9): 1041-42. PMID: 20545615

14. McHenry PR and **Vargo-Gogola T**, "Pleiotropic Functions of Rho GTPase Signaling: a Trojan Horse or Achilles' Heel for Breast Cancer Treatment?" (2010) *Current Drug Targets*, 11(9): 1043-58. PMID: 20545614

15. McHenry PR, Sears JC, Herrick MP, Chang P, Heckman-Stoddard BM, Rybarczyk M, Chodosh LA, Gunther EJ, Hilsenbeck SG, Rosen JM, and **Vargo-Gogola T**, "P190B RhoGAP overexpression promotes MMTV-Neu mammary tumorigenesis and metastasis," (2010) *Breast Cancer Research*, 12(5): R73. PMID: 20860838

16. Heckman-Stoddard BM, **Vargo-Gogola T**, Herrick MP, Visbal AP, Settleman J, Lewis MT, Rosen JM, "P190A RhoGAP is required for mammary gland development," (2011) *Developmental Biology*, 360(1): 1-10. PMID: 21945077

17. Bray K, Brakebusch C, **Vargo-Gogola T**, "The Rho GTPase Cdc42 is a crucial regulator of primary mammary epithelial cell morphogenesis in vitro," (2011) *Small GTPases*, 2(5): 247-258. PMID: 22292127

18. Hwang M, Peddibhotla S, McHenry P, Chang P, Yochum Z, Park KU, Sears JC, **Vargo-Gogola T**, "P190B RhoGAP Regulates Chromosome Segregation in Cancer Cells," (2012) *Cancers*, 4(2): 475-489. PMID: 22582143

19. Gillette M, Bray K, Blumenthaler A, and **Vargo-Gogola T**, "P190B RhoGAP Overexpression in the Developing Mammary Epithelium Induces TGFβ-dependent Fibroblast Activation," (2013) *PLOS One*, 8(5):e65105. PMID: 23717689

20. Bray K, Gillette M, Young J, Loughran E, Hwang M, Sears JC, and **Vargo-Gogola T**, "Cdc42 Overexpression in the Developing Mammary Gland Induces Hyperbranching by Enhancing Mammary Epithelial Cell Migration," (2013) *Breast Cancer Research*, 15(5): R91. PMID: 24074261

21. Cole LE, **Vargo-Gogola T**, Roeder RK, "Bisphosphonate Functionalized Gold Nanoparticles for Contrast-enhanced X-ray Detection of Breast Microcalcifications," (2014) *Biomaterials*, 35(7): 2312-2321. PMID: 24360718

22. Gillette MR and **Vargo-Gogola T**, "Regulation of the Microenvironment by Rho GTPase Signaling in the Epithelium: Implications for Breast Cancer Development and Progression," (2014) Review, *Journal of Cancer Biology and Research*, 2(1): 1022.

23. Cole LE, **Vargo-Gogola T**, Roeder R, "Targeted Gold Nanoparticles for Contrast Enhanced Detection of Breast Microcalcifications," (2014) *ACS Nano*, 8(7): 7486-96. PMID: 24992365

24. Cole LE, Ross RD, **Vargo-Gogola T**, Roeder R, "Gold Nanoparticles as Contrast Agents in X-Ray Imaging and Computed Tomography," Invited Review, (2015) *Nanomedicine*, 10(2): 321-41. PMID: 25600973

25. Cole LE, **Vargo-Gogola T**, and Roeder RK, "Gold Nanoparticles Enable Contrast-enhanced X-Ray Imaging of Microcalcifications in Radiographically Dense Mammary Tissue," (2015) *ACS Nano*, 9(9): 8923-32. PMID: 26308767

26. Cole LE, **Vargo-Gogola T**, and Roeder RK, "Targeted delivery to bone and mineral deposits using bisphosphonate ligands," Invited Review, (2015) *Advanced Drug Delivery Reviews*, epub. PMID: 26482186

INVITED PRESENTATIONS

2015	Harper Cancer Institute Global Breast Cancer Research Day, University of Notre Dame, South Bend, IN
2015	Kelly Cares Foundation, Breast Cancer Survivors Dinner, Guest Speaker, South Bend, IN
2011	Walther Cancer Research Symposium, Purdue University, West Lafayette, IN
2011	Amelia Project Breast Cancer Research Symposium, IUSM, Indianapolis, IN
2011	Career Development Award Postdoctoral grant writing workshop, IUSM, Indianapolis, IN
2011	University of Missouri, Department of Pathology and Anatomical Sciences, Columbia, MO
2011	University of Minnesota, Department of Laboratory Medicine and Pathology, Minneapolis, MN
2010	Vanderbilt University, Department of Cancer Biology, Nashville, TN
2010	Karmanos Cancer Center, Wayne State University, Detroit, MI
2010	Indiana University School of Medicine-Northwest, Gary, IN
2010	Mayo Clinic Cancer Center, Jacksonville, FL
2010	University of Southern Indiana, Evansville, IN
2010	Indiana University School of Medicine, Department of Molecular and Medical Genetics, Indianapolis, IN
2010	University of Chicago, Breast Cancer Spore, Chicago, IL
2009	Indiana University School of Medicine Breast Cancer Research Seminar Series, Indianapolis, IN
2008	Mammary Gland Biology, Gordon Research Conference, Lucca, Italy
2008	American Association for Cancer Research, Postdoctoral Grant Writing Round Table Discussion Leader

MEETING ABSTACTS (PRIMARY RESEARCH)

2013 "Regulation of mammary gland development by Cdc42," Kristi Bray, Jeanette Young, Melissa Gillette, and Tracy Vargo-Gogola, Mammary Gland Biology, Gordon Research Conference, Stowe, VT

2012 "P190B RhoGAP overexpression disrupts mammary gland morphogenesis by altering stromal-epithelial interactions," Gillette M, McHenry PR, Blumenthaler A, Chang P, and Vargo-Gogola T, Poster Presentation, American Association for Cancer Research Annual Meeting, Chicago, IL

2012 "Effects of Cdc42 overexpression on the developing mammary gland," Bray K, Hwang M, Brakebusch C, and Vargo-Gogola T, Poster Presentation, American Association for Cancer Research Annual Meeting, Chicago, IL

2011 "The Rho GTPase Cdc42 is a crucial regulator of mammary epithelial cell morphogenesis," Bray K, Brakebusch C, and Vargo-Gogola T, Poster Presentation, Mammary Gland Biology Gordon Research Conference, Newport, RI

2011 "P190B RhoGAP regulates epithelial-stromal interactions to affect mammary gland development," McHenry P, Gillette M, Chang P, Zhang E, and Vargo-Gogola T, Poster Presentation, Mammary Gland Biology Gordon Research Conference, Newport, RI

2011 "Investigating the role of Cdc42 in the developing mammary gland," Bray K, Brakebusch C, and Vargo-Gogola T, Poster Presentation, Mammary Gland Biology Gordon Research Conference, Newport, RI

2011 Vargo-Gogola, T, "Cdc42 is a crucial regulator of mammary epithelial cell morphogenesis," Invited Speaker, Jeffrey Rosen Symposium, 40 Years of Cancer Research, Park City, Utah

2010 "Investigating the role of Cdc42 in the developing mouse mammary gland," Kristi Bray, Cord Brakebusch, and Tracy Vargo-Gogola, American Association for Cancer Research Annual Conference, Washington D.C.

2010 "P190B RhoGAP overexpression disrupts mitosis, alters polarity, and increases adhesion and invasion in mammary epithelial cells," Peter McHenry, Peggy Chang*, and Tracy Vargo-Gogola, American Association for Cancer Research Annual Conference

2008 "Haploinsufficiency for P190-B RhoGAP Inhibits MMTV-Neu Tumor Progression." American Association for Cancer Research, Annual Meeting, San Diego, CA

2008 "P190-B RhoGAP Overexpression Inhibits the Tumorigenicity of MCF-7 breast cancer cells by disrupting mitosis and promoting aneuploidy." American Association for Cancer Research, Annual Meeting, San Diego, CA

2007 "A Novel Role for P190-B RhoGAP as a Critical Regulator of Mitosis and Cytokinesis." Mammary Gland Biology, Gordon Research Conference, Newport, RI

2006 "P190-B is a Critical Regulator of the Microenvironment in the Developing Mammary Gland." 18th Pezcoller Symposium, Tumor Microenvironment: Heterotypic Interactions, Poster Presentation, Trento, Italy

2005 "P190-B RhoGAP is Essential for Mammary Gland Development." DOD Era of Hope Breast Cancer Meeting, Poster Presentation, Philadelphia, PA

MEETING ABSTACTS (COLLABORATIVE RESEARCH)

2014 Cole LE, Vargo-Gogola T, Roeder RK. "Contrast-enhanced radiographic imaging of breast microcalcifications in vivo using bisphosphonate-functionalized gold nanoparticles. " Society for Biomaterials Annual Meeting, Denver, CO

2013 Cole LE, Vargo-Gogola T, Roeder RK. "Gold nanoparticles enable targeted labeling and enhanced contrast for radiographic imaging of breast microcalcifications." 2013 Cancer Biology Chair and Director Retreat, Wrightsville Beach, NC

2013 Cole LE, Vargo-Gogola T, Roeder RK. "Gold nanoparticles enable targeted labeling and enhanced contrast for radiographic imaging of breast microcalcifications." Biomedical Engineering Society Annual Meeting, Seattle, WA

2013 Cole LE, Vargo-Gogola T, Roeder RK. "Bisphosphonate functionalized gold nanoparticles enable enhanced detection of breast microcalcifications." 2013 BMES Midwest Biomedical Engineering Career Conference, Chicago, IL

2013 Cole LE, Vargo-Gogola T, Roeder RK. "Bisphosphonate functionalized gold nanoparticles enable enhanced detection of breast microcalcifications." 2013 TMS Annual Meeting and Exhibition. San Antonio, TX

2013 Roeder RD, Cole LE, Meagher MJ, Vargo-Gogola T, Ross RD. "Nanoparticle X-Ray Contrast Agents." 2013 TMS Annual Meeting and Exhibition. San Antonio, TX

2012 Cole LE, Vargo-Gogola T, Roeder RK. "Targeting breast microcalcifications with bisphosphonate functionalized gold nanoparticles for contrast-enhanced X-ray detection of breast cancer." 1st American Association of Anatomists Regional Meeting, Chicago, IL

MENTORED TRAINEES

High School Students- Stephanie Van Overberghe

Undergraduate Students- Patrick Dooling, Megan Rybarczyk, Peggy Chang, Stephanie Zavala, Christopher Schoff, Zachary Yochum, Sarah Gray, Alisa Blumenthaler, Camilo Mohar, Lindsey Nowak, Matt Mattera, Ethan Englert, Kaylee Calles, Kayla Edelbrock, Megan McGarel, Marielle Blumenthaler, Ryan Phan

Graduate Students- David Johnson (M.S. degree conferred 2009), Kristi Bray (Ph.D. conferred December, 2013), Melissa Gillette (Ph.D. conferred May, 2014), Lisa Cole (Ph.D. conferred May, 2015), Elizabeth Loughran (moved to another laboratory)

Medical Students- Clara Ko Un Park, Chris Green, Kevin Masterson

Postdoctoral Fellows- Peter McHenry, Ph.D. (Currently an Associate Professor at Southwestern Adventist University, Keene TX), Jeanette Young, Ph.D. (Currently a Research Associate at Thomas Jefferson University, Philadelphia, PA),

STUDENT THESIS COMMITTEES

Department of Biological Sciences, University of Notre Dame: Mallary Greenlee, Alanna Sedwick, Paul Kroeger, Tamara Johnson, Calli Davison, Cassie Buccheit, Yuliya Klymenko, Elizabeth Loughran
Department of Aerospace and Mechanical Engineering, University of Notre Dame: Tracie McGinnity, Lisa Iramata
Department of Chemistry and Biochemistry, University of Notre Dame: Marwa Asam

POSTDOCTORAL FELLOW MENTORING COMMITTEES

Prakash Nallathamby (Currently a Postdoctoral Fellow in Dr. Ryan Roeder's lab)

PROFESSIONAL MEMBERSHIPS

1999-present American Association for Cancer Research
2008-present Women in Cancer Research
2010-present Harper Cancer Research Institute, University of Notre Dame
2009-present Melvin and Bren Simon Cancer Center, Indiana University

EXTERNAL SERVICE AND SCHOLARLY ACTIVITIES

Peer Review: Ad hoc reviewer for *Genes, Chromosomes, and Cancer, Journal of Biological Chemistry, Current Drug Targets, Clinical Lipidology, BMC Cancer, Cancer Research, BMC Biology, Small GTPases, Journal of Translational Medicine, EMBO Molecular Medicine, Oncogene, PLOS One, Breast Cancer Research, Physiological Genomics, Journal of Visualized Experiments, Expert Reviews in Molecular Medicine*

Editorial Board: Associate Editor, *Current Drug Targets*

Grant Review Panels: Department of Defense Breast Cancer Research Program Postdoctoral Fellowship Reviewer (2014), Department of Defense Breast Cancer Research Program Breakthrough Award Reviewer (2014, 2015), Komen for the Cure Postdoctoral Fellowship Reviewer (2013), NIH ICER study section Early Stage Investigator reviewer (2012), Indiana CTSI Core Facilities Grant Reviewer (2012), and IUSCC ITRAC Grant Reviewer, Ad hoc Grant Reviewer for the Netherlands Organization for Scientific Research (2014), Ad hoc Grant Reviewer for the United Kingdom NC3R Research Program (2014)