

TEN YEARS OF POWERFUL RESEARCH AND RESULTS

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Cody R. Barnett, Director of Communications M: (717) 880-7100 E-mail: cbarnett@curemelanoma.org

Melanoma Research Alliance Announces \$11.8 Million in 28 New Grants to Advance Melanoma Research

Over \$100 Million in MRA Grants Now Awarded Since MRA's Inception

WASHINGTON, DC, April 24, 2018 – On the cusp of Melanoma Awareness Month, the Melanoma Research Alliance (MRA), the largest non-profit funder of melanoma research, announced funding for 28 research grants totaling \$11,800,000. These awards will fund researchers at 23 institutions from across the United States, Australia and Belgium to accelerate research and advance the prevention, diagnosis and treatment of the most deadly form of skin cancer and the fifth most common cancer in the United States.

This year's grant awards will support 13 Team Science Awards and 15 Young Investigator Awards. Together, these awards represent the single largest grant year ever by the Melanoma Research Alliance and brings the total invested by the organization to over \$100 million.

"We have made incredible progress in the fight against melanoma," said Debra Black cofounder and chair. "But melanoma continues to be the most deadly form of skin cancer with 9,500 deaths and 91,000 Americans diagnosed this year. More work is needed to fully eliminate suffering and death due to this disease."

These 28 research projects will accelerate research addressing critical issues in melanoma, including identifying novel drug targets, treatments and biomarkers, as well as studies aimed at preventing melanoma or improving methods of early detection. Several research projects will provide critical advancements in the understanding of rare and difficult-to-treat melanoma subtypes. Six awards will examine new therapeutic interventions to determine how specific genetic alterations contribute to the development and progression to acral lentiginous melanoma.

"The scientific proposals reviewed and then selected by our expert Grant Review Committee this year were exceptional," said MRA Chief Science Officer, Louise M. Perkins, PhD. "These awards build on our current understanding of melanoma prevention, diagnosis and treatment. Importantly, they also support the next generation of melanoma researchers, and provide critical support for translational and early-stage clinical research needed to cure this disease." "These grants will help advance better outcomes for melanoma patients by accelerating research into novel prevention and treatment strategies," said MRA President & CEO Michael Kaplan. "We are thrilled to have such broad support from industry, academic institutions, and our many donors who have made a commitment to join forces against this disease."

MRA's 2018 grants are made possible through the significant contributions of individuals, families, institutions and corporate allies. Donors and partners providing financial support for 75% or more of an award, are listed below within the award naming.

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About Melanoma

Most melanomas originate from the skin, though they can also arise from other parts of the body containing melanocytes, including the eyes, brain or spinal cord, or mucous membranes. Melanoma of the skin is one of the most common cancers in the United States and its incidence has tripled in the last 30 years. It is the most common cancer diagnosis in young adults 25-29 years old and the second most common cancer in young people 15-29 years old. Melanoma is the deadliest of all skin cancers.

About Melanoma Research Alliance (MRA)

Founded in 2007 under the auspices of the Milken Institute, with the generous support of Debra and Leon Black, the Melanoma Research Alliance exists to accelerate treatment options and find a cure for melanoma. As the largest nonprofit funder of melanoma research, it has dedicated \$100 million and leveraged more than \$90 million in addition towards its mission. Through its support, MRA has championed revolutions in immunotherapy, targeted therapies, novel combinations and diagnostics. Due to the ongoing support of its founders, 100 percent of donations to MRA go directly to its melanoma research program. MRA's ability to fund wide-ranging research in melanoma is amplified by unique collaborations and partnerships with individuals, private foundations, and corporations. Visit http://www.CureMelanoma.org for more information.

2018 Awards

Team Science Awards

Targeting BAP1-dependent alterations in metastatic uveal melanoma

The Helman Family-MRA Team Science Award, 2018-2021 Andrew Aplin, Thomas Jefferson University Emily Bernstein, Icahn School of Medicine at Mount Sinai J. William Harbour, Sylvester Comprehensive Cancer Center/University of Miami Health Systems Young Investigator: Marlana Orloff, Thomas Jefferson University

Diet, mental health, and the microbiome in response to immunotherapy MRA Team Science Award, collaboratively funded by University of Texas MD Anderson Cancer Center, 2018-2021 Lorenzo Cohen, University of Texas MD Anderson Cancer Center Jennifer Wargo, University of Texas MD Anderson Cancer Center Young Investigator: Jennifer McQuade, University of Texas MD Anderson Cancer Center

Autophagy in the tumor microenvironment as a target for drug development

The Anna-Maria and Stephen Kellen Foundation-MRA Team Science Award, 2018-2021 Hilary Coller, University of California, Los Angeles Beatrice Knudsen, Cedars-Sinai Medical Center Lili Yang, University of California, Los Angeles Young Investigator: Claudio Scafoglio, University of California, Los Angeles

Telomere crisis in acral melanoma: Diagnostic and prognostic potentials

The Black Family-MRA Team Science Award, 2018-2021 Titia de Lange, The Rockefeller University Marcin Imielinski, Joan & Sanford I. Weill Medical College of Cornell University Young Investigator: John Maciejowski, Memorial Sloan Kettering Cancer Center

Commensal microbiota and anti-PD-1 efficacy

MRA Team Science Award, collaboratively funded by The University of Chicago, 2018-2021 Thomas Gajewski, The University of Chicago Jason Luke, The University of Chicago Cathryn Nagler, The University of Chicago Young Investigator: Riyue Bao, The University of Chicago

Patient focused therapy for acral melanoma

The Sokoloff Family-MRA Team Science Award, with collaborative funding from Memorial Sloan Kettering Cancer Center, 2018-2021 Ruth Halaban, Yale University Charlotte Ariyan, Memorial Sloan Kettering Cancer Center Alfred Bothwell, Yale University Jian Cao, Yale University Neal Rosen, Memorial Sloan Kettering Cancer Center Richard White, Memorial Sloan Kettering Cancer Center Jedd Wolchok, Memorial Sloan Kettering Cancer Center Qin Yan, Yale University Young Investigator: Gauri Panse, Yale University

Identifying genetic dependencies in rare forms of melanoma

MRA Team Science Award, 2018-2021 Nicholas Hayward, Queensland Institute of Medical Research Francisca Vazquez, Broad Institute Young Investigator: Ken Dutton-Regester, Queensland Institute of Medical Research

Prognostic and functional role of altered circular RNAs in melanoma

Leveraged Finance Fights Melanoma-MRA Team Science Award, 2018-2021 Eva Hernando, New York University School of Medicine Ernesto Guccione, Icahn School of Medicine at Mount Sinai Edward and Julie Minskoff – Young Investigator: Melissa Wilson, New York University School of Medicine

Next-generation neoantigen-targeting peptide vaccines for melanoma patients

BJ's Wholesale Club-MRA Team Science Award, 2018-2021 Patrick Ott, Dana-Farber Cancer Institute Bradley Pentelute, Massachusetts Institute of Technology Catherine Wu, Dana-Farber Cancer Institute Young Investigator: Osama Rahma, Dana-Farber Cancer Institute

Regulating telomerase & telomere homeostasis in acral melanoma development

MRA Team Science Award, collaboratively funded by the research institutions, 2018-2021 Gavin Robertson, The Pennsylvania State University College of Medicine Jiyue Zhu, Washington State University Young Investigator: De Cheng, Washington State University Young Investigator: Shobhan Gaddameedhi, Washington State University Young Investigator: Raghavendra Gowda, The Pennsylvania State University College of Medicine

Defining and targeting driver events in acral melanoma

U.S. Trust-MRA Team Science Award, 2018-2021 Keiran Smalley, H. Lee Moffitt Cancer Center & Research Institute Yian Chen, H. Lee Moffitt Cancer Center & Research Institute John Koomen, H. Lee Moffitt Cancer Center & Research Institute Jane Messina, H. Lee Moffitt Cancer Center & Research Institute Jamie Teer, H. Lee Moffitt Cancer Center & Research Institute Young Investigator, Florian Karreth, H. Lee Moffitt Cancer Center & Research Institute

Directing adaptive immune responses to non-polymorphic MHCs in melanoma

MRA Team Science Award, collaboratively funded by Massachusetts Institute of Technology, 2018-2021 Forest White, Massachusetts Institute of Technology-Koch Institute for Integrative Cancer Research Dane Wittrup, Massachusetts Institute of Technology Young Investigator: Michael Birnbaum, Massachusetts Institute of Technology-Koch Institute for Integrative Cancer Research Young Investigator: Stefani Spranger, Massachusetts Institute of Technology-Koch Institute for Integrative Cancer Research

DAMPening immunotherapy adverse events in melanoma

MRA Team Science Award, collaboratively funded by the research institutions, 2018-2021 Pan Zheng, University of Maryland, Baltimore Yang Liu, University of Maryland, Baltimore Young Investigator: Siwen Hu-Lieskovan, The University of California, Los Angeles

Young Investigator Awards

Molecular and immune profiling of acral melanoma from various ethnicities MRA Young Investigator Award, collaboratively funded by University of Texas MD Anderson Cancer Center, 2018-2021 Phyu Aung, University of Texas MD Anderson Cancer Center

Building a predictive framework for vaccine design against melanoma

Elliott and Ruth Sigal-MRA Young Investigator Award, 2018-2021 Nicolas Chevrier, The University of Chicago

Manipulating cellular metabolism to promote cancer immunity in melanoma

The Robbins Family-MRA Young Investigator Award, 2018-2021 Ku-Lung Hsu, The University of Virginia

Investigating the mechanistic basis for tumor immunogenicity in melanoma *The Sokoloff Family-MRA Young Investigator Award, 2018-2021* Nikhil Joshi, Yale University

LncRNAs as modulators of protein synthesis rewiring in melanoma

Amanda and Jonathan Eilian-MRA Young Investigator Award, 2018-2021 Eleonora Leucci, Katholieke Universiteit Leuven

Primary anogenital melanoma: Comprehensive molecular and immune analysis *MRA Young Investigator Award, collaboratively funded by University of Texas MD Anderson Cancer Center, 2018-2021* Priyadharsini Nagarajan, University of Texas MD Anderson Cancer Center

Isoform-specific targeting of the PI3Ks to overcome cancer immunoresistance *MRA Young Investigator Award, collaboratively funded by University of Texas MD Anderson Cancer Center, 2018-2021* Weiyi Peng, University of Texas MD Anderson Cancer Center

Dependence of melanoma metastasis on AMPK-mediated metabolic switch

Ellen and Gary Davis Foundation-MRA Young Investigator Award, collaboratively funded by Joan & Sanford I. Weill Medical College of Cornell University, 2018-2021 Elena Piskounova, Joan & Sanford I. Weill Medical College of Cornell University

The genomic landscape of individual melanocytes from human skin

Tara Miller Melanoma Foundation-MRA Young Investigator Award, 2018-2021 A. Hunter Shain, The University of California, San Francisco

A novel approach for NF1 mutant melanoma sub-classification

MRA Young Investigator Award, 2018-2021 Edward Stites, The Salk Institute for Biological Studies

Targeting PSGL-1 inhibitory pathways to promote anti-tumor T cell immunity

The Denise and Michael Kellen Foundation-MRA Young Investigator Award, 2018-2021 Roberto Tinoco, Sanford Burnham Prebys Medical Discovery Institute

Pilot study of intervention to reduce sunburns in melanoma survivors

The Wayne Stinchcomb Big Orange Foundation-MRA Young Investigator Award for Women in Scientific Research, 2018-2021 Rachel Vogel, The University of Minnesota – Twin Cities

Targeting the JNK-ITCH signaling pathway in melanoma *Mary Jo and Brian Rogers-MRA Young Investigator Award, 2018-2021* Lixin Wan, H. Lee Moffitt Cancer Center & Research Institute

Developing advanced non-invasive histology techniques

Brownstein, Hyatt, Farber & Schreck-MRA Young Investigator Award, 2018-2021 Jesse Wilson, Colorado State University

Targeting BRAF/NRAS wildtype melanoma with ERBB3 and MEK Inhibition

Julie and Edward J. Minskoff-MRA Young Investigator Award, collaboratively funded by New York University School of Medicine, 2018-2021 Melissa Wilson, New York University School of Medicine