

BIOGRAPHICAL SKETCH

NAME: Lustberg, Maryam Beheshti, M.D., MPH

eRA COMMONS USER NAME: MBLustberg01

POSITION TITLE: Associate Professor

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	COMPLETION DATE MM/YYYY	FIELD OF STUDY
University of Maryland, College Park, MD	B.S.	1998	Biochemistry
University of Maryland, Baltimore, MD	M.D.	2003	Medicine
The Ohio State University, Columbus, OH	MPH	2010	Public Health- Clinical Investigation

A. Personal Statement

I completed a Medical Oncology fellowship and a Breast Cancer fellowship at The Ohio State University Comprehensive Cancer Center (OSUCCC). During this time, I completed a MPH degree in clinical investigation with a focus in clinical translational research in breast cancer. In my current role, I am the Director of the Breast Center at Yale and Chief of Breast Medical Oncology. I also lead the Breast Disease Research Trials Program and oversee all aspects of the breast therapeutics program. I have experience leading all phase clinical trials and manage a diverse trial portfolio for the Yale Breast Program. My research focuses on identifying novel genomic predictors as well as blood and imaging biomarkers for treatment toxicity and survivorship management. I am currently the co-Chair of the Alliance Symptom Intervention Committee, and the Chair of the Multinational Association of Supportive Care in Cancer (MASCC) Neurological Complications Committee and President Elect of MASCC. With these efforts, the goal of my research is to identify predictive biomarkers to prevent or lessen treatment-related toxicity and ultimately personalize cancer treatments.

Ongoing and recently completed projects that I would like to highlight include:

Agency: National Cancer Institute
 ID#: 5R01CA238946
 Title: Prevention of paclitaxel-induced peripheral neuropathy with nilotinib
 PI: Lustberg (MPI Shuiying Hu, PhD)

The proposed work combines pharmacological and physiological assessment of OATP1B1 and will aid in achieving our long-term goal to identify treatment regimens of paclitaxel that are less neurotoxic yet maintain high antitumor efficacy.

Project period: 04/01/2019-03/31/2024

Agency: National Cancer Institute
 ID#: R21AG068831-01A1
 Title: Novel Interventions for Chemotherapy-Induced Neuropathy.
 PI: M.P.I. with Lise Worthen-Chaudhari PhD

The proposed work will target neurophysiologic mechanisms for restoring motor control while addressing patient-reported symptoms and participation in treatment. Toward this end, we propose to study a non-invasive, social, sensorimotor intervention – Adapted Argentine Tango – which targets motor control restoration, symptom alleviation, and treatment.

Project period: 08/01/2021-07/30/2023

Completed

Agency: National Cancer Institute
 ID#: 5R01CA189947-04
 Title: Effect of N-3 fatty acids and sugars on chemotherapy-induced cognitive deficits.
 PI: Lustberg (MPI grant with Orchard PhD and DeVries PhD)
 Project Period: 07/01/2015-06/30/2020

Agency: National Institute of Health/Nation Cancer Institute
 ID#: 1R21CA206566-01A1
 Title: Targeting Cardiolipin to Improve Skeletal and Cardiac Muscle Health in Breast Cancer Survivors
 Dietary fats, mitochondrial function, and muscle health in cancer patients.
 PI: Martha Belury, PhD
 Role on Project: Co-Investigator
 Project Period: 02/01/2018-01/31/2000

Agency: National Cancer Institute
 ID#: 5R01CA186251-04
 Title: Aerobic Capacity, Depression & Inflammatory Responsivity in Cancer Survivors
 PI: Janice Keikolt-Glaser, PhD
 Role on Project: Co-Investigator
 Project Period: 07/16/2015-06/30/2020

Agency: National Cancer Institute
 ID#: 5R01CA194924-03
 Title: Affective Consequences of Chemotherapy
 PI: Courtney DeVries, PhD
 Project Period: 08/01/2015-07/31/2020

B. Positions, Scientific Appointments and Honors

2021- Director of the Breast Center, Yale New Haven Health/Smilow Cancer Center, New Haven, CT
 2021- Chief of Breast Medical Oncology, Yale University School of Medicine
 2021- Associate Professor, Yale University School of Medicine, New Haven, CT
 2021-2021 Professor (Tenured), Department of Internal Medicine, Division of Medical Oncology, College of Medicine, The Ohio State University, Columbus, OH.
 2019-2021 Medical Director of Supportive Care, Arthur G. James Cancer Hospital and Richard J. Solove Research Institute, Ohio State University Comprehensive Cancer Center, Columbus, Ohio
 2017-2021 Associate Professor (Tenured), Department of Internal Medicine, Division of Medical Oncology, College of Medicine, The Ohio State University, Columbus, OH.
 2015-2019 Medical Director of Survivorship, Arthur G. James Cancer Hospital and Richard J. Solove Research Institute, Ohio State University Comprehensive Cancer Center, Columbus, Ohio
 2012-Present Director of Breast Cancer Survivorship, Arthur G. James Cancer Hospital and Richard J. Solove Research Institute, Ohio State University Comprehensive Cancer Center, Columbus, Ohio
 2010-Present Assistant Professor, Department of Internal Medicine, Division of Medical Oncology, Arthur G. James Cancer Hospital and Richard J. Solove Research Institute, Ohio State University, Columbus, Ohio
 2009-2010 Breast Medical Oncology Fellow, Arthur G. James Cancer Hospital and Richard J. Solove Research Institute, Ohio State University, Columbus, Ohio
 2003-2006 Internal Medicine Resident, University of Maryland Department of Medicine, Baltimore Maryland
 2003-2004 Instructor of Medicine, University of Maryland Department of Medicine, Baltimore, Maryland
 1998-1999 Predoctoral Intramural Research Fellow, National Cancer Institute, Bethesda, Maryland

Other Experience and Professional Memberships

2010-Present	Member, American Association of Cancer Research (AACR)
2010-Present	Member, American Society of Clinical Oncology (ASCO)
2011-Present	Member, Multinational Associate of Supportive Care in Cancer (MASCC)
2011-Present	Member, Alliance for Clinical Trials in Oncology (ACTO)
2018-Present	Chair, Neurological Complications Committee MASCC
2016-2018	Vice Chair, Neurological Complications Committee MASCC
2020-Present	Co-Chair Alliance Symptom Intervention Committee
2019-2021	MASCC President Elect

Honors

2010	ASCO Young Investigator Award
2010	AACR – Susan G. Komen Scholar-In-Training Award
2011	OSU Calabresi K12 Scholar in Experimental Therapeutics Award
2012	Top Physician Performer for Patient Satisfaction Award
2012	OSU College of Medicine Office of Diversity and Inclusion Shining Star Award for Medical Student Mentorship
2013	OSUWMC High Performing Physician - FY 2013, Top 10% of physicians nationally for patient satisfaction
2014	Patient Satisfaction Award, Division of Medical Oncology, The Ohio State University, Columbus, OH
2014	Travel Award, 9th Annual NIH Pain Consortium Symposium on Advances in Pain Research, Bethesda, MD
2014	Forty Under 40 Award, Class of 2014, Columbus Business First, Columbus, OH
2015	Landacre Research Honor Society Biomedical Research Mentor of the Year Award, College of Medicine, The Ohio State University, Columbus, OH
2016	Top 10 Percent of Providers Nationally Recognized for Patient Satisfaction. The Ohio State University Wexner Medical Center. November.
2015-2017	NCI Loan Repayment Award
2017-2019	NCI Loan Repayment Renewal Award
2017	Best Teacher Award: Awarded by the hematology-oncology fellows to recognize the faculty who provided excellent teaching and mentorship. June
2017	Named On Forbes' "Physician Honor Roll" as one of 27 breast oncologists across the country being recognized as an exemplary physician in the field of oncology. October.
2019	Castle Connolly's Exceptional Women in Medicine Award for 2019.

C. Contribution to Science

1. One of my main contributions has been the conduct of clinical trials in the area of cancer symptom management. My overall career goal is to develop and conduct innovative clinical/translational trials in breast cancer survivorship and symptom management. As I continue to interact with women diagnosed with breast cancer I see the importance of well-designed clinical trials based on the biologic mechanism of the symptom. I have conducted the first clinical trial in longitudinal evaluation of balance and gait in patients with breast cancer receiving paclitaxel as Contact PI of the **NCI R03 CA182165-02**. We found that cumulative taxane exposure resulted in impaired gait and balance as well as self-reported symptoms of CIPN and functional declines in patients undergoing taxane therapy. I have also received funding by Alliance to conduct a prospective randomized study of Omega 3 supplementation vs placebo for prevention of aromatase inhibitor arthralgias. To better understand the mechanisms underlying the symptoms cancer survivors experience, I actively collaborate with lab-based scientists and have recently received **NCI R01CA238946-02** to evaluate a targeted intervention for prevention of chemotherapy induced neuropathy. In summary, I have extensive experience in the conduct of clinical trials in symptom management and continue to make progress in understanding the biological mechanisms that promote the toxicities experienced by survivors.
 - a. Monfort SM, Pan X, Patrick R, Singaravelu J, Loprinzi CL, **Lustberg MB***, Chaudhari AM. "Natural history of postural instability in breast cancer patients treated with taxane-based chemotherapy: A pilot study." *Gait Posture*. 2016 Jul;48:237-42. PMC4969166 (co-Senior Author)

- b. Monfort SM, Pan X, Patrick R, Ramaswamy B, Wesolowski R, Naughton MJ, Loprinzi CL, Chaudhari AM, **Lustberg MB**. "Gait, balance, and patient-reported outcomes during taxane-based chemotherapy in early-stage breast cancer patients." *Breast Cancer Res Treat*. 2017 Jul;164(1):69-77. Epub Apr. PMC5510549
 - c. **Lustberg MB**, Orchard TS, Reinbolt R, Andridge R, Pan X, Belury M, Cole R, Logan A, Layman R, Ramaswamy B, Wesolowski R, Berger MJ, Patterson E, Loprinzi C, Shapiro CL, Yee L. Randomized Placebo-Controlled Pilot Trial of Omega 3 Fatty Acids for Prevention of Aromatase Inhibitor-Induced Musculoskeletal Pain. *Breast Cancer Res Treat*. 2018 Feb;167(3):709-718. PMC5809189
 - d. Leblanc AF, Sprowl JA, Alberti P, Chiorazzi A, Arnold WD, Gibson AA, Hong KW, Pioso MS, Chen M, Huang KM, Chodisetty V, Costa O, Florea T, de Bruijn P, Mathijssen RH, Reinbolt RE, **Lustberg MB**, Sucheston-Campbell LE, Cavaletti G, Sparreboom A, Hu S. OATP1B2 deficiency protects against paclitaxel-induced neurotoxicity. *J Clin Invest*. 2018 Feb 1;128(2):816-825 PMID 29337310 PMID: PMC5785270
2. I have been actively involved in national organizations that evaluate current guidelines in survivorship and evaluate the newest concepts that will lead to future clinical trials. Specifically, as a member of the ASCO Neuropathy Task Force, I helped update the current guidelines for management of CIPN. I am also an active member of the Alliance Symptom management committee, Alliance Neuropathy interest group and MASCC Neuropathy group. My work with MASCC led to review summary of the latest in neuropathy management.
- a. Pachman, DR, Watson, JC, **Lustberg, MB**, Wagner-Johnston, ND, Chan, N, Broadfield, L, Cheung, YT, Steer, C, Storey, DJ, Chandwani, KD, Paice, J, Jean-Pierre, P, Oh, J, Kamath, J, Fallon, M, Strik, H, Koeppen, S, Loprinzi, CL. Management Options for Established Chemotherapy-Induced Peripheral Neuropathy. *Supportive Care in Cancer*, 2014, 22(8):2281-95. PMID: 24879391.
 - b. Hershman, DL, Lacchetti, C, Dworkin, RH, Lavoie Smith, EM, Bleeker, J, Cavaletti, G, Chauhan, C, Gavin, P, Lavino, A, **Lustberg, MB**, Paice, J, Schneider, B, Smith, ML, Smith, T, Terstriep, S, Wagner-Johnston, N, Bak, K, Loprinzi, CL. Prevention and Management of Chemotherapy-Induced Peripheral Neuropathy in Survivors of Adult Cancers: American Society of Clinical Oncology Clinical Practice Guideline. *Journal of Clinical Oncology*, 2014, 20;32(18):1941-67. PMID: 24733808.
 - c. **Lustberg, MB**, Reinbolt, RE, Shapiro, CL. Bone Health in Adult Cancer Survivorship. *Journal of Clinical Oncology*, 2012, 30(30):3665-3674. PMID: 23008309.
 - d. **Lustberg, MB**, Shapiro, CL. Review of Physical Challenges of Adult Cancer Survivors. *ASCO Educational Book*. Vol. 2009, 564-569. Jan 2009.
3. In addition to my clinical trial experience, I have worked closely with lab-based investigators and bioinformatics specialists in the area of blood-based cancer biomarkers and genomic predictors. My goal is to identify predictive markers of chemotherapy efficacy and toxicity and Aromatase Inhibitors-Induced Arthralgias (AIA) that will impact survivorship and symptom management. Regarding blood-based cancer biomarkers, we have found that there are specific abnormal circulating cell populations present in blood samples from metastatic breast cancer patients, such as Epithelial cell adhesion molecule (EpCAM)-negative cells that are Cytokeratin (CK) positive (Lustberg and Chalmers et al. *Breast Cancer Research*, 2014). These findings highlight that blood from metastatic breast cancer patients has a heterogeneous mixture of abnormal cells which have not been previously characterized. These cells can serve as potentially important predictive markers for various targeted cancer therapies. Regarding genomic biomarkers, we have identified predictive genomic signatures for AIA using machine-learning algorithms. (Reinbolt and Lustberg et al. *Cancer Med*, 2018) This study is the first to link a specific SNP/gene cluster to AIA risk independent of candidate gene bias.
- a. Mathsyaraja, H, Thies, K, Taffany, DA, Deighan, C, Liu, T, Yu, L, Fernandez, SA, Shapiro, C, Otero, J, Timmers, C, **Lustberg, MB**, Chalmers, J, Leone, G, Ostrowski, MC. CSF1-ETS2 Induced microRNA in Myeloid Cells Promote Metastatic Tumor Growth. *Oncogene*, 34(28):3651-61. PMC4369473.
 - b. **Lustberg, MB**, Balasubramanian, P, Miller, B, Garcia-Villa, A, Deighan, C, Wu, Y, Carothers, S, Berger, M, Ramaswamy, B, Macrae, ER, Wesolowski, R, Layman, RM, Mrozek, E, Pan, X, Summers, TA, Shapiro, CL, Chalmers, JJ. Heterogeneous atypical cell populations are present in blood of metastatic breast cancer patients. *Breast Cancer Research*, 2014, 16(2):R23. PMC4053256.
 - c. **Lustberg, MB**, Jatana, KR, Zborowski, M, Chalmers, JJ. Emerging technologies for CTC detection based on depletion of normal cells. *Recent results in cancer research, Fortschritte der Krebsforschung. Progrès dans les recherches sur le cancer*, 2012, 195: 97-110. PMC3775349.

- d. Reinbolt RE, Sonis S, Timmers CD, Fernández-Martínez JL, Cernea A, de Andrés-Galiana EJ, Hashemi S, Miller K, Pilarski R, **Lustberg MB**. Genomic risk prediction of aromatase inhibitor-related arthralgia in patients with breast cancer using a novel machine-learning algorithm. *Cancer Med*. 2018 Jan;7(1):240-253. PMC5773952

My Bibliography URL:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/maryam.lustberg.1/bibliography/45436312/public/?sort=date&direction=ascending>