

October 2, 2023

CURRICULUM VITAE

NAME: Mark Edward Burkard, M.D., Ph.D.

CURRENT POSITION: Professor
Mary and Rob Gooze Chair in Metastatic Breast Cancer
Department of Medicine, Hematology/Oncology
Department of Oncology/McArdle Laboratories
UWCCC Associate Director of Genomics and Precision Medicine
Director, UW Medical Scientist Training Program

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BIRTHDATE AND PLACE: [REDACTED]

LEADERSHIP EXPERIENCE

2021- SMPH Dean's Basic Sciences Strategic Leadership Committee
2020- UWCCC Associate Director of Genomics and Precision Medicine
2020- Director UW MSTP
2019- co-Chair Big Ten Cancer Research Consortium Basket Group
2018-2021 CTSA TL1 co-director
2017-2023 Co-Leader, UWCCC Basket DOT
2015- Co-Director, UWCCC/WON Precision Medicine Molecular Tumor Board
2012-2020 Associate Director, UW Medical Scientist Training Program (NIH MSTP)
2008-2017 Co-Leader, UWCCC Breast Cancer Disease Oriented Team
2016-2018 Director, MSTP admissions
2005-2006 Chief Fellow, Medical Oncology, Memorial Sloan-Kettering Cancer Center

EDUCATION

Undergraduate

1990-1994 B.S. Mathematical Physics, State University of New York at Buffalo, Buffalo, New York

Graduate/Medical School

2001 Ph.D. Chemistry, University of Rochester, Rochester NY
2002 M.D. School of Medicine and Dentistry, University of Rochester, Rochester, New York

York

Residency

2002-2004 Internal Medicine Residency Training, Medical Research Pathway, New York Presbyterian Hospital, Cornell Campus, New York, NY

Postgraduate/Fellowship

2004-2008 Medical Oncology Fellowship, Memorial Sloan Kettering Cancer Center
New York, NY

CERTIFICATION AND LICENSURE

Specialty/Subspecialty Certification

2005 Internal Medicine board certification
2007, 2017 Medical Oncology board certification

Medical Professional Licensure

2008-present Medicine, Wisconsin State License 51474
2003-present Medicine, New York State License (inactive since 2008)

PRIOR APPOINTMENTS

2018-2021 ICTR (UW CTSA) TL1 Co-Director
2015-2020 Associate Professor, University of Wisconsin, Department of Medicine,
Hematology/Oncology
2008-2015 Assistant Professor, University of Wisconsin, Department of Medicine,
Hematology/Oncology.
2013-2020 Associate Director, UW Medical Scientist Training Program (MSTP)
2008-2017 Leader, UWCCC Breast Cancer Disease-Oriented Team
2015 Thread Leader, Scientific Inquiry, UW School of Medicine and Public Health
Curriculum

PROFESSIONAL SOCIETY MEMBERSHIPS

2005-Present American Society of Clinical Oncology
2006-Present American Association for Cancer Research
2012-Present American Society of Cell Biology
2021-Present American Society of Clinical Investigation (elected)

HONORS AND AWARDS

2022 Scientific American C2 Catalyst Award Finalist
2021 American Society of Clinical Investigation
2019 Vilas Faculty Mid-Career Investigator Award, University of Wisconsin
2019 UW Health Patient and Family Experience Provider Champion Award
[<http://bit.ly/2Q27p3s>]
2018 Page-Grossman Professionalism Award, UW Department of Medicine
[<https://goo.gl/pVWiat>]
2017 'The Ride' scholarship for the Precision Medicine Molecular Tumor
Board [<https://goo.gl/Y945ox>]
2016 Dean's Teaching Award, University of Wisconsin School of Medicine and
Public Health [<http://bit.ly/33zP5CM>]
2016 UW Health Patient Experience Physician Champion Award (awarded to
30 [of 1109] providers with the top ratings in patient surveys) [<http://bit.ly/2rrztTM>]

2015	Komen Madison Award for Commitment to Research and Treatment on Breast Cancer
2013	UW Health Patient Experience Physician Champion Award (awarded to UW Health Physicians who score among the top 5% in patient surveys) [https://goo.gl/wdCE2g]
2012	Novel and Newsworthy Presentation (1 of 12 selected from >2500), American Society of Cell Biology Annual Meeting, San Francisco CA [https://goo.gl/rEBKt1]
2012	ACRIN-ECOG Translational Research Award, Eastern Cooperative Oncology Group, Hollywood FL. [https://goo.gl/9MWFgN]
2012	Puestow Research Award for Significant Research Contribution toward Advancing the Field of Medicine. Department of Medicine, University of Wisconsin
2005-2006	Chief Fellow in Medical Oncology, Memorial Sloan-Kettering Cancer Center
2002	Dean's Award, School of Medicine, University of Rochester
2000	American Society of Clinical Investigation Travel Trainee Award
2000	First place, biological sciences. Niagara Frontier Inventor of the Year for "Method for Enhancing Transport of Gases to Tissues" U.S. Patent No. 5869538
1999-2000	Merck Fellow. University of Rochester
1998-1999	Hooker Fellow. University of Rochester
1994	Phi Beta Kappa Honor Society
1994	Dean's Outstanding Senior Award in the Natural Sciences and Mathematics. S.U.N.Y. at Buffalo
1994	Graduated <i>summa cum laude</i> . SUNY at Buffalo.
1993	Golden Key National Honor Society, Outstanding Senior Initiate
1992	Phi Eta Sigma Freshman Honor Society
	Merck Index Award for Excellence in Organic Chemistry
1991	Grace Capen Award for Academic Excellence

NATIONAL SERVICE ACTIVITIES

2018-	External Advisory Board, University of Texas Medical Branch hub CTSA
2018-	Editorial board, <i>Clinical Breast Cancer</i>
2018-	ASCO/TAPUR Molecular Tumor Board
2019	ASCO/SEP Peer Review
2019-	Associate Editor, <i>Breast Cancer Research and Treatment</i>

AD HOC REFEREE FOR JOURNALS

Cancer Discovery, eLife, Science Translational Medicine, PNAS, Cancer Research, Clinical Cancer Research, Journal of Cell Biology, EMBO Journal, EMBO Reports Nature Structure & Molecular Biology, PLoS Biology, Nature Communications, Journal of Biological Chemistry, JCO Precision Oncology, Chromosoma, Cancer, Breast Cancer Research and Treatment, BMC Cancer, The Biophysical Journal, Clinical Breast Cancer, Tumor Biology, Chemical and Molecular Life Sciences, Inside the Cell, PLoS One, JNCCN, JCO Clinical Cancer Informatics, HealthAffairs, Oncotarget, Journal for ImmunoTherapy of Cancer.

GRANT STUDY SECTION

2022-	NIH Molecular Cancer Diagnostics and Classification (MCDC), Standing Member
2022	National Science Foundation, Ad Hoc Reviewer

2020-2022	NIH Cancer Biomarkers Study Section (CBSS), Standing Member
2020	Mechanisms of Cancer Therapeutics – 2 (MCT2) Study Section, Ad Hoc
2018-2019	NIH Cancer Biomarkers Study Section (CBSS), Ad Hoc
2019	Cancer Research UK, Ad Hoc
2016-21	Breast Cancer Now, Ad Hoc
2015-17,19	Department of Defense Breast Cancer Research Program
2017	Bloodwise, Ad Hoc
2016	NCI panel ZCA1 SRB-V (M1)
2016	Israel Science Foundation, Ad Hoc
2016	National Science Foundation, Ad Hoc
2016	J Walter Juckett Scholar Award (U. Vermont), Ad Hoc
2015	Swiss National Science Foundation, Ad Hoc
2015	Worldwide Cancer Research, Ad Hoc
2015	Wellcome Trust/India Alliance Fellowship, Ad Hoc
2013	UK Medical Research Council, Ad Hoc
2009	Flight Attendant Medical Research Institute

PATENTS

Van Liew HD, **Burkard ME**, Lundgren CEG, Tyssebotn IM. Method for Enhancing Transport of Gases to Tissues. U.S. Patent No. 5869538. Issued Feb 9, 1999.

Beebe D, **Burkard ME**, Warrick J, Guckenberger J, Wilke L. Microfluidic Device for multiplexed point source administration of compounds. U.S. Patent Application 14/727399. Filed June 1, 2015.

Thompson DV, **Burkard ME**. Method to enhance screening for homologous recombination in genome edited cells using a fluorescent donor delivery vector. US Patent US20200157531.

Suzuki A, **Burkard ME**, Norman R, Recchia E. Kits and Methods for Super-Resolution Microscopy. US Patent P200189US01 Application 17/466,434 filed Sept 3, 2021.

DEI Efforts

2023	NCI R25 Summer Program Proposal with Dr. Felton (pending)
2022	Outreach to San Francisco State University
2022	Culturally Aware Mentorship Training
2021	Initiation of DEI-focused MSTP Summer Scholars Program (w/Dr. Felton)
2020	Puerto Rico Recruiting Outreach, PR
2018-	MSTP Diversity Committee, increasing MSTP recruitment
2018	SACNAS Recruiting Outreach, Salt Lake City, UT

PEER REVIEWED PUBLICATIONS (REVERSE CHRONOLOGICAL)

Faculty:

1. Lynch AR, Bradford S, Zhou AS, Oxendine K, Henderson L, Horner VL, Weaver BA, **Burkard ME**. A survey of CIN measures across mechanistic models. Submitted. Preprint: bioRxiv 2023.06.15.544840.
2. Lynch AR, **Burkard ME**. CINFER: an interactive, web-based platform for inference of chromosome mis-segregation rates from scDNAseq data. In preparation.
3. Xu W, Gao A, Khatri P, Ma G, Donahue K, Wang Y, Kim E-J, Hu M, Liu F, Schwartz R,

- Ong I, **Burkard ME**, Wisinski K, Dinh H. BRD8 is a therapeutic vulnerability for overcoming resistance to dual ER/HER2 blockade therapy in HR+/HER2+ breast cancer. Submitted.
- Jhaveri K, Eli LD, Wildiers H, Hurvitz SA, Guerrero-Zotano A, Unni N, Brufsky A, Park H, Waisman J, Yang ES, Spanggaard I, Reid S, **Burkard ME**, Vinayak S, Prat A, Verret B, Bidard F-C, Loi S, Crown J, Bhave M, Piha-Paul S, Suga JM, Chia S, Saura C, García Sáenz JÁ, Gambardella V, de Miguel MJ, Rubio B, Gal-Yam EN, Geva R, Stemmer S, Ma C, Hanker A, Ye D, Goldman JW, Bose R, Peterson L, Bell JSK, Frazier A, DiPrimeo D, Wong A, Arteaga CL, Solit D. Neratinib + fulvestrant + trastuzumab for HR-positive, HER2-negative, HER2-mutant metastatic breast cancer: outcomes and biomarker analysis from the SUMMIT trial. *Ann Oncol*, 2023. In Press.
 - Marcinak CT, Praska CE, Vidri RJ, Taylor AK, Krebsbach JK, Ahmed KS, Varley PR, Afshar M, Weber SM, Abbot DE, Mathew J, **Burkard ME**, LoConte NK, Churpek MM, Zafar SN. Association of neighborhood disadvantage with short- and long-term outcomes after pancreatectomy for pancreatic ductal adenocarcinoma. *Ann Surg Onc*, In Press.
 - O'Neil SR, Weber GA, Deming DA, **Burkard ME**, Kenny PA, Richmond CS, Parsons BM. Exceptional response to crizotinib with subsequent response to cabozantinib in metastatic ROS1-GOPC fusion-mutated breast cancer. *JCO Precision Oncol*. 7 (2023) e2300174.
 - Marcinak CT, Parker WF, Parikh AA, Datta J, Maithel SK, Kooby DA, **Burkard ME**, Kim HJ, LeCompte MT, Afshar M, Churpek MM, Zafar SN. Accuracy of models to prognosticate survival after surgery for pancreatic cancer in the era of neoadjuvant therapy. *J Surg Oncol* 2023, *In Press*.
 - Bulen N, Khazanov N, Hovelson D, Lamb L, Matrana M, **Burkard ME**, Yang E, Edenfield W, Dees EC, Onitilo A, Buchschacher G, Miller A, Parsons B, Wassenaar T, Suga J, Siegel R, Irvin W, Nair S, Slim J, Misleh J, Khatri J, Masters G, Thomas S, Safa M, Anderson D, Mowers J, Dusenbery A, Drewery S, Plouffe K, Reeder T, Vakil H, Patrias L, Falzetta A, Hamilton R, Kwiatkowski K, Johnson B, Rhodes D, and Tomlins S. Validation of Immunotherapy Response Score as predictive of pan-solid tumor pembrolizumab benefit. *Cancer Res Commun* 3: 1335-49, 2023.
 - Helzer KT, Sharifi M, Sperger JM, Shi Y, Reese SR, Bootsma ML, Taylor A, Kauffman KR, Krause H, Schehr J, Sethakorn N, Kosoff D, Kyriakopolous C, Rydzewski NR, Yu M, Harari PM, Bassetti M, Blitzer G, Floberg J, Dehm S, Armstrong A, Beltran H, McKay R, O'Regan R, **Burkard ME**, Wisinski K, Emamekhoo H, Lang JM, Zhao SG. Fragmentomics of standard targeted circulating tumor DNA sequencing panels. *Annals Oncol*. doi: 10.1016/j.annonc.2023.06.001.
 - Chen L, **Burkard M**, Wu J, Kolesar JM, Wang C. Estimating the distribution of ratio of paired event times in phase II oncology trials. *Stat Med*. 42:388-406, 2023.
 - Britigan EMC, Wan J, Sam DK, Copeland SE, Lasek AL, Hrycyniak LCF, Wang L, Audhya A, **Burkard ME**, Roopra A, Weaver BA. Increased Aurora B expression reduces substrate phosphorylation and induces chromosomal instability. *Front Cell Dev Biol* 2063, 2022.
 - Khazanov N, Bulen BJ, Shreve MJ, Lamb LE, Hovelson DH, Matrana MR, **Burkard ME**, Yang ES, Edenfield WJ, Dees EC, Onitilo AA, Thompson M, Buchschacher GL, Miller

- AM, Menter A, Parsons B, Wassenaar T, Hwang LC, Suga JM, Siegel R, Irvin W Jr, Nair S, Slim JN, Kwiatkowski K, Mitchell K, Hu-Seliger T, Drewery S, Fischer A, Hipp J, Reeder T, Vakili H, Johnson DB, Rhodes DR, Tomlins SA. Development and validation of an integrative pan-solid tumor predictor of PD-1/PD-L1 blockade benefit. *Comm Med* 3:14, 2023
13. Tucker JB, Bonema SC, Varela R, Denu RA, Hu Y, McGregor SM, **Burkard ME**, Weaver BA. Misaligned chromosomes are a major source of CIN in breast cancer. *Cancer Res Commun* 3:54-65, 2023.
 14. Tomlins SA, Khazanov NA, Bulen BJ, Hovelson DH, Shreve MJ, Lamb LE, Matrana MR, **Burkard ME**, Yang ES, Edenfield WJ, Dees EC, Ontilo AA, Thompson M, Buchschacher GL Jr, Miller AM, Menter A, Parsons B, Wassenaar T, Hwang LC, Suga JM, Siegel R, Irvin W Jr, Nair S, Slim JN, Misleh J, Khateri J, Masters G, Thomas S, Safa M, Anderson DM, Kwiatkowski K, Mitchell K, Hu-Seliger T, Drewery S, Fischer A, Plouffe K, Czuprenski E, Hipp J, Reeder T, Vakili H, Johnson DB, Rhodes DR. *Commun Med* 3(1): 14, 2023.
 15. Loeser AL, Gao L, Bardia A, **Burkard ME**, Kalinsky KM, Peppercorn J, Carlson M, Cowden J, Glenn L, Maues J, McGlown S, Ni A, Padron N, Lustberg M. Patient-centered dosing: oncologists' perspectives about treatment-related side effects and individualized dosing for patients with metastatic breast cancer (MBC). *Breast Cancer Res Treat* 196: 549-563, 2022.
 16. Lynch AR, Arp NL, Zhou AS, Weaver BA, **Burkard ME**. Quantifying chromosomal instability from intratumoral karyotype diversity using agent-based modeling and Bayesian inference. *Elife*, 11:e69799, 2022.
 17. Hu Y, **Burkard ME**. Classes of therapeutics to amplify the immune response. *Breast Cancer Res Treat* 191(2):277-89, 2022.
 18. Scribano CM, Wan, J, Esbona K, Tucker JB, Lasek A., Zhou AS, Zasadil LM, Molini R, Fitzgerald J, Lager AM, Laffin JJ, Correia-Staudt K, Wisinski KB, Tevaarwerk AJ, O'Regan R, McGregor SM, Fowler AM, Chappell RJ, Bugni TS, **Burkard ME**, Weaver BA. Chromosomal instability sensitizes patient breast tumors to multipolar divisions induced by paclitaxel. *Science translational medicine*, 13(610), p.eabd4811, 2021.
 19. Hu Y, Manasrah BK, McGregor SM, Lera RF, Norman RX, Tucker JB, Scribano CM, Yan RE, Humayan M, Wisinski KB, Tevaarwerk AJ, O'Regan RM, Wilke LG, Weaver BA, Beebe DJ, Jin N, **Burkard ME**. Paclitaxel induces micronucleation and activates pro-inflammatory cGAS-STING signaling in triple-negative breast cancer. *Mol Cancer Ther*, 20(12):2553-67, 2021.
 20. Peh KH, Przybylski DJ, Fallon MJ, Bergsbaken JJ, Hutson PR, Yu M, Deming DA, **Burkard ME**. Clinical utility of a regional precision medicine molecular tumor board and challenges to implementation. *J Oncol Pharm Practice* 10781552221091282, 2022.

21. Connolly RM, Zhao F, Miller KD, Lee M-J, Trepel JB, Piekarz R, Smith KL, Brown-Glaberman UA, Winn JS, Faller BA, Onitilo AA, **Burkard ME**, Budd GT, Levine EG, Royce ME, Kaufman PA, Thomas A, Wolff AC, Sparano JA. E2112: Randomized phase III trial of endocrine therapy plus entinostat/placebo in hormone receptor-positive advanced breast cancer. A trial of the ECOG-ACRIN Cancer Research Group. *J Clin Oncol* 39: 3171-81, 2021.
22. Scribano CM, Wan J, Esbona K, Tucker JB, Lasek A, Zhou AS, Zasadil LM, Molini R, Fitzgerald J, Lager AM, Laffin JJ, Correia-Staudt K, Wisinski KB, Tevaarwerk AJ, O'Regan R, McGregor SM, Fowler AM, Chappell RJ, Bugni TS, **Burkard ME**, Weaver BA. Chromosomal instability sensitizes tumors to multipolar divisions induced by paclitaxel. *Sci Trans Med*, 13(610):eabd4811, 2021.
23. Klemm LC, Denu RA, Hind LE, Rocha-Gregg BL, **Burkard ME**, Huttenlocher A. Centriole and Golgi microtubule nucleation are dispensable for the migration of human neutrophil-like cells. *Mol Biol Cell* 32(17):1545-56, 2021.
24. Senyuk V, Eskandari N, Jiang Y, Minshall R, Sundstrom RP, Leanza L, **Burkard ME**, Gentile S. Compensatory expression of NRF2-dependent antioxidant genes is required to overcome the lethal effects of Kv11.1 activation in breast cancer cells and PDOs. *Redox Biol*, 45:102030, 2021.
25. Matson DR, Denu RA, Zasadil LM, **Burkard ME**, Weaver BA, Flynn C, Stukenberg PT. High nuclear TPX2 expression correlates with TP53 mutation and poor clinical behavior in a large breast cancer cohort, but is not an independent predictor of chromosomal instability. *BMC Cancer* 21:186, 2021.
26. Gilbert A, Williams C, Azuero A, **Burkard ME**, Kenzik K, Rocque G. Utilizing data visualization to identify differences in survival and treatment patterns between women with *de novo* and recurrent metastatic breast cancer. *Clinical Breast Cancer*, 21(4): 292-301, 2021.
27. Bernstein MN, Ni Z, Collins M, **Burkard ME**, Kendzierski C, Stewart R. CHARTS: A web application for characterizing and comparing tumor subpopulations in publicly available single-cell RNA-seq datasets. *BMC Bioinformatics* 22: 88 (2021) doi: /10.1186/s12859-021-04021-x
28. Tomlins SA, Hovelson DH, Suga JM, Anderson DM, Koh HA, Dees EC, McNulty B, **Burkard ME**, Guarino M, Khatri J, Safa MM, Matrana MR, Yang ES, Menter AR, Parsons BM, Slim JN, Thompson MA, Hwang L, Edenfield WJ, Nair S, Onitilo A, Siegel R, Miller A, Wassenaar T, Irvin WJ, Schulz W, Padmanabhan A, Harish V, Gonzalez A, Mansoor AH, Kellum A, Harms P, Drewery S, Falkner J, Fischer A, Hipp J, Kwiatkowski K, de la Vega LL, Mitchell K, Reeder T, Siddiqui J, Vakil H, Johnson DB, Rhodes DR. Real-world performance of a comprehensive genomic profiling test optimized for small tumor samples. *JCO Precis Oncol* 5: 1312-1324, 2021.
29. Wirth LJ, Sherman E, Robinson B, Solomon B, Kang H, Lorch J, Worden F, Brose M, Patel J, Lebouilleux S, Godbert Y, Barlesi F, Morris J, Owonikoko TK, Tan DSW,

- Gautschi O, Weiss J, De La Fouchardiere C, **Burkard ME**, Laskin J, Taylor M, Kroiss M, Medioni J, Goldman JW, Bauer TM, Levy B, Zhu VW, Lakhani N, Moreno V, Ebata K, Nguyen M, Heirich D, Zhu EY, Huang X, Yang L, Kherani J, Rothenberg SM, Drlon A, Subbiah V, Shah M, Cabanillas ME. Efficacy of Selpercatinib in RET-Altered Thyroid Cancers. *New Engl J Med* 383: 825-835, 2020.
30. Jin N, Lera RF, Yan RE, Guo F, Oxendine K, Horner VL, Hu Y, Wan J, Mattison RJ, Weaver BA, **Burkard ME**. Chromosomal Instability Upregulates Interferon in Acute Myeloid Leukemia. *Genes Chromosomes Cancer* doi:10.1002/gcc.22880, 2020.
31. Rocque G, Gilbert A, Williams CP, Kenzik KM, Nakhmani A, Kandhare PG, Bhatia S, **Burkard ME**, Azuero A. Prior Treatment Time Impacts Survival Outcomes in Metastatic Breast Cancer. *JCO Clin Cancer Inform* 4:500-513, 2020.
32. Singh A, Denu RA, Wolfe SK, Sperger JM, Schehr J, Witkowsky T, Esbona K, Chapell RJ, Weaver BA, **Burkard ME**, Lang JM. Centrosome amplification is a frequent event in circulating tumor cells from subjects with metastatic breast cancer. *Molecular Oncol*, 14:1898-1909, 2020.
33. Sharick JT, Walsh CM, Sprackling CM, Pasch CA, Pham DL, Esbona K, Choudhary A, Garcia-Valera R, **Burkard ME**, McGregor SM, Matkowskyj KA, Parikh AA, Meszoely IM, Kelley MC, Tsai S, Deming DA, Skala MC. Metabolic heterogeneity in patient tumor-derived organoids by primary site and drug treatment. *Front Oncol.*, 10:553, 2020.
34. Parsons BM, Meier DR, Richmond CS, Gurda GT, Lofgren KA, **Burkard ME**, Deming DA, Kenny P. MET D1228N emergence and cabozantinib treatment in crizotinib-resistant MET-amplified triple-negative breast cancer. *Clinical Breast Cancer*, 20:e433-e438, 2020.
35. Lera RF, Norman RX, Dennee A, Martin-Koob J, **Burkard ME**. Plk1 protects kinetochore-centromere architecture against microtubule pulling forces. *EMBO Reports*, 2019 Aug 30:e48711. doi: 10.15252/embr.201948711.
36. Denu RA, **Burkard ME**. Analysis of the “centrosome-ome” identifies MCPH1 deletion as a major cause of centrosome amplification in human cancer. *Sci Rep* 10:11921, 2020.
37. Stefely JA, Theisen E, Hanewall C, Scholl L, **Burkard ME**, Huttenlocher A, Yu J-P J. A physician-scientist preceptorship in clinical and translational research enhances training and mentorship. *BMC Med Educ*. 19:89, 2019. PMID: PMC6438136.
38. Denu RA, Kaur G, Lakkaraju A, **Burkard ME**. Centrosome amplification in cancer disrupts autophagy and sensitizes to autophagy inhibition. *Molecular Cancer Research*, 18(1):33-45, 2020. PMID: PMC6942210.
39. Pasch CA, Favreau PF, Yueh AE, Babiarz CP, Gillette AA, Sharick JT, Karim MR, Nickel KP, DeZeeuw AK, Sprackling CM, Emmerich PB, DeStefanis RA, Pitera RT, Payne SN, Korkos DP, Clipson L, Miller D, Carchman EH, **Burkard ME**, Lemmon K,

- Matkowskyj KA, Newton MA, Ong IM, Bassetti MF, Kimple RJ, Skala M, Deming DA. Patient-derived organotypic cancer spheroid cultures to predict sensitivity to chemotherapy and radiation. *Clin Cancer Res*. doi: 10.1158/1078-0432.CCR-18-3590 2019.
40. Johnson JM, Hebert AS, Drane QH, Lera RF, Wan J, Weaver BA, Coon JJ, **Burkard ME**. A genetic toggle for chemical control of individual Plk1 substrates. *Cell Chem Biol*. *Cell Chem Biol*. 27: 350, 2020. NIHMSID:NIHMS1586168.
41. Denu RA, Sass MM, Johnson JM, Potts GK, Lera RF, Choudhary A, Coon JJ, **Burkard ME**. Polo-like kinase 4 maintains centriolar satellite integrity by phosphorylation of centrosomal protein 131 (CEP131). *J Biol Chem*. 294:6531, 2019. PMCID: PMC6484138.
42. Tevaarwerk AJ, Hocking WG, Buhr KA, Gribble M, Seaborne L, Wisinski KB, **Burkard ME**, Yen T, Wiegmann DA, Sesto ME. A randomized trial of intermediate versus delayed receipt of survivorship care plans to determine impact on knowledge of diagnosis and treatment satisfaction. *Cancer* 125:1000-7, 2019. PMCID: PMC6402997.
43. Fricke S, Payne SN, Kratz J, Favreau PF, Pasch CA, Foley TM, Yueh AE, Van De Hey DR, Depke MG, Korkos DP, Clipson L, **Burkard ME**, Lemmon KK, Parsons BM, Kenny PA, Matkowskyj KA, Newton MA, Skala M, Deming DA. MTORC11/2 inhibition as a therapeutic strategy for PIK3CA mutant cancers. *Mol Cancer Ther* 18:346-55, 2019. PMCID: PMC6363831.
44. Rocque GB, Kandhare PG, Williams CP, Nakhmani A, Azuero A, **Burkard ME**, Pisu M, Forero A, Bhatia S, Kenzik K. Visualization of sequential treatments metastatic breast cancer. *JCO Clin Cancer Inform*. 3:1-8, 2019.
45. Jin N, **Burkard ME**. MACROD2, an original cause of CIN? *Cancer Discov*, 8(8): 921-3, 2018.
46. Rieke DT, Lamping M, Schuh M, LeTourneau C, Baste N, **Burkard ME**, Metzeler K, Leyvraz S, Keilholz U. A comparison of treatment recommendations by molecular tumor boards worldwide. *JCO Precision Oncology*, 2018. doi: /10.1200/PO.18.00098
47. Kratz J, **Burkard ME**, O'Meara T, Puzstai L, Veitch Z, Bedard PL. Incorporating genomics into the care of patients with advanced breast cancer. DOI: 10.1200/EDBK_200731 American Society of Clinical Oncology Educational Book 38 (May 23, 2018) 56-64.
48. Denu RA, Shabbir M, Nihal M, Singh CK, Longley BJ, **Burkard ME**, Ahmad N. PLK4 overexpression in melanoma is responsible for some cases of centriole overduplication. *Mol Cancer Res*. 16(3):517-27, 2018. PMCID: PMC5835182
49. Shah RA, Bennett DD, **Burkard ME**. Photosensitive lichenoid skin reaction to capecitabine. *BMC Cancer* 17(1): 866, 2017. PMCID: PMC5735949

50. Wu CG, Chen H, Guo F, Yadav VK, Rowse M, McIlwain SJ, Ong IM, Li Y, Gu T, Zheng A, Lee W, Resch E, Johnson B, **Burkard ME**, Ivarsson Y, Xing Y. PP2A-B' holoenzyme substrate recognition, regulation, and role in cytokinesis. *Cell Discov* 3:17027, 2017. PMID: PMC5586252
51. Ma CX, Suman V, Goetz M, Northfelt D, **Burkard ME**, Ademuyiwa F, Naughton M, Margenthaler J, Aft R, Gray R, Tevaarwerk A, Wilke L, Haddad T, Moynihan T, Loprinzi C, Hieken T, Barnell EK, Skidmore ZL, Feng Y-Y, Krysiak K, Hoog J, Guo Z, Nehring L, Mardis E, Vij K, Sanati S, Al-Kateb H, Griffith OL, Griffith M, Doyle L, Erlichman C, Ellis MJ. A phase II trial of neoadjuvant MK2206, an AKT inhibitor, in combination with anastrozole in clinical stage 2 or 3 PIK3CA mutant estrogen receptor positive and HER2 negative breast cancer. *Clin Cancer Res.* 23(22); 6823-32, 2017. PMID: PMC6392430.
52. **Burkard ME**, Deming DA, Lauring J. Using cancer genomics to guide clinical decisions. *Cancer* 123: 1288-91, 2017. PMID: PMC5789460
53. **Burkard ME**, Weaver BA. Tuning chromosomal instability to optimize tumor fitness. *Cancer Discov* 7: 134-6, 2017. PMID: PMC5312840
54. **Burkard ME**, Deming DA, Parsons BM, Kenny PA, Schuh MR, Leal T, Uboha N, Lang JM, Thompson MA, Warren R, Bauman J, Mably MS, Laffin J, Paschal CR, Lager AM, Lee K, Matkowskyj KA, Buehler DG, Rehrauer WM, Kolesar J. Implementation and clinical utility of an integrated academic-community regional molecular tumor board. *JCO Precision Oncol.* (July 2017) DOI: 10.1200/PO.16.00022. *Editorial: DOI:10.1200/PO.17.00106
55. Denu RA, **Burkard ME**. Synchronous bilateral breast cancer in a patient with Nager syndrome. *Clin Breast Cancer*, DOI: 10.1016/j.clbc.2016.12.009, 2017. PMID: PMC5446269
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60. Tomlins SA, Hovelson DH, Suga JM, Anderson DM, Dees EC, Koh HA, **Burkard ME**, Khatri J, Safa MM, Matrana MR, Yang ES, Menter AR, Parsons BM, Slim JN, Falkner J, Reeder T, Vakil H, Kwiatkowski K, Johnson DB, Rhodes DR. PCR-based comprehensive genomic profiling (PCR-CGP): feasibility from >20,000 tissue specimens and predicted impact on actionable biomarker identification vs. hybrid capture (H)-CGP and plasma (P)-CGP. ASCO Annual Meeting 2020.
61. Bendell J, Lim KH, **Burkard ME**, Lin JJ, Chae YK, Socinski MA, Gadgeel S, Reckamp KL, Leland S, Plessinger D, Kunkel L, Dotan E, Otterson G, Halmos B, Ou SHI, Patil T, Heymach JV, Kim ES. CRESTONE – Clinical Study of REsponse to Seribantumab in Tumors with NEuregulin-1 (NRG1) Fusions – A Phase 2 Study of the anti-HER3 mAb for Advanced or Metastatic Solid Tumors (NCT04383210). AACR Pancreatic Cancer 2020.
62. Li BT, Gandhi L, Besse B, Jhaveri K, Mazieres J, Boni V, Shapiro G, Waqar SN, Viteri S, Park H, Quinn D, Stemmer SM, Cortot AB, **Burkard ME**, Scaltriti M, Won W, Lalani AS, McCulloch L, Bebachuk J, Xu F, Bryce R, Meric-Bernstam F, Paul SP, Solit D, Jänne PA. Neratinib-based combination therapy in *HER2*-mutant lung adenocarcinomas: findings from two international phase 2 studies. IASLC 2020 World Conference on Lung Cancer.
63. Kizilbash SH, El-Khoueiry A, Lerner RE, Ma P, Almubarak M, Mody K, **Burkard M**, Guarino M, Sankar N, Choy G, Manlapaz-Espiritu L, Zhang X, Luria A, Benedetti F, Dees C. PD-021: Phase 1/2 study of the safety and efficacy of APL-101, a specific c-Met inhibitor. EORTC-NCI-AACR 2020.
64. Connolly RM, Zhao F, Miller KD, Lee MJ, Piekarczyk RL, Smoth KL, Brown-Glaberman UA, Winn JS, Faller BA, Onitilo AA, **Burkard ME**, Budd GT, Levine EG, Royce ME, Kaufman PA, Thomas A, Trepel JB, Wolff ACC, Sparano JA. E2112: Randomized phase III trial of endocrine therapy plus entinostat/placebo in patients with hormone receptor-positive advanced breast cancer: A trial of the ECOG-ACRIN Cancer Research Group. SABCS 2020, Abstract #86.
65. Bendell JC, Lim KH, **Burkard ME**, Klempner SJ, Socinski MA, Gadgeel SM, Reckamp KL, Leland SM, Plessinger D, Kunkel LA, Dotan E, Otterson GA, Ou SHI, Patil T, Heymach J, Kim ES. CRESTONE: Clinical study of response to seribantumab in tumors with neuregulin-1 (NRG1) fusions—A phase II study of the anti-HER3 mAb for advanced or metastatic solid tumors (NCT04383210). ASCO GI 2021.
66. Li B, Gandhi L, Besse B, Jhaveri K, Mazières J, Boni V, Shapiro G, Wagar S, Viteri S, Park H, Quinn D, Stemmer S, Cortot A, **Burkard M**, Scaltriti M, Won H, Lalani A, McCulloch L, Bebachuk J, Xu F, Bryce R, Meric-Bernstam F, Piha-Paul S, Solit D, Janne P. Neratinib-based combination therapy in *HER2*-mutant lung adenocarcinomas: findings from two international Phase 2 studies. 2021: 16 (3), S234.
67. Guo F, Johnson E, Henderson L, Lera RF, Juckett MB, **Burkard ME**, Horner VL. A case of acute myeloid leukemia with gain of two copies of neocentromeric chromosome 11. *Cancer Genetics* 2021: 252 S7-S8.
68. Rhodes D, Hovelson DH, Safa MM, **Burkard ME**, Yang E S-H, Edenfield WJ, Reeder T, Vakil H, Kwiatkowski, K, Mitchell K, Johnson B, Tomlins SA. Comprehensive

- genomic and transcriptomic profiling (CGTP) predicts pembrolizumab benefit in patients with advanced solid tumors. ASCO 2021: 39 (15 suppl), 2609.
69. Loeser AL, Peppercorn JM, Burkard ME, Kalinsky K, Rugo HS, Bardia A. Treatment-related side effects and views about dosage assessment to sustain quality of life: Results of an advocate-led study of patients with metastatic breast cancer. ASCO 2021: 39 (15 suppl), 1006.
 70. Kamaraju S, Fowler A, Cheng CY, Chaudhary LN, Burfeind J, Retseck J, Tevaarwerk AJ, Burkard M, Paplomata E, Parkes AM, Jorns JM, Tarima S, Yee D, Rui H, Lange C, Sahmoud T, Wisinski KB. The SMILE study: A phase 2 trial of onapristone in combination with fulvestrant for patients with ER+ and HER2- metastatic breast cancer after progression on endocrine therapy and CDK4/6 inhibitors. OT2-16-01, SABCS 2021.
 71. Hu Y, Shin J, Roy S, Burkard ME. Tumor mutational profiles of extreme long-term survivors with metastatic breast cancer. P4-07-05. SABCS 2021.
 72. Sharifi MN, Helzer KT, Sperger JM, Bootsma ML, Krause H, Gilsdorf CS, Wolfe SK, Kauffman Z, Tevaarwerk AJ, **Burkard ME**, Parkes AM, O'Regan RM, Wisinski KB, Zhao SG, Lang JM. Simultaneous longitudinal assessment of PIK3CA genomic mutations and PI3K pathway activity in circulating tumor cells in metastatic breast cancer. Cancer Res 82, no 12suppl: 1955, 2022.
 73. Carrizosa DR, **Burkard ME**, Elamin YY, Desai J, Gadgeel SM, Lin JJ, Waqar SN, Spigel DR, Chae YK, Cheema PK, Haura EB, Liu SV, Nguyen D, Reckamp KL, Tsai FYC, Jansen VM, Drilon AE, Ou SHI, Camidge R, Patil T. CRESTONE: Initial efficacy and safety of seribantumab in solid tumors harboring *NRG1* fusions. JCO 40, no 16suppl: 3006, 2022.
 74. Jhaveri KL, Goldman JW, Hurvitz SA, Guerrero-Zotano A, Unni N, Brufsky A, Park H, Waisman JR, Yang ESH, Spanggard I, Reid SA, **Burkard ME**, Prat A, Loi S, Crown J, Hanker A, Ma CX, Bose R, Eli LD, Wildiers H. Neratinib plus fulvestrant plus trastuzumab (N+F+T) for hormone receptor-positive(HR+), HER2-negative, HER2-mutant metastatic breast cancer (MBC): Outcomes and biomarker analyses from the SUMMIT trial. JCO 40, no 16suppl: 1028, 2022.
 75. Marcinak CT, Parker WF, **Burkard ME**, Pankh AA, Maithel SK, Kooby DA, Kim HJ, LeCompte, M, Churpek M, Zafar SN. Predicting survival after surgery for pancreatic adenocarcinoma: testing accuracy of current models. JCO 40, no. 16suppl: e16286, 2022.
 76. **Burkard ME**, McKean M, Ahnert JR, Mett NB, Jones JC, Misieh JG, Ma WW, Lim KH, Chiorean EG, Pishvaian MJ, Gadgeel SM, McKean HA, Kreider B, Knoerzer D, Groover A, Varterasian ML, Box JA, Emery C, Sullivan RJ. A two-part, phase II, multi-center study of the ERK inhibitor ulixertinib (BVD-523) for patients with advanced malignancies harboring MEK or atypical BRAF alterations (BVD-523-ABC). JCO 40, no. 16suppl: TPS3172, 2022.
 77. Kamaraju S, Fowler A, Chaudhary L, **Burkard M**, Glever T, Cheng YC, Parkes A, Jorns J, Retseck J, Sriram D, Lange C, Wisinski K. A phase II trial of onapristone in combination with fulvestrant for patients with ER-positive and HER2-negative metastatic breast cancer after progression on endocrine therapy and CDK 4/6 inhibitors. SABCS 2022.

78. Stanton S, Wisinski KB, Gwin W, Coveler A, Liao JB, **Burkard ME**, Bailey H, Kim K, Havinghurst T, DeShong K, Childs J, Diamond E, Wojtowicz M, Heckman-Stoddard B, Cecil D, Disis M. Phase I trial of the safety and immunogenicity of a tri-antigen vaccine targeting HER2 IGFBP-2, and IGF-1R in patients with non-metastatic breast cancer. SABCS 2022.
79. Marcinak CT, Taylor AK, Krebsbach JK, Varley PR, Afshar M, Weber SM, Mathew J, **Burkard ME**, LoConte NK, Churpek MM, Zafar S. Association between neighborhood disadvantage and survival after pancreatectomy for pancreatic cancer. Academic Surgical Congress 2020.
80. Norman RX, Carlsen CL, Lera RF, **Burkard ME**. Spatial map of polo-like kinase-1 (Plk1) in prometaphase. CellBio P1897, 2022.
81. Lynch A, Bradford S, Lera R, Zhou A, Weaver BA, **Burkard ME**. A quantitative survey of current and prospective measures of chromosomal instability in model systems identifies strengths and weaknesses. CellBio P2559, 2022.
82. Norman RX, Loi J, Saotome M, Recchia EE, Rosemarie Q, Lesko SL, Patel S, Sherer N, Sugden B, **Burkard ME**, Suzuki A. Isotropic, one-step 12-fold modified expansion microscopy (mExM). CellBio P1044, 2022.
83. CRESTONE: A Phase 2 study of seribantumab in adult patients with neuregulin-1 (NRG1) fusion positive locally advanced or metastatic solid tumors. AACR CT229, April 18, 2023.

INVITED RESEARCH PRESENTATIONS

International

- Dec 2021 Global Cancer Conference Invited Speaker (Tata Institute)
- Dec 2021 Egypt Presidential initiative for Breast Cancer (Egypt)
- Feb 2019 Asia-Pacific Breast Cancer Summit (Paul Mainwaring), Penang, Malaysia
- May 2016 Princess Margaret Cancer Centre (Tak Mak), "Targeting cell division in breast cancer"

National

- Sep 2023 University of Rochester, NY
- Mar 2023 Empire State Hematology Oncology Society, NY
- Sep 2022 The consequences of aneuploidy conference: honoring the contributions of Angelika Amon, MA
- Sep 2022 Metastatic Breast Cancer Conference, UT
- Sep 2021 Lynn Sage Conference, IL
- Sep 2019 Metastatic Breast Cancer Conference, AZ
- Aug 2019 Visiting Professor, Washington University Hematology/Oncology
- May 2019 University of Illinois--Chicago
- May 2019 Indiana University
- Apr 2019 Baylor College of Medicine
- Apr 2019 U Alabama Birmingham
- Mar 2019 Cancer Center Administrator's Forum, Minneapolis, invited panelist
- Feb 2019 U Kentucky. "Enhancing the precision of breast cancer treatment."
- Sept 2018 UT Southwestern. "Enhancing the precision of breast cancer therapy"
- Jan 2018 GASCO SABCS Review, Atlanta
"Genomics, Genetics and Biomarkers"

- “Molecular tumor boards—integrating genomics into clinical practice”
Jun 2018 ASCO Annual Meeting—“Molecular profiling: is it ready for prime time?”
May 2017 Dartmouth, Dept. of Biochemistry—“Mitotic control in normal cells and cancer”
Aug 2015 The Ohio State University—Medical Oncology/Solid Tumor Oncology Seminar:
“The future of antimetabolites in breast cancer: match targets to disease”
Apr 2015 Invited Session Leader: American Association for Cancer Research, Recent
Advances: Phenotypic screening for optimizing cancer therapy. “The impact of
phenotypic screens in cancer therapy”
Nov 2014 Columbia University—Pathology and Cell Biology Departmental Seminar:
“Human Cell division: insights from chemical biology”
Nov 2014 University of North Carolina—Chapel Hill Biology Departmental Seminar:
“Human cell division: insights from chemical biology”
Oct 2014 Johns Hopkins University Breast Cancer Program Seminar: “Identification and
treatment of polyploid breast cancers”
Oct 2014 NIH/NIDDK Invited Seminar: “Human cell division: insights from chemical
biology”
Jun 2014 Duke University Seminar: “Identification and treatment of polyploid breast
cancers”
2012 ECOG-ACRIN, “Targeting polyploid breast cancer via potassium channel
inhibitors”

Regional

- 2023 OncLive State of the Science Summit. “Novel targets in Breast Cancer” Sept 6.
2023 Marshfield Clinic Health System Grand Rounds. “Precision cancer treatment
using Next-Generation Sequencing”, Aug 18.
2023 Mercy Health System Grand Rounds. “Precision cancer treatment using Next-
Generation Sequencing”, April 25.
2019 Wisconsin Association of Hematology and Oncology San Antonio Breast Cancer
Symposium Review. “Genomics”
2017 OncLive State of the Science Summit, Overture Center, “Genetic Testing in
Advanced Breast Cancer” April 27
2017 Wisconsin Association of Hematology and Oncology San Antonio Breast Cancer
Symposium Review, “Biomarkers and genomics,” Jan 28.
2017 Aspirus Oncology Grand Rounds, Wausau, “Precision Oncology in Wisconsin,”
Jan 13.
2016 Wisconsin Society of Pathologists, “Molecular-directed cancer treatments,” Nov
5
2016 UW Carbone Fall Cancer Conference, “Precision Medicine in Cancer, Wisconsin
Style,” October 7
2016 Gundersen Lutheran, “Optimizing cancer therapy by matching the drug to the
tumor genome,” April 7
2015 Wisconsin Oncology Network Meeting. Keynote presentation: “Integrating
genomics in cancer treatment and research” Madison
2015 UW Stevens Point chemistry colloquium, “Human cell division: insights from
chemical biology,” April 17
2013 Chicago Cytoskeleton, “Cell fate after failed cytokinesis”
2012 Dean St. Mary’s Oncology Rounds, “New options for HER2+ Breast Cancer”
2009 Grand Rounds, “New approaches to the treatment of breast cancer”, St.
Vincent Hospital, Green Bay, WI, August 6.

Local

- 2020 UWCCC Genetic and Epigenetic Mechanisms Seminar “Measuring CIN with

- single-cell Genomics”
- 2018 UWCCC Grand Rounds “Updates on molecular tumor board and basket studies at UWCCC,” February 21
- 2018 Cell and Regenerative Biology Seminar “Mitotic control in normal cells and cancer.” January 31
- 2015 UWCCC Grand Rounds “UWCCC/WON Molecular Tumor Board,” Sept 16
- 2014 Grand Rounds, UW Department of Medicine. “Identification and Treatment of Polyploid Breast Cancers”, February 7.
- 2012 Department of Human Oncology Cancer Biology Research Seminar. “Cell division, polyploidy and cancer therapy.” University of Wisconsin School of Medicine and Public Health, February 16.
- 2010 UWCCC Retreat, “Personalized therapy of breast cancer for older-aged women via ER β and REST”. UW Comprehensive Cancer Center, March 13.
- 2010 UW Genomics Retreat, “Exploring the kinome for cancer targets”, June 11.
- 2010 Grand Rounds, UW Department of Medicine. “Molecular targets for breast cancer.” UW Comprehensive Cancer Center, October 22.
- 2009 Frontiers in Pharmacology Seminar “Plk1 mediates spatial and temporal activation of RhoA in human cytokinesis”, University of Wisconsin, May 12.
- 2009 Cancer Pharmacology Seminar “Dissection of the polo kinase family with chemical genetics and implications for the ‘ibs.’” University of Wisconsin, May 14.
- 2009 Dermatology Seminar “Chemical Genetic evaluation of Plk1 function and its potential as a cancer target.” University of Wisconsin, June 15.
- 2009 Grand Rounds “Screening for Breast Cancer: U.S. Preventive Services Task Force Guidelines.” UW Comprehensive Cancer Center, December 2.
- 2008 McArdle Colloquium “Right place, right time: how polo-like kinase triggers human cell division”, University of Wisconsin, November 19.

GRANT SUPPORT

CURRENT

Title: R01 GM141068 Mechanisms of Plk1 at the mitotic centromere
Sponsor: NIGMS/NIH R01
Monetary Amount \$200,000 per year direct
Dates 04/01/21-03/31/25
Role: PI
Effort: 20%

Title: R01 CA234904 Impact of chromosomal instability on sensitivity to microtubule-targeting drugs in breast cancer
Sponsor: NCI/NIH R01
Monetary Amount \$356,710 per year direct
Dates 12/01/18-11/30/23
Role: multiple PI (w/Weaver)
Effort: 15%

Title: T32GM140935 Integrated Training for Physician Scientists
Sponsor: NIH/NIGMS
Monetary Amount: \$967,732 per year total
Role: PI

Dates: 7/1/2021- 6/30/2026
Effort: 30%

Title: Wisconsin Precision Medicine Initiative/Molecular Tumor Board
Sponsor: Wisconsin State Government
Monetary Amount: \$490,000 annual direct
Dates: 07/01/2017-06/30/2023, renewable
Role: PI
Effort: 1% (in kind)

Title: UW Omics Discovery Bank
Sponsor: UW Madison/VCGRE
Monetary Amount: \$318,427
Dates: 07/01/2019-06/30/2024 (NCE)
Effort: 1% (in kind)

PENDING

Title: R01 CA84747-01A1 Mechanisms of paclitaxel sensitivity and resistance
Sponsor: NCI/NIH R01
Monetary Amount: \$494,386 DC year 1 requested
Role: MPI/contact PI (w/Weaver)
Effort: 15%
Score: 6%ile, pending council review

COMPLETED

Title: 1F31CA254247-01A1 Frequency and consequences of chromosome missegregation in breast cancer
Sponsor: NIH/NCI
Role: Mentor (Andrew Lynch)
Dates: 1/1/2021-12/31/2023
Effort: In kind

Title: 3T32GM008692 Integrated Training for Physician Scientists
Sponsor: NIH/NIGMS
Monetary Amount: \$568,681 per year total
Role: co-PI (MPI: Burkard/Huttenlocher)
Dates: 7/1/2016- 6/30/2021
Effort: 20%

Title: R01CA185747 Cellular level optical metabolic imaging to predict drug response in cancer

Title: UL1TR002373 Institutional Clinical and Translational Science Award

Sponsor: NIH/NCATS
Monetary Amount: \$838,134 per year direct
Role: TL1 director (MPI: Burkard/Trepanier/Chui)
Dates: 7/1/2017-6/30/2022
Effort: 10%

Sponsor: NIH/National Cancer Institute
Monetary Amount: \$315,000 per year
Dates: 09/16/2014-08/31/2020
Role: co-I (PI: Skala)

Title: F30CA203271-01A1 (Fellowship award to Ryan Denu)
Identifying causes and consequences of centrosome
amplification in cancer.

Sponsor: National Cancer Institute
Monetary Amount: \$178,205
Dates: 09/01/16-8/31/20
Role: Mentor

Title: Outliers—extreme long-term survivors with metastatic breast
cancer

Sponsor: Avon Breast Cancer Crusade
Monetary Amount: \$136,364 annual direct
Dates: 01/01/18-12/31/2020
Role: PI
Effort: 5%

Title: A chemical-genetic library of human cell lines for evaluating
pharmacologic inhibition of protein kinases

Sponsor: Burroughs Wellcome Fund Innovation in Regulatory Science
Award

Monetary Amount: \$500,000 direct over 5 years
Dates: 09/01/14-8/31/20 (NCE)
Role: PI (co-I: Tim Kamp)
Effort: 10%

Title: BC150425P1 Chromosomal instability as a determinant of
paclitaxel sensitivity in breast cancer

Sponsor: DOD/Breast Cancer Breakthrough Award Level 2
Monetary Amount: \$989,500 direct over 3 years
Dates: 3/01/16-02/28/20 (in NCE)
Role: multiple PI (w/Weaver)
Effort: 20%

Title: MSN210796
Effects of chromosomal instability on sensitivity to microtubule-
targeting drugs in breast cancer

Sponsor: Rock River Cancer Research Foundation
Dates: 11/01/17-10/31/18
Role: PI
Effort: 0%

Title: R01GM097245-05, Separating late mitotic functions of polo-like
kinase 1 with chemical genetics

Sponsor: NIGMS/NIH
Monetary Amount: \$276,569/year

Dates: 09/01/11-04/30/16
Role: PI
Effort: 25%

Title: PERC #2667, Multiplexed in vivo device to assess optimal breast cancer therapy.

Sponsor: Wisconsin Partnership Program Collaborative Health Sciences Award

Monetary Amount: \$500,000 over 3 years.

Dates: 03/01/14-02/28/17
Role: Coinvestigator (PI: Wilke)
Effort: 8%

Title: PERC #2261, Personalizing therapy of women with polyploid breast cancers

Sponsor: PERC/WPP New Investigator Program

Monetary Amount: \$99,910

Dates: 07/01/12-06/30/14
Role: PI
Effort: 1%

133-PRJ24NG (PI: Burkard) 09/01/07-08/31/10

UW Carbone Cancer Center Multi-Investigator Project
Personalized Therapy of Breast Cancer for Older-Aged Women via Erβ and REST
Identify the Key Chemical Groups that Define Selective Erβ Ligands
Role: Lead PI with 5 co-PI on subprojects

5 KL2RR025012-05 (PI: Drezner) 09/17/07-06/24/12

NIH/NCRR
Institutional Clinical and Translational Science Award
Dissecting Multitargeted Therapies by Genetic Rescue
This is a career-development award which supports salary to provide protected time for research and training.

062541-YCSA (PI: Burkard) 07/01/07-06/30/12

Young Clinical Scientist Award
Flight Attendant Medical Research Institute
Chemical Genetic Evaluation of Polo-like Kinase 1 as a Breast Cancer Drug Target
The major goals of this project are to use chemical genetic tools to explicitly test the utility of Polo-kinase 1 as a drug target for breast cancer and to develop such tools as a highly specific and well-controlled way to validate kinase drug targets.
Role: PI

137-PRJ34PD (PI: Burkard) 04/01/10-2/28/10

UWCCC Investigator Initiated Trial Funding Request Award
The Role of Stroma in Promoting Metastasis in Human Breast Cancer
Role: PI

IRG-58-011-48 (PI: Keely) 07/01/10-05/31/12

ACS Institutional Research Grant
Institutional Research Award

Synthetic Lethal Screen for Chemicals Targeting Polyploidy

This pilot funding supports a screen for chemicals that are lethal for polyploid but not diploid human cells.

Role: Sub PI

133 PRJ38VC (PI: Burkard) 07/01/10-06/30/12

Mary Kay Foundation

Innovative/Translational Cancer Research Grant

Identifying Synthetic Lethal Approaches Targeting Polyploidy in Human Breast Cancer

This award supports a siRNA screen to identify genes that are synthetic lethal with polyploidy.

Role: PI

3 P30CA014520-38S3 (PI: Burkard/Weaver) 04/29/10-03/31/13

UW Cancer Center Support – Developmental Funds

UWCCC IIT

Feasibility Study of Biomarkers of Response to Neoadjuvant Paclitaxel in Locally Advanced Breast Cancer

Role: PI

PERC #2261 PI: Burkard 07/01/12-06/30/14

Wisconsin Partnership Program New Investigator Award

Personalizing Therapy of Women with Polyploid Breast Cancers

This grant seeks to identify polyploid breast cancer subtypes and to discern the mechanism of a chemical that abrogates proliferation of polyploid but not diploid human cells.

Role: PI

CLINICAL TRIAL EXPERIENCE

IIT

UW OS08109 (PI) Correlation of stromal cell activity with metastatic potential in early stage breast cancer. 2010-2013

UW OS10103 (coPI) Feasibility study of biomarkers of response to neoadjuvant paclitaxel in locally advanced breast cancer.

UW OS10105 (PI) Evaluation of toxicity by drugs and schedule in patients who receive adjuvant therapy for Her2+ breast cancer.

UW OS12118 Metastatic Breast and Lung Cancer Chart Review

UW14035 Mitotic phenotypes in early stage breast cancer

UW15068 UWCCC Molecular Tumor Board Registry

UW15106 Genomic analyses of long-term survivors with metastatic breast cancer

UW15089 Tissue analysis to predict taxane sensitivity in metastatic breast cancer

UW2016-1065	Chromosome instability in acute myeloid leukemia (mentored for trainee Dr. N. Jin)
UW16126	Tissue analysis to measure CIN and mitotic abnormalities in primary and metastatic breast cancer
UW16106	Neoadjuvant weekly paclitaxel and biomarkers of therapy response
UW16141	Celecoxib window of opportunity trial to assess tumor and stroma responses (mentored for trainee Dr. K. Esbona)

Industry/IIT (site PI; *=national PI)

BMS CO11101	A Phase 2 Study of BMS-754807 Combined with Letrozole or BMS-754807 Alone in Hormone Receptor-Positive Breast Cancer Subjects with Acquired Resistance to Non-Steroidal Aromatase Inhibitor
Bayer CO11102 RESILIENCE	A Phase III Randomized, Double blind, Placebo-controlled Trial Comparing Capecitabine Plus Sorafenib Versus Capecitabine Plus Placebo in the Treatment of Locally Advanced or Metastatic HER2-Negative Breast Cancer
UW17120	An observational study profiling biospecimens from cancer patients to screen for molecular alterations (STRATA Trial)
PUMA-NER-5201	An Open-Label, Phase 2 Basket Study of Neratinib in Patients with Solid Tumors with Somatic Activating HER Mutations
LOXO-RET-17001	A Phase 1/2 Study of Oral LOXO-292 in Patients with Advanced Solid Tumors, Including RET Fusion-Positive Solid Tumors, Medullary Thyroid Cancer, and Other Tumors with RET Activation (LIBRETTO-001)
CRESTONE	Study of Seribantumab in Adult Patients With NRG1 Gene Fusion Positive Advanced Solid Tumors
BVD-523-ABC	Study of Ulixertinib for Patients With Advanced Malignancies Harboring MEK or Atypical BRAF Alterations
ARC-12	A Study to Evaluate AB308 in Combination With AB122 in Participants With Advanced Malignancies
AB122CSP0002	Study to Evaluate Safety and Clinical Activity of AB122 in Biomarker Selected Participants With Advanced Solid Tumors*
BR-076	A Randomized Phase II Clinical Trial Assessing the Efficacy and Safety of MK-3475 (Pembrolizumab) in Combination with Carboplatin and Gemcitabine in Patients with Metastatic Triple Negative Breast Cancer
SGNTUC-019	Basket Study of Tucatinib and Trastuzumab in Solid Tumors With HER2 Alterations

SGNTUC-025	A Single Arm, Open Label Phase 2 Study of Tucatinib in Combination with Trastuzumab Deruxtecan in Subjects with Previously Treated Unresectable Locally-Advanced or Metastatic HER2+ Breast Cancer
DARE/HCRN	A Randomized, Phase II Trial of Circulating Tumor DNA-Guided Second Line Adjuvant Therapy for High Residual Risk, Stage II-III, Estrogen Receptor Positive, HER2 Negative Breast Cancer (DARE)
PERSEVERE/HCRN	A Phase II Circulating Tumor DNA Enriched, Genomically Directed Post-Neoadjuvant Trial for Patients with Residual Triple Negative Breast Cancer (PERSEVERE)
TWT-203	Phase 1b/2 Dose-Confirming, Multipart, Multicenter Study of CFI 402257 as a Single Agent in Advanced Solid Tumors and in Combination with Fulvestrant in Patients with Er+/Her2- Advanced Breast Cancer after Disease Progression on Prior Cdk4/6 and Endocrine Therapy
TROPION-Breast02	A Phase 3, Open-label, Randomised Study of Datopotamab Deruxtecan (Dato-DXd) Versus Investigator's Choice of Chemotherapy in Patients who are not Candidates for PD-1/PD-L1 Inhibitor Therapy in First-line Locally Recurrent Inoperable or Metastatic Triple-negative Breast Cancer (TROPION-Breast02)
<u>Cooperative group (site PI)</u>	
2011-0120	Trastuzumab+XRT versus XRT alone for DCIS (site PI)
ACRIN 6688	Phase II study of Fluorine 18 FLT in invasive Breast CA Sponsor: ACRIN/NCI 2011-2012
MA.32	A Phase III Randomized Trial of Metformin versus Placebo on Recurrence and Survival in Early Stage Breast Cancer
NSABP B43	A Phase III Clinical Trial Comparing Trastuzumab Given Concurrently with Radiation Therapy and Radiation Therapy Alone for Women with HER2-Positive Ductal Carcinoma in Situ Resected by Lumpectomy
NCI A011106	ALTERNATE approaches for stage II/III Estrogen Receptor+ breast cancer NeoAdjuvant TrEatment (ALTERNATE)
SWOG S1207	Phase III Randomized, placebo-controlled clinical trial evaluating the use of adjuvant endocrine therapy +/- one year of everolimus in patients with high-risk hormone-receptor-positive and HER2/neu negative breast cancer.
E2112	Randomized Phase III Trial of Endocrine therapy plus entinostat or placebo in hormone-receptor positive advanced breast cancer.
EAY191-N2	Phase 2 Trial of Fulvestrant and Binimetinib in Patients with Hormone Receptor-Positive Metastatic Breast Cancer with a Frameshift or

Nonsense Mutation or Genomic Deletion in NF1: A ComboMATCH
Treatment Trial

INDUSTRY COLLABORATIONS

2015-2017 Consultant, Pointcare Genomics, Inc (NCI/SBIR)
2017- Strata Oncology Clinical Advisory Board

CLINICAL TRIAL EXPERIENCE

2008-present Member, UWCCC Phase I research program
2008-present Local investigator on cooperative group trials from ECOG and intergroup breast cancer trials including NCIC MA.32, NSABP B-43, ACRIN 6688, MC1139, SWOG S1207, SCUSF0806
2009-present Lead investigator or coinvestigator on UW Investigator-initiated trials including OS10103, CO09711, CO10102, OS08109, OS10105
2010-present Site investigator on Pharma-sponsored clinical trials including BMS CA191-011, Bayer 12444 RESILIENCE, PALOMA-2, PALOMA-3, Abbvie M14-011

SERVICE ACTIVITIES

UWCCC and School of Medicine and Public Health

2009-2012 UWCCC Clinical Research Council
2009-present MSTP Admissions Committee, UW Medical Scientist Training Program.
2010-present UWCCC Translational Science BioCore Advisory Board
2013-present UWCCC Executive Committee
2012-present Associate Director, Medical Scientist Training Program (MSTP), Interim director spring 2014, admissions director 2016-17, co-director 2020-
2013-2014 Interim member, UW Steering committee for Curriculum Transformation, UW School of Medicine and Public Health
2014- SMPH Optical Imaging Facility Oversight Committee
2015 Thread Leader, Scientific Inquiry, UW Medical School Curriculum Transformation
2015- Junior faculty mentor committee chair, Nataliya Uboha and Dustin Deming
2016-17 SMPH Human Genomics/Precision Medicine Advisory Committee
2016-17 Biomolecular Chemistry Faculty Search Committee
2016-2019 University Faculty Senate Alternate, Department of Medicine
2017-2020 Department of Medicine Post-Promotion Review Committee
2017- Cancer Informatics Shared Resource Advisory Board
2017 Dean's Teaching Award Committee
2017-18 Vice Chancellor's IRB review committee

2017-18 Cell and Regenerative Biology Chair Search Committee
2021 Heme/Onc and Palliative Care Division Head Search Committee
2022 Wisconsin Symposium on Laboratory Lifecycle Management Committee (SMPH)

2019- David Kosoff Mentor Committee (Heme/Onc)
2020- Aussie Suzuki Mentor Committee (McArdle)
2021- Jeremy Kratz Mentor Committee (Heme/Onc)
2023 Heme/Onc Search Committee

UWSMPH/Hospital

2008-present UWHC Oncology Inpatient Care (Inpatient 2-3 weeks/year, consult 2 weeks/year)
2008-present UWHC Outpatient Care, Breast Medical Oncology, 1 day/week (1/2 day UW Breast Center; 1/2 day Oncology clinic)

Community

2018-2023 Breast Cancer Research Advisory Network, UWCCC
2014 "Progress and the Future of Breast Cancer Care." Planting Seeds of Hope, Keynote Speaker, Swedish American Hospital, Rockford IL, Oct 7
2013 Wednesday Nite @ the Lab. "Cell division and cancer—mitosis, amitosis, cytokinesis and klerokinesis" Wisconsin Alumni Association, Mar 6
2013 Invited speaker, Komen 2013 Pink Ribbon Dinner in Madison, Apr 3
2012 University of Wisconsin Relay for Life ACS event, April.
2012 Importance of Research for Improving Cancer Outcomes. ACS-CAN event, Wisconsin State Capitol, August 22.
2011 "Medical Treatment of Breast Cancer", UW School of Medicine and Public Health Presentation "Mini Med School" presentation co-leader, Jun 20
2010 Komen Foundation Grants Awardee Presentation, Apr 12
2010 UW First Look Forum. Wisconsin Early Stage Symposium. "Cancer Research at Wisconsin Institutes for Medical Research." Nov 10
2009 Rotary Club Presentation on Breast Cancer Research at UWCCC, June 29
2009 University of Wisconsin Alumni Association. "The UW Carbone Cancer Center and the Wisconsin Idea", Oct 15
2009 Wisconsin Public Radio, Larry Miller Show, "Breast Cancer Update", Oct 26
2009 Komen Foundation Madison, Breast Cancer Awareness Month Presentation, Oct 28

TEACHING

2008-present Clinical training of Fellows, Medicine Residents, and Students
2009-18 Pathology 803, Breast cancer lecture, 1/year
2009-2020 UWCCC Oncology Fellows, Breast cancer lecture, 2/year
2009-present Graduate trainer, Cell and Molecular Biology Program
2010-present MED 901 MSTP MS2 preceptorship, 6 sessions/year
2010, 2011 MSTP MS2 preceptorship, 6 sessions/year
2010, 2012 PDS3 MS2 small group, 6 sessions
2010-present Graduate trainer, Molecular Pharmacology Program
2011-2015 UWSMPH Reproductive Endocrinology Medical School course,

	1/year
2012-present	Course Director, MED 903, MSTP program—course redesigned
2013-present	CRB/MED 701 co-director
2013-present	Graduate Trainer, Cellular and Molecular Pathogenesis of Human Diseases
2017-present	Graduate Trainer, UW Biophysics Program
2017-2019	Medical School annual lecture on Breast Cancer
2017-present	Biochem 729 (RCR) Lecturer, Human Subjects, Animal, and Stem Cell Research
2017-present	Medical School annual lecture on Scientific Inquiry
2017-present	Pharmacology 781 Lecturer, Precision Oncology
2017-2021	Pathology 803 Lecturer, Breast Cancer
2018	Medical School Enduring Resource “Cell Cycle”
2023-present	Oncology 715 RCR, Human subjects research.

MENTORING

Mentorship training

2022	Department of Medicine Mentor training, including culturally aware mentoring (6 hours+ prework)
2019	SCOARE Workshop mentoring in scientific communication (4 hours)
2014	ICTR mentoring training workshop (Pfund/Meyerand)

Faculty

2014-2017	Dustin Deming, M.D., Assistant Professor, Medicine, tenure
2016-2021	Nataliya Uboha, M.D., Ph.D. Assistant Professor, Medicine Hematology/Oncology (chair)
2017-2018	Yong (Tony) Wang, Ph.D., Assistant Professor, Medicine Hematology/Oncology
2017-2019	Heidi Dvinge, Ph.D., Assistant Professor, Biomolecular Chemistry
2017-present	Erica Reinig, M.D., Assistant professor of Pathology and Laboratory Medicine, CHS
2019-present	David Kosoff MD, Assistant Professor of Medicine, tenure (chair)
2019-present	Jane Churpek MD, Assistant Professor of Medicine, tenure
2020-present	Aussie Suzuki PhD, Assistant Professor of Oncology, tenure
2021-present	Jeremy Kratz MD, Assistant Professor of Medicine, tenure (chair)
2022-present	Malinda West MD, Assistant Professor of Medicine, CHS

Oncology Fellows (research mentor)

2010-2013	Gabrielle Rocque MD <u>Associate Professor of Medicine at University of Alabama—Birmingham</u>
2012-2016	Murtuza Rampurwala MD MPH <u>Clinical Associate of Medicine, University of Chicago</u>
2016-2019	Ning Jin MD PhD <u>Assistant Professor of Medicine at Ohio State University</u>

Postdoctoral fellows

2016-2019	Robert Lera, PhD
2016-2017	Karla Esbona PhD
2018-2019	Rebeca Garcia Valera, PhD

Faculty, Tecnológico de Monterrey, Guadalajara

Graduate Students

2009-2014	Hyun Jung Kim, Ph.D. (UW Cell and Molecular Biology Program) <i>Currently an industry scientist in South Korea</i>
2009-2015	Robert Lera, Ph.D. (UW Cell and Molecular Biology Program) <i>Currently scientist at UW Madison (Burkard lab)</i>
2010-2016	Amber Lasek, Ph.D. (UW Cell and Molecular Biology Program) <i>Currently employed at Exact Sciences</i>
2013-2015	Sarang Brahma, M.S. (UW Molecular Pharmacology Program) <i>Currently employed by IDEC-Biogen</i>
2013-2018	James Johnson Ph.D. (UW Molecular Pathogenesis of Human Diseases) <i>Currently a scientist at Vascugen</i>
2014-2019	Ryan Denu MD PhD (MSTP/Cell and Molecular Biology, NCI F30) <i>Currently an Oncology fellow, MD Anderson Cancer Center</i>
2017-2021	Yang Hu MD PhD (MSTP/Cell and Molecular Biology) <i>Currently a Pathology resident, Stanford</i>
2017-2023	Andrew Lynch (UW Cell and Molecular Pathology Program, NCI F31) <i>Currently a Postdoctoral fellow, Peter Van Loo, MD Anderson Cancer Center</i>
2017-	Roshan Norman (UW Biophysics Program) <i>Postdoctoral Fellowship, John Maciejowski, Memorial Sloan-Kettering Cancer Center, starting 2024</i>
2020-	Zhouyuan (Joanne) Shen (UW Cell and Molecular Biology Program)
2021-	Sherry Bradford (UW Cancer Biology Program)
2022-	Anuoluwapo Mattix (UW Molecular Cellular Pharmacology Program)

Residents (research rotation):

2012	Amy Fothergill
2014	Sam Lee

Medical Students (Shapiro Fellowship):

2014	Kayla Correia
2016	Jordan Bauman

Undergraduates:

2010	Alison Kane
2011	Alex Budzinski
2011	Sara Holmstrom (MD in Peds EM fellowship/Northwestern)
2012-2013	Brittany Zachek
2012-2013	Rolf leuter
2013	Ross Fedenia
2013-2014	Alexandra Denee
2013-2014	Natalie Trueman
2014-2015	Tyler Blahnik
2014-2015	Brittany McPherson
2015-2016	Stephanie Olson
2016-2018	Courtney Halverson
2016-2019	Quentin Drane
2016	Eddie Liu

2016-2018 Bailey Huser (MD UW SMPH; currently surgery resident, UTSW Dallas)
2016-2018 Madelyn Sass (MD UW SMPH; currently pediatrics resident)
2018 McKenna Wenzel
2018 Rachel Yan (MD student, Rutgers)
2018-2019 Sydney Nelson
2018-2020 Saveda Majety (MD student, Indiana University 2021-)
2018-2021 Baraa Manasrah *fellowship
2019 Marie Watson
2019 Henjiali Xu (MS student, NYU)
2019 Grace Joyce
2019 Payton James
2020-2022 Caleb Carlson (currently Graduate student, UW)
2020-2021 Delaney Toepel
2020- Sierra Auleta
2020-2021 Jamie Fortunato
2021 Jihua Liu
2021 Mingshuang Wang
2020-2022 Zamzam Ilyas Nur
2023- Zoe Nelson
2023- Alexia Natal
2023- Moyraa Ali

Thesis committee:

2010-2013 Shawn Jackson
2010-2016 Mandy Henning
2010-2015 Eric Brittgan
2010-2016 Craig Barcus
2010-2015 Esteban Carillo
2010 Kelly Pittman
2011-2015 Lauren Zasadil
2011-2013 Yin Zhang
2012 Zachery Gregorich
2012-2015 Zibo Zhao
2012-2017 Margaret Maes
2012-2016 Chadd Funk
2012 Kevin McCool
2012-2015 Jonathon Stefely (Pagliarini lab)
2012-2015 Karla Esbona (Keely lab)
2013-2015 Brendan Floyd (Pagliarini lab)
2013-2019 Jun Wan (Weaver lab)
2013-2015 Aman Prasad (Kimble lab)
2014-2018 Mitch Biermann (Kamp lab)
2014-2017 Brett Morris (Keely lab)
2014-2018 Harisha Rajanala (Cryns lab)
2015-2018 Ben Steyer (Saha lab)
2015-2019 Andrew Voter (Keck lab)
2015-2020 Laura Funk (Weaver lab)
2015-2016 Corey Nemeck (Ansari lab)
2016-2020 Lauren Hillers (Arendt lab)
2016-2021 Christina Scribano (Weaver lab)
2016-2019 Charlotte Mintie (Ahmad lab)

2017 Yang Hu (Ge lab)
2017-2018 Samantha Knott (Ge lab)
2017-2022 Ani Varjabedian (Bement lab)
2017-2020 Joni Baker (Cryns lab)
2017-2021 Justin McKetney (Coon lab)
2017-2022 Kristine Donahue (Xu lab)
2018-2021 Justin Jagodonsky (Morris lab)
2018-2023 Laura Steenberge (Pagliarini lab)
2018-2023 John Tai (Pagliarini lab)
2018-2020 Chaoqun Mei (Chappell)
2019-pres Truman Do (Lewis lab)
2019-2023 Amber Zhou (Weaver lab)
2019-pres Sarah Copeland (Weaver lab)
2019-pres Cole Gilsdorf (Lang lab)
2019-pres Tyler Reich (Lewis lab)
2019-2021 Amani Gillette (Skala lab)
2020-pres Abbey Williams (Arendt lab)
2020-pres Caroline Kerr (Weichert/Morris lab)
2020-2021 Robert Sterner (Rothman/Yale+Martin)
2020-pres Ashley Scott (Masters lab)
2020-pres Brian Walczak (Li lab)
2020-2023 Jon Loi (Suzuki lab)
2021-pres Dominic Chomchai (Bement lab)
2021-pres Songeun Kim (Bement lab)
2021-pres Daniel Sam (Weaver lab)
2021-2023 Tuo Wang (Mao lab)
2021-pres Sarah Bonema (Weaver lab)
2021-pres Shelby Fertal (Ponik lab)
2021-pres Mayra Betancourt Ponce (Barroilhet lab)
2022-pres Yu-Chia Chen (Suzuki lab)
2022-pres Kendahl Ott (LeBeau lab)
2023-pres Miranda-Katz (Gern lab)
2023-pres Amanda Schussman (Murtaza lab)
2023-pres Rachel Kirchner (Merrins lab)
2023-pres Jingjing Zhou (Xu lab)

External PhD examiner:

2016 David Cescon (University of Toronto; Tak Mak lab)
2017 Ana-Maria G. Dumitru (Dartmouth University; Compton lab)