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## BIOGRAPHICAL SKETCH

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NAME: Bondy, Melissa L.

eRA COMMONS USER NAME (credential, e.g., agency login): MBONDY

POSITION TITLE: Professor

EDUCATION/TRAINING:

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
The University of Texas, Austin, TX	BA	04/75	Psychology
The University of Texas, School of Public Health, Houston, TX	MS	08/82	Epidemiology - Environmental Science
The University of Texas, School of Public Health, Houston, TX	PHD	08/90	Epidemiology

### A. Personal Statement

Dr. Melissa Bondy, Chair and Professor of Epidemiology and Population Health at Stanford University School of Medicine, and Associate Director for Population Sciences at the Stanford Cancer Institute, She is also McNair Medical Institute Scholar. She is an established cancer epidemiologist with a multi-disciplinary focus on translational research. Her research focus integrates the field of epidemiology with the lab and clinic. She is at the forefront of developing innovative ways to assess the roles of heredity and genetic susceptibility in the etiology of cancer, primarily brain and breast cancer. Dr. Bondy is an international leader in glioma epidemiology. As PI of the Gliogene Consortium (Gliogene Family Study and Glioma International Case-Control Study – GICC), she has led largest multi-national familial glioma study and largest glioma case-control study. The goal of this research has been to better understand the etiology of familial and sporadic glioma. Dr. Bondy was also the contact PI for on-going research in breast cancer to study molecular predictors of survival after treatment for breast cancer.

### B. Positions and Honors

#### Positions

2001-2013 Director/Professor, Center for Childhood Cancer Epidemiology and Prevention Center, Baylor College of Medicine/Texas Children's Cancer and The University of Texas

2002-present Adjunct Professor of Epidemiology, Department of Epidemiology, The University of Texas School of Public Health, Houston, TX

2002-2011 Professor, Department of Epidemiology, Division of Cancer Prevention, The University of Texas MD Anderson Cancer Center, Houston, TX

2011-2013 Visiting Professor, Department of Breast Medical Oncology, Division of Cancer Medicine. The University of Texas MD Anderson Cancer Center, Houston, TX

2011-present Associate Director for Cancer Prevention and Population Sciences, Dan L. Duncan Comprehensive Cancer Center, Baylor College of Medicine, Houston, TX

2011-2016 Professor, Department of Pediatrics, Baylor College of Medicine, Houston, TX

2016-2019 Professor, Department of Medicine, Section Head, Epidemiology and Population Sciences, Baylor College of Medicine, Houston, TX

2019-present Chair and Professor, Department of Epidemiology and Population Health, Stanford University School of Medicine, Stanford, CA

#### Honors

1978 Graduated Cum Laude, The University of Texas, Austin

1978–1979 Public Health Service Traineeship, The University of Texas, School of Public Health

1979–1981 Traineeship, National Institute for Occupational Safety and Health

1979	Occupational Safety and Health Fellowship, University of Pennsylvania, Philadelphia
1991-1992	Leadership Texas Selected recipient - One year Scholarship
1996	Finalist, Julie and Ben Rogers Award for Excellence in Cancer Prevention
2000	Faculty Scholar Award, The University of Texas, MD Anderson Cancer Center
2000	US-Egypt Biotechnology Project Development Travel Award, Fogarty International Center, National Institutes of Health, Supported by the Joint Science and Technology Board of the Gore-Mubarak Joint Economic Partnership
2001	Julie and Ben Rogers Award for Excellence in Cancer Prevention, The University of Texas, MD Anderson Cancer Center
2004	Business and Professional Women's Texas Award, The University of Texas MD Anderson Cancer Center
2007	Best Boss Award 2007, The University of Texas MD Anderson Cancer Center
2011-present	Scholar Award, The McNair Medical Institute
2011-2019	Dan L. Duncan Professorship
2011-2017	Komen Scholar, Susan G. Komen Foundation

### **Scientific Review and Advisory Boards**

1990-present	Cancer Epidemiology Biomarkers and Prevention, Editorial Board Member
1994-present	Central Brain Tumor Registry of the United States, Board Member
2004-2009	Brain Tumor Epidemiology Consortium, Founding President
1998-2015	American Society for Preventive Oncology, Secretary, President, Board Member
1996-2005	American College of Epidemiology Chair, Publication Committee, Policy Committee
2004-present	External Scientific Advisory Board, The University of Minnesota Cancer Center Member
2005-2007	Molecular Epidemiology Steering Committee
2005-present	NYU Perlmutter Cancer Center, External Advisory Board
2008-2016	Kimmel Cancer Center External Scientific Advisory Committee, Member
2008-present	Susan G. Komen, Scientific Advisory Board, Grant Reviewer, Grant Study Section-Chair, Tissue Bank Think Tank
2009-present	St. Jude Children's Hospital, Memphis, TN, External Advisor
2013-2016	CDMRP – Breast Cancer Research Program, Department of Defense Congressionally Directed Medical Research Programs, Review Committee Chair
2013	PSDR Consultant Retreat, Karmanos Cancer Institute, Advisor
2014	ACS Epidemiology Research Program, Intramural Research Department, Scientific Review Committee
2014	AACR Cancer Epidemiology, Biomarkers & Prevention, Deputy and Seniors Editor
2013-present	Duke Cancer Institute, External Scientific Advisory Committee
2014	NCI Biostatistics Branch Reviewer
2010-present	University of Washington Center for Ecogenetics and Environmental Health Advisory Board
2014-2015	Fred Hutchinson Cancer Center, NIH NCI Site Visit Reviewer for CCSG
2015	Florida Department of Health's Biomedical Research Programs
2013-present	Ohio State University, Comprehensive Cancer Center, Population Science Intermural Research Program
2015-2016	NCI Outstanding Investigators Award Review Panelist
2015-2017	Chair-Elect, AACR, Molecular Epidemiology Group
2015-2017	Board Member, American College of Epidemiology
2016-present	NCI Board of Scientific Advisors Member
2017-present	Chair, AACR, Molecular Epidemiology Group
2017	AACR Cancer Progress Report 2017 Steering Committee

### **C. Contribution to Science**

#### **Glioma Research**

1. Her research focus is in genetic and molecular epidemiology and she is at the forefront of developing innovative ways to assess the roles of heredity and genetic susceptibility in the etiology of cancer, primarily brain and breast cancer. Dr. Bondy leads the largest multi-national family study of glioma patients. The goal of the research is to characterize genes in glioma families using a genome-wide single-nucleotide polymorphism approach and conduct linkage analysis to identify new genomic regions or loci that could

harbor genes important for gliomagenesis. The Gliogene Consortium initiated a second study, a case-control study with the goal to recruit ~4000 cases and ~4000 controls to better understand the role of gene and environment interactions in glioma etiology. She has made many significant contributions to understanding the etiology of this disease. She published one of the first GWAS studies and reported on genes that predict genetic susceptibility in families. She has published more than 95 articles contributing to the understanding of this disease.

- a. Melin BS, Barnholtz-Sloan JS, Wrensch MR, Johansen C, Il'yasova D ...Bondy, **ML**. *Genome-wide association study of glioma subtypes identifies specific differences in genetic susceptibility to glioblastoma and non-glioblastoma tumors*. Nature Genetics. 2017 May; 49 (5):789-794. PMID: PMC5558246
- b. Bainbridge MN, Armstrong GN, Gramatges MM, ...Melin BS, **Bondy ML**; Gliogene Consortium. *Germline mutations in shelterin complex genes are associated with familial glioma*. J Natl Cancer Inst. 2014 Dec 7;107(1):384, PMID: PMC4296199
- c. Jalali A, Amirian ES, Bainbridge MN, ...Melin BS, **Bondy ML**. *Targeted sequencing in chromosome 17q linkage region identifies familial glioma candidates in the gliogene consortium*. Sci Rep. 2015 Feb 5;5:8278, PMID: PMC4317686
- d. Andersson U, Wibom C, Cederquist K, ..., **Bondy ML**, Melin BS. *Germline rearrangements in families with strong family history of glioma and malignant melanoma, colon, and breast cancer*. Neuro Oncol. 2014 Oct;16(10):1333-40. PMID: PMC4165415

### **Breast Cancer**

Dr. Bondy also has on-going research in breast cancer. She began her research in breast cancer in the early 1990's when she validated the Gail Model in a breast cancer Texas based screening program. This work continued into developing prediction models to determine which women with early stage breast cancer are likely to have a recurrence of her breast cancer. She had an early project on the MD Anderson Breast Cancer SPORE project and the study continues with NCI funding to validate those genetic makers. The goal is to improve on existing markers so that women will not be over treated for their breast cancer. She worked with investigators in Mexico of the Ella Binational Breast Cancer Study to understand risk factors and tumor characteristics in these populations. She has published more than 85 papers related to breast cancer.

- a. Thompson PA, Ljuslinder I, Tsavachidis S, Brewster A, Sahin A, Hedman H, Henriksson R, **Bondy ML**, Melin BS. *Loss of LRIG1 locus increases risk of early and late relapse of stage I/II breast cancer*. Cancer Res. 2014 Jun 1;74(11):2928-35
- b. Liu Y, Zhou R, Baumbusch LO, ... **Bondy ML**. *Genomic copy number imbalances associated with bone and non-bone metastasis of early-stage breast cancer*. Breast Cancer Res Treat. 2014 Jan;143(1):189-201, PMID: PMC3993091
- c. Thompson PA, Brewster AM, Kim-Anh D,... Mills GB, **Bondy ML**. *Selective genomic copy number imbalances and probability of recurrence in early-stage breast cancer*. PLoS One. 2011;6(8):e23543, PMID: PMC315554
- d. Brewster AM, Thompson P, Sahin AA, Do K, Edgerton M, Murray JL, Tsavachidis S, Zhou R, Liu Y, Zhang L, Mills G, **Bondy M**. *Copy number imbalances between screen- and symptom-detected breast cancers and impact on disease-free survival*. Cancer Prev Res (Phila). 2011 Oct;4(10):1609-16, PMID: PMC3188338

### **Collaborative Research – Pancreas, Meningioma, Ovary**

Dr. Bondy has been a site PI and collaborator on many other NCI funded studies. She has been a collaborator on the PACGENE Study working with Dr. Gloria Petersen for over 15 years. As site PI, she collected more than 100 pancreatic cancer families that contributed to the PACGENE and other collaborations. She has been a contributing author on over 34 publications on pancreatic cancer. Dr. Bondy was part of the Meningioma and African-American Ovarian Cancer study and has recruited cases state-wide through the Texas Cancer Registry for both of these projects.

- a. Roberts NJ, Jiao Y, Yu J, Kopelovich L, Petersen GM, **Bondy ML**, Gallinger S, Schwartz AG, Syngal S, Cote ML, Axilbund J, Schulick R, Ali SZ, Eshleman JR, Velculescu VE, Goggins M, Vogelstein B, Papadopoulos N, Hruban RH, Kinzler KW, Klein AP. *ATM mutations in patients with hereditary pancreatic cancer*. Cancer Discov. 2012 Jan;2(1):41-6. Epub 2011 Dec 29. PMID: PMC3676748
- b. Peres LC, Risch H, Terry KL, Webb PM, Goodman MT, Wu AH, Alberg AJ, Bandera EV, Barnholtz-Sloan J, **Bondy ML**, ..., Schildkraut JM; African American Cancer Epidemiology Study and the Ovarian Cancer

Association Consortium. *Racial/ethnic differences in the epidemiology of ovarian cancer: a pooled analysis of 12 case-control studies*. Int J Epidemiol. 2017 Dec 2. PMID: 29211900

- c. Claus EB, Calvocoressi L, **Bondy ML**, Schildkraut JM, Wiemels JL, Wrensch M. *Dental x-rays and risk of meningioma*. Cancer. 2012 Sep 15;118(18):4530-7. Apr 10. PMID: PMC3396782
- d. Schildkraut JM, Alberg AJ, Bandera EV, Barnholtz-Sloan J, **Bondy M**, Cote ML, Funkhouser E, Peters E, Schwartz AG, Terry P, Wallace K, Akushevich L, Wang F, Crankshaw S, Moorman PG. *A multi-center population-based case-control study of ovarian cancer in African-American women: the African American Cancer Epidemiology Study (AACES)*. BMC Cancer. 2014 Sep 22;14:688. PMID: PMC4182887

### **Health Disparities**

When she was at MD Anderson she initiated the largest population-based cohort of Mexican-Americans. The study included more than 25,000 individuals from Harris County, Texas. The study was designed to identify risk factors (e.g. smoking, obesity, genetics, etc.) associated with disease patterns in this understudied population. She was a co-investigator in the MATCh study, a study to investigate smoking susceptibility in Mexican American youth. Her research in health disparities has gone beyond her work in Mexican American risk factors to also contributing to understanding breast cancer in Mexican and Mexican-American women. She has published more than 50 papers in health disparities research.

- a. Anderson K, Thompson PA, Wertheim BC, Martin L, Komenaka IK, **Bondy M**, Daneri-Navarro A, Meza-Montenegro MM, Gutierrez-Millan LE, Brewster A, Madlensky L, Tobias M, Natarajan L, Martínez ME. *Family history of breast and ovarian cancer and triple negative subtype in hispanic/latina women Springerplus*. 2014 Dec 11;3:727 PMID: PMC4332916
- b. Wilkinson AV, Spitz MR, Prokhorov AV, **Bondy ML**, Shete S, Sargent JD. *Exposure to smoking imagery in the movies and experimenting with cigarettes among Mexican heritage youth*. *Cancer Epidemiol Biomarkers Prev*. 2009 Dec;18(12):3435-43. doi: 10.1158/1055-9965.EPI-09-0766. Erratum in: *Cancer Epidemiol Biomarkers Prev*. 2010 Apr;19(4):1144, PMID: PMC2791895
- c. Garcia RZ, Carvajal SC, Wilkinson AV, ..., **Bondy ML**, Martínez ME. *Factors that influence mammography use and breast cancer detection among Mexican-American and African-American women*. *Cancer Causes Control*. 2012 Jan;23(1):165-73
- d. Miranda PY, Wilkinson AV, Etzel CJ, Zhou R, Jones LA, Thompson P, **Bondy ML**. *Policy implications of early onset breast cancer among Mexican-origin women*. Cancer. 2011 Jan 15;117(2):390-7. Erratum in: *Cancer*. 2011 Feb 15;117(4):878, PMID: PMC3071526

### **Complete List of Published Work in MyBibliography (To Date 348 Publications):**

<http://www.ncbi.nlm.nih.gov/myncbi/browse/collection/41149750/?sort=date&direction=ascending>

### **D. Research Support**

#### **Ongoing Research Support**

**1R01CA217105-01A1 (Bondy, et al)**

5/1/2018-6/30/2022

NCI

The overall goal of this proposal is to identify new gene candidate that might cause familial glioma and to conduct functional validation of the genes of interest using CRISPR mouse models. This study will contribute to our understanding of gliomagenesis, and provide information on potential pathways or molecular events that lead to familial glioma. This study also has the strong potential for delineating the genetic basis of glioma for genetic testing of high-risk families.

**1U19CA214254-01-A1 (Bondy, sub with USC) 7/1/2018 – 06/30/2023**

NCI

The overarching goal of this Program Project is to uncover the social and biological factors related to disease aggressiveness and poor health outcomes that contribute to the high prostate cancer mortality rates in African American men.

**1R01CA232754-01 (Bondy, et al)**

5/1/2019-6/30/2022

NCI

The overall goal of this proposal is to identify interactions between germline risk SNPs, somatic mutations, and clinical outcomes. This study will molecularly subclassify glioma cases, and correlate SNP data (germline), whole exome sequencing (tumor – somatic) and clinical outcomes to clarify the complex interplay between germline and somatic genetics and its influence over the biological behavior of diffuse gliomas.

**P50CA127001 (sub with MD Anderson)**

05/2019-04/2024

NCI

SPORE in Brain Cancer (competitive renewal resubmission) Project #3

This is a multidisciplinary, integrated, flexible, and highly translational (bench to bedside and back) research program that aims to discover and rationally test new biologic, targeted, and immunological therapies, and that seeks to develop prognostic and predictive biomarkers that inform individualized approaches to GBM treatment.

**1P30ES030285-01 (PI: Walker)**

04/01/2019 – 03/31/2024

NIH/NIEHS

The goal for the Gulf Coast Center for Precision Environmental Health (GC-CPEH) to be a focal point and catalyst for impactful EHS research, multi-directional communication with local communities, and to be the engine driving translation of precision environmental health research advances to improve human health.