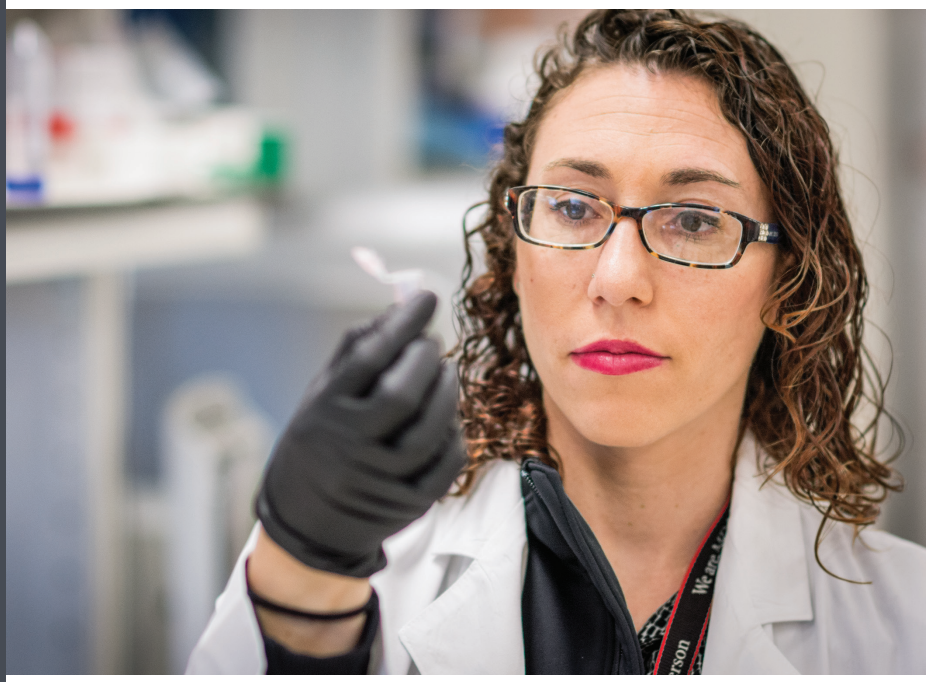
Advanced Scholar Program

DIVISION OF CANCER MEDICINE

THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®



Jennifer Goldstein, M.D.

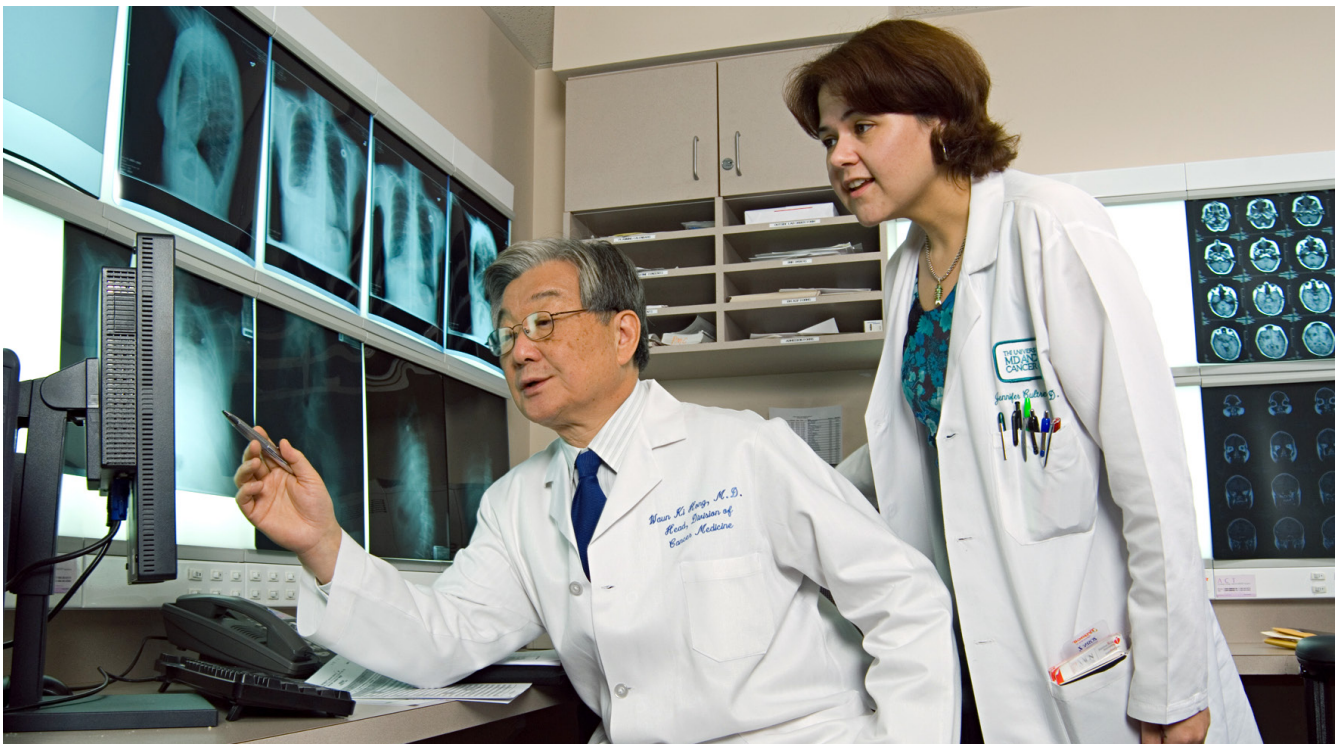
Advanced Scholar
2016–2017

Who Benefits

Among the highly dedicated physicians who pursue a career path in oncology is a select group with an equal talent for cancer research and a passion to make new discoveries that will ultimately translate into more effective care for their patients. The goal of the Advanced Scholar Program at the University of Texas MD Anderson Cancer Center is to ensure the success of these exceptional early-career oncologists by providing protected time to hone their skills in academic and clinical research with our institution's unmatched resources at their disposal.

Only those physicians who have excelled in all their prior medical training, including clinical oncology fellowship, and who demonstrate a keen interest and ability in clinical, translational, or basic laboratory research are eligible to compete for participation in this innovative program. These individuals are blazing a trail for the future of cancer medicine and represent great hope for our patients.

"This one-year program, with potential for a second year in exceptional cases, helps oncologists build 'academic muscle' at the start of their careers," says Waun Ki Hong, M.D., F.A.C.P., D.M.Sc., professor of Thoracic/Head & Neck Medical Oncology, former head of the Division of Cancer Medicine—who conceived and launched the program—and a world-renowned oncologist who has mentored hundreds of junior oncologists over several decades. "Through additional opportunities for education and training by experienced mentors in an environment where leading-edge achievements consistently set global standards, Advanced Scholars will be better prepared to meet the challenges of their field and ultimately lead that field tomorrow."



Waun Ki Hong , M.D., F.A.C.P., D.M.Sc., (left) created the Advanced Scholar Program and chairs the Oversight Committee.

Profound Shortfall of Oncologists

There is a rapidly growing need for advanced research training of oncologists to keep pace in an era where we are increasingly personalizing treatment to target the specific biology of each patient's tumor. Additionally, the climbing incidence of many cancers combined with the exponential growth of our aging population are expected to result in a dire shortage of oncologists within the next few years.

Robert Wolff, M.D., deputy division head for clinical and educational affairs in the Division of Cancer Medicine and director of our Hematology/Oncology Fellowship Program, warns, "The severe shortfall of medical oncologists will prevent us from conducting comprehensive studies of clinically relevant problems, designing clinical trials to improve prevention, detection, and treatment of human cancer, and most importantly in translating fundamental knowledge and new technologies between the laboratory, clinic, and community."

Ultimately, it is our patients who will pay the price for this projected scarcity of physicians devoted to overcoming their disease. Their best hope lies in the intensified training and recruitment of the most capable oncologists with translational skills, along with research support to ensure that each one has a strong foundation to conduct independent research and launch a successful clinical practice.

Robert Wolff, M.D., (left) is the Deputy Division Head for Clinical and Educational Affairs.

Advanced Oncology Research Training

This additional training allows Advanced Scholars to concentrate their efforts intensively in an area of investigation and/or clinical practice that may build on interests or studies they initiated during oncology fellowship. The program was initially aimed at providing 100% protected time for physician-scientists in the laboratory, and has since expanded to offer intensive experience in the design and conduct of clinical trials. Scholars geared toward the physician-scientist track are afforded additional time to complete basic science and translational projects in the laboratory, while acquiring the grantsmanship skills necessary to compete successfully for peer-reviewed funding. Scholars on the clinical investigator track focus on drug discovery and development, as well as clinical trial protocol design, conduct, and analysis, along the way gaining a deeper understanding of the complex biology of human cancer.

Scholars may also use this year to complete a master's or doctoral degree concomitantly at The University of Texas Graduate School of Biomedical Sciences or School of Public Health to enhance their mastery of one of these chosen areas. Each track is designed to prepare the Advanced Scholar for full success in a tenure-track position as an oncologist in academic medicine.

Program Fulfills Promise to Future Cancer Patients through Achievements of Scholars

Sumit Subudhi, M.D., Ph.D., Advanced Scholar 2013–2014, is now an Assistant Professor of Genitourinary Medical Oncology.

A single additional year dedicated to research has allowed our scholars to not only make, present, and publish far-reaching discoveries, but also to advance their careers to the next level—a tenured appointment in academic medicine or high-level medical oncology position from which they can continue to ensure that their research advances ultimately benefit cancer patients. All of our Advanced Scholars to date have successfully obtained appointments at top institutions that build on the research they started as fellows and scholars, and are working toward the promise of applying their findings to the care of their patients.

Here, we provide career development updates from all of our Scholars since completing their training, and how they have continued to apply the research they initiated in the Advanced Scholar Program to benefit cancer patients.

For further information on applying, please contact Catherine Butler-Gunn, J.D., Associate Director, Division of Cancer Medicine Graduate Medical Education Program, at CAButler1@mdanderson.org.

2008–2009 Scholars

Gheath Al-Atrash, D.O., Ph.D.

2008–2009 Barbara Rattay Foundation Advanced Scholar

CURRENT: *Associate Professor, Stem Cell Transplantation & Cellular Therapy, MD Anderson Cancer Center, Houston, Texas*

Since his tenure in the inaugural Advanced Scholar class working with Jeffrey Molldrem, M.D., professor of Stem Cell Transplantation & Cellular Therapy, Dr. Gheath Al-Atrash has become an associate professor of Stem Cell Transplantation & Cellular Therapy at MD Anderson. In this position, he balances patient care with basic science research focused on the discovery of novel leukemia antigens and development of immunotherapies for acute myeloid leukemia (AML). Specifically, he identified a peptide derived from cathepsin G (CG) as an effective and safe immunotherapeutic target in AML. This has paved the way for development of numerous CG-targeting immunotherapies including cytotoxic T lymphocytes, a peptide vaccine, and a CG1/HLA-A2 antibody. Further, Al-Atrash has worked extensively with AML peptide PR1, contributing to the development of an anti-PR1/HLA-A2 antibody and revealing critical insights into its ability to be cross-presented and therefore potentially used as a target for a wide range of tumors.

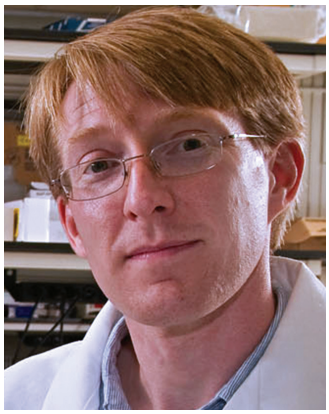
With the support of a Translational Research Program grant through the Leukemia and Lymphoma Society, Al-Atrash has demonstrated enhanced efficacy of leukemia-targeting T cells after fucosylation in mouse models, and has initiated preclinical studies of fucosylated T cells for use in adoptive cell therapy for breast cancer. "This approach could revolutionize cellular immunotherapy regimens for hematologic and solid tumors by making adoptive cellular therapies more effective and less toxic, thereby eliminating the morbidity and mortality associated with these approaches," he notes.

Al-Atrash has also made numerous clinical findings that have improved the care of patients with hematologic malignancies following stem cell transplantation. He credits the Advanced Scholar Program for laying the foundations for the research progress he has accomplished thus far.

Paul Armistead, M.D., Ph.D.

2008–2009 Barbara Rattay Foundation Advanced Scholar

CURRENT: *Associate Professor, University of North Carolina Lineberger Comprehensive Cancer Center, Chapel Hill, North Carolina*



Dr. Paul Armistead began his research work as an Advanced Scholar in the laboratory of Jeffrey Molldrem, M.D., professor of Stem Cell Transplantation & Cellular Therapy at MD Anderson. With a significant interest in leukemia, Armistead used genomic approaches to develop clinically significant cancer antigens as immunotherapeutics for leukemia patients. "Standard immune therapy approaches such as bone marrow or stem cell transplant are associated with high degrees of toxicity, which usually result as a consequence of damage to normal tissues in addition to the patient's leukemia," he notes. "Identifying leukemia-specific immune targets and developing therapies based on these targets is the primary emphasis of my laboratory group."

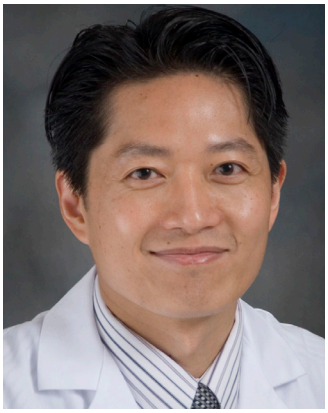
Armistead has made significant strides in this area, and since completing the Advanced Scholar Program he has expanded these studies as an associate professor in the Division of Hematology and Oncology at the University of North Carolina Lineberger Comprehensive Cancer Center. Armistead is currently working on a large collaboration with colleagues in chemistry, biomedical engineering, and

computer science to develop advanced RNA sequencing techniques and ultrasensitive targeted mass spectrometry methods to identify multiple types of immunotherapy targets, as well as single cell capture strategies to isolate immune cells capable of killing leukemia cells. His work has been funded through several NIH grants including K08, R21, R41, R44, and a recently awarded R01 to focus on splice-variant neoantigens, a novel class of immune targets.

"The Advanced Scholar year provided me with the protected research time I needed to complete my initial antigen discovery work in Dr. Molldrem's lab," Armistead says of his experience in the program. "This enabled me to launch my career as an independent investigator."

Sao Jiralerspong, M.D., Ph.D.

2008–2009 Barbara Rattay Foundation Advanced Scholar



During his Advanced Scholar training, Dr. Sao Jiralerspong was mentored by Mien-Chie Hung, Ph.D., chair of Molecular & Cellular Oncology, and Richard Brennan, Ph.D., chair of Duke University School of Medicine's Department of Biochemistry. After completing his research focused on basic, translational, and clinical studies of molecular pathways implicated in breast cancer, Jiralerspong became an assistant professor in the Lester and Sue Smith Breast Center at Baylor College of Medicine in Houston, Texas.

While providing outstanding mentorship to guide my work, the Advanced Scholar Program also allowed me to rapidly establish myself and successfully compete for extramural funding to sustain and grow our work toward impacting clinical practice.

–Don Gibbons, M.D., Ph.D., 2009–2010

2009–2010 Scholars

Lauren Byers, M.D., M.S.

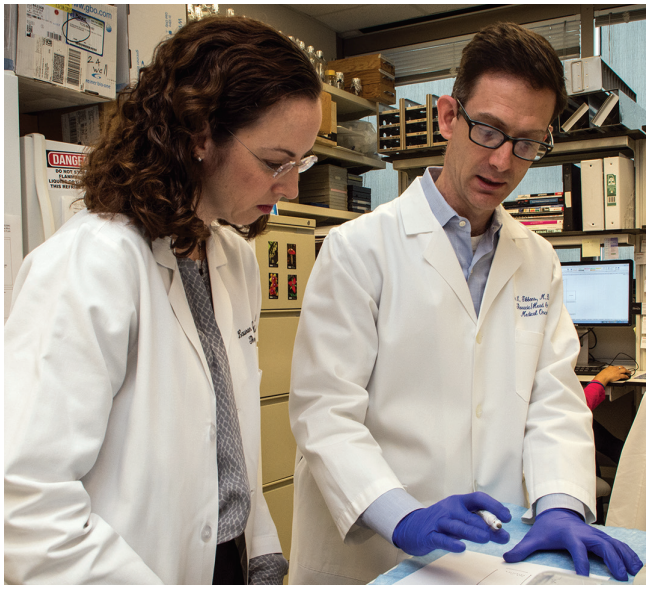
2009–2010 Barbara Rattay Foundation and Jeannine T. Rainbolt Endowment Advanced Scholar

CURRENT: ***Assistant Professor, Thoracic/Head & Neck Medical Oncology, MD Anderson Cancer Center, Houston, Texas***

Dr. Lauren Byers completed her Advanced Scholar training under the guidance of John Heymach, M.D., Ph.D., professor of Thoracic/Head & Neck Medical Oncology, and Gordon Mills, M.D., Ph.D., chair of Systems Biology. During this time, Byers worked to identify molecular signatures for the epithelial-to-mesenchymal transition (EMT) and novel therapeutic targets for lung and head/neck cancers including PARP1 and Axl. These accomplishments helped her to earn an assistant professor post in Thoracic/Head & Neck Medical Oncology at MD Anderson, where she developed the work of her Advanced Scholar year into a thriving research program.

Since discovering PARP1 as a novel target for small cell lung cancer (SCLC), Byers has developed and opened three clinical trials investigating PARP inhibitors in these patients. Through high-throughput studies, she and her team have also identified molecular signatures, including a proteomic DNA repair signature, that are indicative of sensitivity and resistance to PARP inhibitors and other targeted therapies. Byers' EMT work has led to the development of a gene expression signature for this cellular transition that has wide applications, and she is also leading the first clinical trial of an Axl inhibitor for erlotinib-resistant lung cancer. Further, Byers is planning to establish a biomarker-based clinical trials platform for SCLC, bringing together a working group of cross-disciplinary researchers to address the clinical and translational aspects of the disease.

"My long-term goal is to combine my scientific expertise in molecular biology and high throughput profiling with my clinical expertise to address specific clinical questions, including how to select the optimal treatment for each individual patient and identify new therapeutic targets for lung and head and neck cancers," Byers says. She looks back on the devoted research time she was afforded in the Advanced Scholar Program as instrumental in laying the foundation for her current success.



Lauren Byers, M.D., M.S., (left) and Don Gibbons, M.D., Ph.D., 2009–2010 Advanced Scholars, both joined the Thoracic/Head & Neck Medical Oncology Department.

Don Gibbons, M.D., Ph.D.

2009–2010 Barbara Rattay Foundation Advanced Scholar

CURRENT: ***Associate Professor, Thoracic/Head & Neck Medical Oncology, MD Anderson Cancer Center, Houston, Texas***

Under the mentorship of Jonathan Kurie, M.D., professor of Thoracic/Head & Neck Medical Oncology, Dr. Don Gibbons began studying the processes governing progression and metastasis in KRAS-mutant driven lung cancer tumors. Since finishing the program, Gibbons has earned an appointment as an associate professor in the department of Thoracic/Head & Neck Medical Oncology with a secondary appointment in Molecular & Cellular Oncology. His current research focuses on the identification and study of mechanisms of lung cancer progression, metastasis, and treatment using immunology, biochemistry, cell biology techniques, genetically-defined murine models, and analysis of patient tumor samples. Having established a large and active research laboratory, Gibbons works on understanding how microRNAs regulate cancer cell invasion and metastasis, and the role of the tumor microenvironment in those same processes. In addition, he leads several immunotherapy trials.

Dr. Gibbons credits his time in the Advanced Scholar Program for giving him the protected research time and resources to launch his robust research program. "Research is a fast-paced and competitive enterprise with limited funding opportunities, especially for new investigators. While providing outstanding mentorship to guide my work, the Advanced Scholar Program also allowed me to rapidly establish myself and successfully compete for extramural funding to sustain and grow our work toward impacting clinical practice," he said of his experience.

Wei Lin, M.D.

2009–2010 Barbara Rattay Foundation Advanced Scholar

CURRENT: ***Site Head for Oncology Product Development in Asia-Pacific at Roche, Shanghai, China***

During his Advanced Scholar training, Dr. Wei Lin worked with Jonathan Kurie, M.D., professor of Thoracic/Head & Neck Medical Oncology at MD Anderson to characterize immune cells in primary and metastatic lung tumors of a lung adenocarcinoma mouse model. Through this work, Lin implicated a number of cell types including myeloid derived suppressor cells, and

several ligand-receptor interactions including PD1/PDL1, as potential modulators of the immune response. His work in Kurie's laboratory was supported by an ASCO Young Investigator Award and an AACR-AstraZeneca Translational Lung Cancer Fellowship Award.

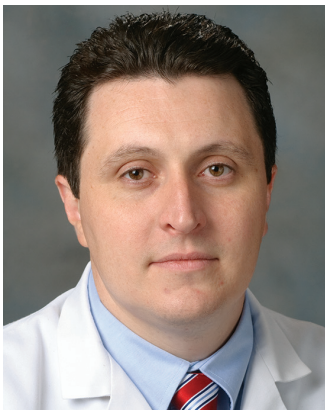
After completing the Advanced Scholar Program, Lin joined Genentech, a member of the Roche group, as an assistant medical director and currently serves as senior medical director and global clinical leader for the anti-PDL1 immunotherapy agent Tecentriq (atezolizumab) in lung cancer. Dr. Lin credits his year as an Advanced Scholar for providing him with the experience needed to launch the career that he enjoys today. "I feel extremely fortunate to have taken part in the Advanced Scholar Program. The focused research time helped me enormously to mature as a physician-scientist during my medical oncology fellowship," he noted of his time in the program.

2010–2011 Scholars

Anthony Conley, M.D.

2010–2011 Barbara Rattay Foundation Advanced Scholar

CURRENT: ***Assistant Professor, Sarcoma Medical Oncology, MD Anderson Cancer Center, Houston, Texas***



As an Advanced Scholar, Dr. Anthony Conley worked under the guidance of Jonathan Trent, M.D., Ph.D., a former associate professor of Sarcoma Medical Oncology at MD Anderson. During this time, Conley focused on identifying microRNA signatures of early PET response in imatinib-treated gastrointestinal stromal tumors. His work was supported by a 2010 ASCO Young Investigator award.

Following completion of the program, Conley became an assistant professor at the University of South Florida Morsani College of Medicine and an assistant member of Moffitt Cancer Center, where he served as the Director of Clinical Trials for the Sarcoma Program. He then returned to MD Anderson as an assistant professor of Sarcoma Medical Oncology. Conley aims to establish a translational program for chondrosarcomas with the ultimate goal of developing effective therapies for this group of rare sarcomas. He is involved with numerous early-phase clinical trials evaluating targeted and immunotherapeutic agents for sarcoma patients.

Conley is deeply thankful for his time as an Advanced Scholar. "I encourage others seeking a career in academic oncology to consider the Advanced Scholar year as a unique opportunity to provide the necessary foundation for your professional development as a physician-scientist in oncology," he says.

Min Park, M.D., M.S.

2010–2011 Barbara Rattay Foundation Advanced Scholar

CURRENT: ***Clinical Medical Oncologist at Swedish Cancer Institute, Seattle, Washington***

During her Advanced Scholar year, Min Park obtained in-depth clinical experience in treating rare, complex sarcomas under the mentorship of Drs. Robert Benjamin, M.D., and Shreyaskumar Patel, M.D., professors of Sarcoma Medical Oncology at MD Anderson. In this period, she also continued her clinical research, and obtained a Master of Science degree from the University of Texas Graduate School of Biomedical Sciences at Houston.

With this additional expertise, Park was able to establish a career as a clinical medical oncologist with a unique focus in sarcoma. She currently practices at Swedish Cancer Institute in Seattle, Washington, a non-academic hybrid model comprehensive cancer center serving much of

western Washington and Alaska. In this position, she has successfully developed a multidisciplinary sarcoma program that leverages surgical, radiation, and medical oncology groups to deliver comprehensive care. She participates as a sarcoma lead investigator in the Pacific Cancer Research Consortium, an NCI community oncology clinical research site, to open and enroll patients on sarcoma clinical trials. Park remains committed to promoting care of sarcoma patients by advancing the training of oncologists in the community; to this end, she has served as an ASCO Sarcoma Clinical Education Committee member for the last three years, and as an Education Session panelist.

"I am deeply grateful for the intensive training that the Advanced Scholar Program provided me, which has truly deepened and advanced my career," Park notes.

Adel Tabchy, M.D., M.S.

2010–2011 Barbara Rattay Foundation Advanced Scholar

CURRENT: ***Assistant Professor, Breast Medical Oncology, Washington University in St. Louis School of Medicine, St. Louis, Missouri***

During his Advanced Scholar year, Dr. Adel Tabchy worked under the guidance of Gordon Mills, M.D., Ph.D., chair of Systems Biology at MD Anderson, designing translational research protocols that applied high-throughput technologies to the analysis of human tumor samples. Through collaboration with the Human Genome Sequencing Center at Baylor College of Medicine and industrial partners in the United States and Germany, he developed a liquid biopsy test using next-generation sequencing to detect breast cancer from biomarkers in circulating plasma tumor DNA. "At the time we had coined the term 'remote tumor sampling' to indicate that a drop of blood probably contained representative tumor DNA shed into the circulation," Tabchy says. "Now, seven years later, such liquid biopsies are being used when there is a need to avoid more invasive tissue biopsies and to help guide therapy at progression."

Tabchy was then recruited to a large cancer and imaging consortium in Los Angeles where he served as U.S. Medical Director for Research and cared for breast cancer patients at the cancer centers in Los Angeles, where he directed and activated numerous breast cancer-dedicated clinical trials, and initiated efforts to build a translational research platform for sample collection and molecular analysis geared toward biomarker prediction and precision medicine. Following this, he returned to academia as an assistant professor at Washington University School of Medicine in St. Louis, where he focuses on patient care, translational research incorporating genomic and molecular imaging biomarkers in clinical trials, and teaching. Most recently, Tabchy has been working to develop centers of excellence for cancer patients in medically underserved areas including Lebanon and the United Arab Emirates. He reflects on his Advanced Scholar training as a critical step in his development as a professional medical oncologist.

Scott Woodman, M.D., Ph.D.

2010–2011 Laura and John Arnold Foundation Advanced Scholar

CURRENT: ***Assistant Professor, Melanoma Medical Oncology, MD Anderson Cancer Center, Houston, Texas***

Dr. Scott Woodman spent his time as an Advanced Scholar under the mentorship of Patrick Hwu, M.D., then-chair of Melanoma Medical Oncology, investigating the molecular basis of uveal melanoma and exploring novel therapeutic approaches for this malignancy. Following this, he joined the MD Anderson faculty as an assistant professor of Melanoma Medical Oncology.

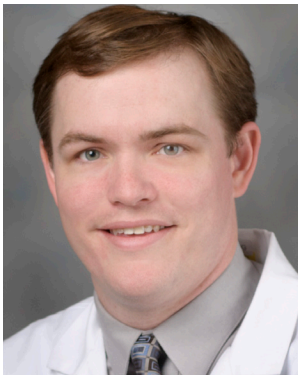
Woodman's clinical/translational research program aims to elucidate the molecular mechanisms that underlie atypical forms of melanoma leading to novel strategies for clinical trials. He has an active "wet" laboratory research group that performs innovative preclinical experiments and molecular analyses of patient-derived clinical specimens. In addition, Woodman and his team also analyze and integrate large multidimensional molecular datasets, and use this knowledge to better inform research strategies and model systems. His laboratory performed the most extensive molecular analysis of cell lines designated to be "uveal melanoma" to date. Further, his team has developed animal model systems that recapitulate uveal melanoma malignancy more accurately than previously available models, and tools to better interrogate human tissues. These substantial efforts have provided the uveal melanoma research community with a clearer understanding of the disease and serve as the basis of a number of studies in the field. Woodman has also taken on active leadership positions in The Cancer Genome Atlas (TCGA), including serving as leader of the proteomics analysis group for the skin melanoma TCGA effort and co-chair of the uveal melanoma TCGA effort. At MD Anderson he leads a multi-departmental preclinical melanoma research initiative to molecularly characterize tissues and cell lines generated from patient samples.

"The Advanced Scholar Program played a pivotal role in my early development as a physician and scientist, and allowed me to ultimately transition to multiple leadership roles to accelerate cancer research," he says of his experience.

At the time we had coined the term 'remote tumor sampling' to indicate that a drop of blood probably contained representative tumor DNA shed into the circulation. Now, seven years later, such liquid biopsies are being used when there is a need to avoid more invasive tissue biopsies and to help guide therapy at progression.

–Adel Tabchy, M.D., M.S., 2010–2011

2011–2012 Scholars



Jason Westin, M.D.

2011–2012 Jeannine T. Rainbolt Advanced Scholar

CURRENT: ***Assistant Professor, Lymphoma/Myeloma, MD Anderson Cancer Center, Houston, Texas***

As an Advanced Scholar, Dr. Jason Westin worked under the guidance of R. Eric Davis, M.D., associate professor of Lymphoma/Myeloma and Sattva Neelapu, associate professor and Deputy Department Chair of Lymphoma/Myeloma. His projects included developing rational chemotherapy combinations and combating therapy resistance in B cell lymphoma, and determining the gene expression and therapy-induced changes in patients with follicular lymphoma treated with a cancer vaccine. During his time in the program, Dr. Westin received an ASCO Conquer Cancer Foundation Young Investigator Award and also completed a Master of Science based upon his advanced scholar projects.

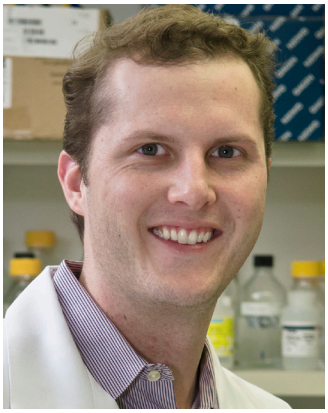
Westin was appointed as assistant professor of Lymphoma/Myeloma at MD Anderson, focusing on the conduct of innovative clinical trials and development of new drugs and methods to improve outcomes for lymphoma patients. Westin works on developing systems to identify novel optimal therapeutic combinations for individual patients, focusing primarily on diffuse large B cell lymphoma (DLBCL). He has been selected by his peers to lead the DLBCL research team, where he determines translational and clinical trial priorities. Westin is heavily involved in clinical trial development and execution, having created five investigator-initiated trials and contributing to over 25 active studies, many as principal investigator. He also co-leads efforts at MD Anderson to develop minimal residual disease detection technology for patients with DLBCL. "We need to design clinical trials that will answer bold and clinically relevant questions that have the potential to change our approach, and not be satisfied with incremental progress," he says.

2012–2013 Scholar

Chad Pecot, M.D.

2012–2013 RGK Foundation Advanced Scholar

CURRENT: ***Assistant Professor, University of North Carolina Lineberger Comprehensive Cancer Center, Chapel Hill, North Carolina***



Dr. Chad Pecot worked under the guidance of Anil Sood, M.D., professor of Gynecologic Oncology and Reproductive Medicine during his Advanced Scholar training. Pecot's research focused on developing therapeutic nanotechnology delivery systems for miR200 family microRNAs, which interrupt the epithelial-to-mesenchymal cell morphology transition that underlies metastasis. A biomedical engineer who survived cancer himself, Pecot's ultimate goal is to prevent metastasis and arrest the tumor in its tracks. His work demonstrated that miR200 inhibits the formation of new metastases and tumor angiogenesis in ovarian, lung, renal, and basal-like breast cancers by targeting the cytokines interleukin-8 and CXCL1.

Pecot is now an assistant professor of medicine at the University of North Carolina Lineberger Comprehensive Cancer Center at Chapel Hill. His diverse research program involves development of therapeutic RNA interference strategies for ultimate clinical application, modeling of cancer metastasis and the tumor microenvironment, and employment of complex systems biology and bioinformatic approaches to identify key nodes in cancer networks. For example, Pecot has developed numerous nanoparticle-based platforms to deliver small RNA payloads that can reach challenging targets within a tumor including the KRAS oncogene. Pecot has also identified several complex, targetable mechanisms employed by the tumor microenvironment to promote metastasis; led the study of *in vivo* models of mechanisms crucial to lung, ovary, kidney, breast, and colorectal cancers; and spearheaded bioinformatics approaches of large datasets including The Cancer Genome Atlas to understand the role of miRNAs in malignancy.

"The Advanced Scholar Program gave me a critical extra year in the laboratory to complete large, high-impact studies. The papers I published during that year are now highly cited and have since catapulted me into the next phase of my career," he says. "For a budding physician-scientist, the opportunity this afforded me was indispensable."

2013–2014 Scholar

Sumit Subudhi, M.D., Ph.D.

2013–2014 RGK Foundation Advanced Scholar

CURRENT: ***Assistant Professor, Genitourinary Medical Oncology, MD Anderson Cancer Center, Houston, Texas***

Dr. Sumit Subudhi, M.D., Ph.D., completed his Advanced Scholar training under the mentorship of James Allison, Ph.D., chair of Immunology, investigating how androgen receptor pathway signaling influences T cell activation, differentiation, and migration to tumor sites. This study examined pre- and post-therapy tumor and blood specimens for gene expression signatures, lymphocyte subsets, and cytokine profiles associated with ipilimumab therapy and subsequent clinical outcomes. Recently, he showed that CD8 T cell clonal expansion is an important correlative biomarker for the onset of immune-related adverse events in patients receiving ipilimumab.

Subudhi currently studies the impact of androgen deprivation therapy and androgen-receptor antagonists on

the immune system during tumor development. He is also seeking to identify novel immune checkpoint blockade targets and immunological biomarkers to evaluate disease progression and prognosis. Subudhi leads or co-leads numerous clinical trials focused on evaluating rational immunotherapy combinations in treatment-refractory prostate cancers, and is also interested in immunological differences in the microenvironment of primary prostate cancer versus bone metastatic lesions.

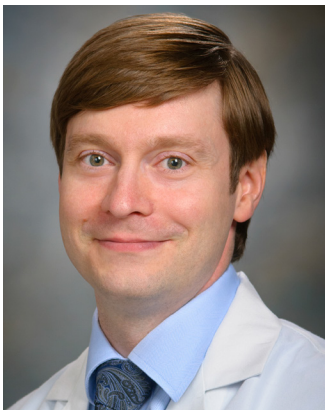
"My long-term goal is to transform the standard of care in prostate cancer through immunotherapy by identifying and effectively integrating optimal combinations of checkpoint blockade-based immunotherapies with current treatment strategies," he says. Participation in the Advanced Scholars program has equipped him with critical skills and experience needed to realize that goal.

2014–2015 Scholars

Christopher Benton, M.D.

2014–2015 RGK Foundation Advanced Scholar

CURRENT: ***Assistant Professor, Leukemia, MD Anderson Cancer Center, Houston, Texas***



Dr. Christopher Benton spent his Advanced Scholar year working under the guidance of Michael Andreeff, M.D., Ph.D., professor of Leukemia. He used a humanized mouse model of the bone marrow microenvironment to study whether multipotent hemangioblast-like leukemia cells differentiate into endothelial cells capable of evading chemotherapy. Benton's goal was to understand how the bone marrow microenvironment supported escape of these cells and ultimately to develop clinical approaches to overcome refractory and relapsed disease.

As an assistant professor of Leukemia at MD Anderson, Benton focuses on the potential role of primitive stem cells in leukemic relapse and therapy resistance. This work involves characterizing stem cell subpopulations in primary acute myeloid leukemia samples and determining how to target cells responsible for treatment failure, with the long term goal of translating crucial findings to the clinic. "My long-term goal is to contribute an element to the cure of leukemia for the patients we serve," he says.

Benton considers his training in the Advanced Scholar Program to have been instrumental in his development as an independent investigator.

Hans Lee, M.D.

2014–2015 Jeaninne T. Rainbolt and CG Johnson Foundation Advanced Scholar

CURRENT: ***Assistant Professor, Lymphoma/Myeloma, MD Anderson Cancer Center, Houston, Texas***

During his year in the Advanced Scholar Program, Dr. Hans Lee worked in the laboratory of Robert Orlowski, M.D., Ph.D., professor of Lymphoma/Myeloma. Lee aimed to improve understanding of the genetic drivers in myeloma pathobiology and validate novel drug targets in translatable preclinical myeloma models. His efforts centered primarily around developing novel therapeutic approaches for high-risk deletion 17p myeloma using custom deep coverage shRNA screens in isogenic TP53 wild-type and knock-out myeloma model systems. He also demonstrated the ability of RNA polymerase I inhibitor CX-5461 to directly suppress oncogenic Myc levels in myeloma cell lines, suggesting that this agent could be a promising therapeutic strategy in multiple myeloma and other Myc-driven cancers.

Upon completion of the program, Lee joined the faculty in Lymphoma/Myeloma at MD Anderson as an assistant

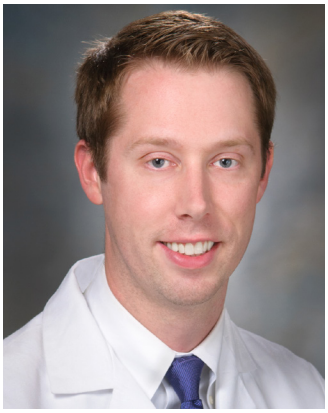
professor, where he focuses on Phase I clinical trials and drug development and continues his evolving work exploring novel therapeutic strategies in high-risk deletion 17p myeloma. Lee is also principal investigator of several investigator-initiated clinical trials in multiple myeloma.

Of his time as an Advanced Scholar, Lee says that the laboratory background he developed during his year in the program has been essential to helping him integrate correlative studies to interrogate biomarkers of treatment response and resistance. "The additional protected time that the Advanced Scholar Program provided was critical in establishing my research niche as a clinical and translational investigator in multiple myeloma," he says.

Van Morris, M.D.

2014–2015 Barbara Rattay Foundation Advanced Scholar

CURRENT: ***Assistant Professor, Gastrointestinal Medical Oncology, MD Anderson Cancer Center, Houston, Texas***



Under the guidance of Scott Kopetz, M.D., Ph.D., associate professor of Gastrointestinal Medical Oncology, during his Advanced Scholar year Dr. Van Morris studied signaling pathways and novel drug combinations for BRAF-mutated colorectal cancers, which are typically associated with poor prognosis and lack of response to standard treatment. He spearheaded a translational research project in the SWOG S1406 clinical trial utilizing patient-derived xenograft mouse models to study tumor evolution prospectively and analyze the mechanisms underlying treatment response and resistance in these patients.

As an assistant professor of Gastrointestinal Medical Oncology at MD Anderson, Morris' studies focus on characterizing the biological mechanisms that drive colorectal cancer. His research goal to develop translational treatments and effective targeted therapies were advanced throughout his Advanced Scholar year. This work was successfully parlayed into a Phase I clinical trial at MD Anderson. Additionally, in collaboration with Cathy Eng, M.D., professor of Gastrointestinal Medical Oncology, Morris has designed and conducted an immunotherapy clinical trial for a PD1 inhibitor in metastatic anal carcinoma, an orphan disease for which there is no accepted standard of care.

Morris credits his time in the Advanced Scholar Program as integral to his career development and current research program. His priority has always been finding new and better ways to treat patients. "Finding new answers about cancer will not only benefit patients in the clinics at MD Anderson but also other patients in future places and times," Morris says. "That is the real reward."

Ferdinandos Skoulidis, M.D., Ph.D.

2014–2015 Jeannine T. Rainbolt Advanced Scholar

CURRENT: ***Assistant Professor, Thoracic/Head & Neck Medical Oncology, MD Anderson Cancer Center, Houston, Texas***

Dr. Ferdinandos Skoulidis joined the Advanced Scholar Program under the mentorship of John Heymach, M.D., Ph.D., chair of Thoracic/Head & Neck Medical Oncology. During this year of protected research, Skoulidis extended his earlier work in Heymach's lab to identify three major subsets of KRAS-mutant lung adenocarcinoma (LUAC) defined on the basis of co-occurring genetic events in the STK11/LKB1, TP53, and CDKN2A/B tumor suppressor genes. He discovered that each subgroup exhibits distinct molecular dependencies, immune profiles, and therapeutic vulnerabilities, emphasizing the importance of co-mutations in governing the molecular diversity of KRAS-mutant tumors. This work was published in *Cancer Discovery* and is being recognized as a cornerstone in the molecular stratification of KRAS-

mutant tumors. More recently, Skoulidis reported that LKB1 inactivation is a major novel biomarker of de novo resistance to inhibitors of the PD1/PDL1 axis in LUAC, further highlighting the therapeutic relevance of his work.

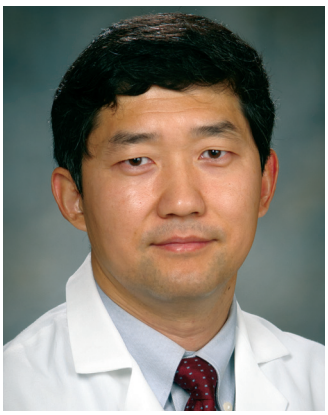
As an assistant professor of Thoracic/Head & Neck Medical Oncology at MD Anderson, Skoulidis has established an independent research group focused on the systematic interrogation of the functional impact of co-mutations on the evolution, micro-environmental interactions, and therapeutic responsiveness of KRAS mutant lung tumors. These studies incorporate multi-platform analyses of complex human molecular data, generation of novel genetically engineered murine models of lung cancer, and conduct of therapeutic intervention co-clinical trials for molecularly-defined KRAS-mutant LUAC subgroups. Skoulidis aims to translate these findings to the clinic in the form of personalized therapy for subsets of KRAS mutant tumors.

"My Advanced Scholar year was an invaluable opportunity to develop my foundation as a physician-scientist," Skoulidis says.

Jianjun Zhang, M.D., Ph.D.

2014–2015 CG Johnson Foundation Advanced Scholar

CURRENT: ***Assistant Professor, Thoracic/Head & Neck Medical Oncology, MD Anderson Cancer Center, Houston, Texas***



As an Advanced Scholar, Dr. Jianjun Zhang made crucial discoveries about the nature of lung tumor genomic intra-tumor heterogeneity (ITH). Working under the guidance of Andy Futreal, Ph.D., chair of Genomic Medicine, Zhang used multi-region whole exome sequencing to demonstrate that different tumor types have distinct ITH architectures, and that a single lung tumor biopsy may be adequate to identify the majority of known cancer gene mutations and by extension potential therapeutic targets. His study also suggested that a complex ITH pattern may be associated with increased risk of postsurgical relapse in patients with localized lung cancers, providing the first evidence that ITH architecture may be associated with clinical outcome.

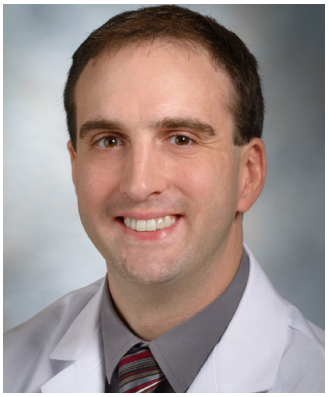
Zhang joined the MD Anderson faculty as an assistant professor of Thoracic/Head & Neck Medical Oncology with a joint appointment in the Department of Genomic Medicine following completion of his Advanced Scholar training. His group studies translational genomics and the immunogenomics of lung cancer. "The main focus of my research is to elucidate the intra- and inter-tumor heterogeneity of lung cancers with the intent to identify novel biomarkers and therapeutic targets to improve the outcome for lung cancer patients," he says. Zhang has published in top journals and his work is supported by major sponsors including the Cancer Prevention Research Institute of Texas, the Lung Cancer Research Foundation, and the Conquer Cancer Foundation. He credits his time as an Advanced Scholar as a period of significant professional growth and a critical factor in his development as a successful physician-scientist.

2015–2016 Scholars

Jonathan E. Brammer, M.D.

2015–2016 CG Johnson Foundation Advanced Scholar

CURRENT: ***Assistant Professor, Division of Hematology, The Ohio State University Comprehensive Cancer Center, James Cancer Hospital, Columbus, Ohio***



During his Advanced Scholar year, Dr. Jonathan Brammer studied T cell hematologic malignancies and stem cell transplantation under the guidance of Chitra Hosing, M.D., professor, and Richard Champlin, M.D.,

chair of Stem Cell Transplantation & Cellular Therapy. He developed and initiated a novel Phase I/II clinical trial utilizing the histone deacetylase inhibitor romidepsin in combination with chemotherapy before and after transplant in an effort to prevent disease relapse in patients with T cell cancers. Romidepsin shows synergistic effects when combined with conditioning chemotherapy agents and may favorably modulate graft vs. lymphoma effects while suppressing graft vs. host disease. "This is the first prospective trial ever conducted that targets T cell malignancies specifically in individuals who are undergoing allogeneic stem cell transplantation," Brammer said.

> *The Advanced Scholar Program gave me a critical extra year in the laboratory to complete large, high-impact studies. ... For a budding physician-scientist, the opportunity this afforded me was indispensable.*
>
> **–Chad Pecot, M.D., 2012–2013**

Brammer is currently an assistant professor in the Division of Hematology at Ohio State University, where he is opening this protocol and will enroll patients over the next two years. At Ohio State, Brammer assumed all clinical care duties for the T cell lymphoma/leukemia clinic. He is actively engaged as sub-site primary investigator in multiple clinical trials focused on these T cell malignancies and is anticipating NIH grant submissions in the next year. Brammer is also working with scientific collaborators to understand the biology, pathogenesis, and determinants of clinical response in T cell large granular leukemia and extra-nodal NK/T cell lymphoma.

He is deeply grateful to Dr. Waun Ki Hong, Hosing, and the Advanced Scholar Program for enabling him to jump-start his career in academic medicine. "The experiences, mentorship, and guidance I received have enabled me to not only attain a position in a leading hematology center in my chosen area of research, but to quickly become an active, productive researcher in the field," Brammer says.

Jin Im, M.D., Ph.D.

2015–2016 RGK Advanced Scholar

CURRENT: *Assistant Professor, Stem Cell Transplantation & Cellular Therapy, MD Anderson Cancer Center, Houston, Texas*

Dr. Jin Im studied under the guidance of Jeffrey Molldrem, M.D., professor of Stem Cell Transplantation & Cellular Therapy, during both her Advanced Scholar training and as a Hematology/Oncology Fellow. Im identified CD4+CD25+ cells as a unique regulatory subset of invariant natural killer (iNK) T cells through deep immune profiling and functional analysis of iNK T cells from adult donors and cord blood.

Currently, Im is an assistant professor of Stem Cell Transplantation & Cellular Therapy, investigating whether early post-transplant recovery of CD4+CD25+ iNK T cells is associated with decreased incidence of graft-versus-host disease (GvHD). For this project, she is analyzing banked cryopreserved, fully annotated clinical samples from donor-recipient pairs. In addition, Im has just activated a translational protocol to implement single-cell transcriptome analysis of post-transplant samples from patients who develop GvHD to understand how CD4+CD25+ iNK T cells control and functionally evolve over the course of this immune process. She is also studying how immunotherapy shapes anti-leukemic T cell responses, how the leukemia-specific somatic mutation burden helps generate anti-tumor T cells, and how the leukemia-specific T cell repertoire changes over the course of immunotherapy treatment.

"My goal is to translate my laboratory findings to the patient's bedside. I anticipate that I will launch clinical trials within three years," Im says of her iNK T cell/GvHD work. She hopes that her immunotherapy studies will help to design a personalized cancer vaccine to augment anti-leukemia T cell immunity. Im is deeply grateful for her Advanced Scholar training, which allowed her to develop her fellowship findings into the foundation for a flourishing research program.

Training and Current Appointments of Advanced Scholars

2016–2017

Jennifer Goldstein, M.D.

Instructor, Advanced Scholar Program, MD Anderson Cancer Center

Clonal Evolution in Response to Blockade of Epithelial-Mesenchymal Transition in Pancreatic Cancer

Mentor Andrew Futreal, Ph.D.

Prior Training

M.D.	George Washington University School of Medicine and Health Sciences
Residency	University of California Los Angeles
Fellowship	MD Anderson Hematology/Medical Oncology 2012–2015

ASCO Young Investigator Award 2015

Sangeeta Goswami, MBBS, Ph.D.

Instructor, Advanced Scholar Program, MD Anderson Cancer Center

Epigenetic Changes in T Cells in Response to Immune Checkpoint Blockade

Mentor Padmanee Sharma, M.D., Ph.D.

Prior Training

M.D.	Gauhati Medical College
Ph.D.	Baylor College of Medicine
Residency	University of Pittsburgh Medical Center
Fellowship	MD Anderson Hematology/Medical Oncology 2013–2016

Jennifer McQuade, MD

Instructor, Advanced Scholar Program, MD Anderson Cancer Center

The Role of Obesity in Malignant Melanoma

Mentors Michael Davies, M.D., Ph.D.
Peiying Yang, Ph.D.

Prior Training

M.D.	Baylor College of Medicine
Residency	Hospital of the University of Pennsylvania
Fellowship	MD Anderson Hematology/Medical Oncology 2013–2016

ASCO Young Investigator Award 2015

AACR Women in Cancer Research Award 2016

ASCO Career Development Award 2017

2015–2016

Jonathan E. Brammer, M.D.

Assistant Professor, Division of Hematology, The Ohio State University Comprehensive Cancer Center, James Cancer Hospital, Columbus, Ohio

Romidepsin Therapy Incorporated into Conditioning and Maintenance Therapy in Patients with T Cell Malignancies Receiving Allogenic Stem Cell transplantation

Prior Training

M.D.	Northeastern Ohio Universities of Medicine
Residency	Baylor College of Medicine
Fellowship	Oregon Health and Science Hematology/Medical Oncology 2012–2014
	MD Anderson Hematology/ Medical Oncology 2014–2015

Jennifer Goldstein, M.D.

Instructor, Advanced Scholar Program, MD Anderson Cancer Center

Clonal Evolution in Response to Blockade of Epithelial-Mesenchymal Transition in Pancreatic Cancer

Mentor Andrew Futreal, Ph.D.

Prior Training

M.D.	George Washington University School of Medicine and Health Sciences
Residency	University of California Los Angeles
Fellowship	MD Anderson Hematology/Medical Oncology 2012–2015

ASCO Young Investigator Award 2015

Jin Im, M.D., Ph.D.

Assistant Professor, Stem Cell Transplantation & Cellular Therapy, MD Anderson Cancer Center, Houston, Texas

Immunoregulatory Role of Invariant Natural Killer T Cells in Allogenic Stem Cell Transplantation

Mentor Jeffrey Molldrem, M.D.

Prior Training

Ph.D.	University of Arizona
M.D.	Albert Einstein College of Medicine
Residency	Montefiore Medical Center/Albert Einstein College of Medicine
Fellowship	MD Anderson Hematology/Medical Oncology 2012–2015

ASBMT New Investigator Award 2014

2014–2015

Christopher Benton, M.D.

Assistant Professor, Leukemia, MD Anderson Cancer Center

Molecular Biology of New Stem Cell Populations in Leukemia

Mentor: Michael Andreeff, M.D., Ph.D.

Prior Training

M.D.	Baylor College of Medicine
Residency	Baylor College of Medicine
Fellowship	MD Anderson Hematology/ Oncology 2011–2014

ASH Abstract Achievement Award 2012

ASH Research Training Award for Fellows 2013

Hans Lee, M.D.

Assistant Professor, Lymphoma/Myeloma, MD Anderson Cancer Center

Validating Novel Targets Against Deletion 17p Myeloma

Mentor: Robert Orlowski, M.D., Ph.D.

Prior Training

M.D.	Indiana University
Residency	Washington University
Fellowship	MD Anderson Hematology/ Oncology 2011–2014

ASH Abstract Achievement Award 2012

ASCO Young Investigator Award 2013

Van Morris, M.D.

Assistant Professor, Gastrointestinal Medical Oncology, MD Anderson Cancer Center

Role of Epigenetic Dysregulation in BRAF-mutated Metastatic Colorectal Cancer

Mentor Scott Kopetz, M.D., Ph.D., F.A.C.P.

Prior Training

M.D.	University of Tennessee
Residency	Duke University
Fellowship	MD Anderson Hematology/ Oncology Fellow 2011–2014

ASCO Young Investigator Award 2013

Ferdinandos Skoulidis, M.D., Ph.D.

Assistant Professor, Thoracic/Head & Neck Medical Oncology, MD Anderson Cancer Center

Genetic and Molecular Dissection of Lung Adenocarcinoma Driven by Aberrant KRAS Pathway

Mentor John Heymach, M.D., Ph.D.

Prior Training

M.D.	Aristotle University of Thessaloniki, Greece
Ph.D.	University of Cambridge, United Kingdom
Residency	Addenbrooke's Hospital, Cambridge, United Kingdom
Fellowship	MD Anderson Medical Oncology 2013–2014

AACR Scholar-in-Training Award 2014

Jianjun Zhang, M.D., Ph.D.

Assistant Professor, Thoracic/Head & Neck Medical Oncology, MD Anderson Cancer Center

Clinical Impact of Tumor Heterogeneity in Lung Cancer

Mentor Andrew Futreal, Ph.D.

Prior Training

M.D.	Tongji Medical University, Wuhan, China
Ph.D.	Chinese Academy of Medical Sciences, Beijing, China
Residency	Long Island Jewish Medical Center
Fellowship	MD Anderson Hematology/ Oncology Fellow 2011–2014

ASCO Merit Award 2014

ASCO Young Investigator Award 2015

2013–2014

Sumit Subudhi, M.D., Ph.D.

Assistant Professor, Genitourinary Medical Oncology, MD Anderson Cancer Center

Improving Patient Selection for Immune Checkpoint Therapy: Maximizing Benefit and Minimizing Toxicities

Mentor James Allison, Ph.D.

Prior Training

M.D.	University of Chicago
Ph.D.	University of Chicago
Residency	New York Presbyterian Hospital–Weill Cornell Medical Center
Fellowship	Memorial Sloan Kettering Cancer Center Medical Oncology

Prostate Cancer Foundation Young Investigator Award 2014

2012–2013

Chad Pecot, M.D.

Assistant Professor, University of North Carolina, Chapel Hill, NC

Characterization of Novel MicroRNA-200 Mechanisms and Development of Nano-Technology Delivery Systems to use MicroRNA-200 as a Therapeutic Strategy

Mentor Anil Sood, M.D.

Prior Training

M.D.	University of Miami
Residency	Vanderbilt University
Fellowship	MD Anderson Hematology/ Oncology Fellow 2009–2012

ASCO Young Investigator Award 2011

2011–2012

Jason Westin, M.D.

Assistant Professor, Lymphoma/Myeloma, MD Anderson Cancer Center

Developing Combination Chemotherapy and Targeting Resistance in B Cell Lymphoma

Mentor R. Eric Davis, M.D.

Prior Training

M.D.	University of Florida
Residency	University of North Carolina
Fellowship	MD Anderson Hematology/ Oncology 2008–2011

ASCO Young Investigator Award 2012

ASCO Career Development Award 2015

2010–2011

Anthony Conley, M.D.

Assistant Professor, Sarcoma Medical Oncology, MD Anderson Cancer Center

"MicroRNA Signatures of Early PET Response in Imatinib-Treated GIST"

Mentor Jonathan Trent, M.D., Ph.D.

Prior Training

M.D.	University of Texas Medical Branch Galveston, 2004
Residency	University of Texas Health Science Center at Houston, 2004–2007
Fellowship	MD Anderson Hematology/ Oncology 2007–2010 Willie Tichenor Fellow in Sarcoma

ASCO Young Investigator Award 2010

Min Park, M.D.

Clinical Medical Oncologist at Swedish Cancer Institute Seattle, Washington

Clinical and Molecular Markers of HPC/SFT and *A Phase II Study to Determine the Efficacy of a MET Kinase Inhibitor in Patients with Advanced Clear Cell Sarcoma (CCS) and Alveolar Soft Parts Sarcoma (ASPS)*

Mentors Robert Benjamin, M.D.
Jonathan Trent, M.D., Ph.D.

Prior Training

M.D.	University of Pennsylvania School of Medicine & Hospital 2003–2007
Residency	University of Pennsylvania School of Medicine & Hospital 2003–2007
Fellowship	MD Anderson Hematology/ Oncology Fellow 2007–2010

Adel Tabchy, M.D., M.S.

Assistant Professor, Washington University School of Medicine, St. Louis, MO

Next Generation Sequencing of HER2 in Breast Cancer, and *Remote Tumor Sampling: Circulating Tumor DNA Mutation Detection from Blood for the Rational Selection and Monitoring of Patients for Personalized Medicine*

Mentor Gordon Mills, M.D., Ph.D.

Prior Training

M.D.	American University of Beirut
Residency	American University of Beirut
Fellowship	MD Anderson Hematology/ Oncology Fellow 2007–2010

Scott Woodman, M.D., Ph.D.

Assistant Professor, Melanoma Medical Oncology, MD Anderson Cancer Center

Determination of the Molecular Basis of Uveal Melanoma and Development of Therapeutic Approaches

Mentor Patrick Hwu, M.D.

Prior Training

M.D.	Albert Einstein College of Medicine
Ph.D.	NIH Medical Scientist Training Program
Residency	Beth Israel Deaconess Medical Center
Fellowship	MD Anderson Hematology/ Oncology 2007–2010

ASCO Young Investigator Award 2009

2009–2010

Lauren Averett Byers, M.D., M.S.

Assistant Professor, Thoracic/Head & Neck Medical Oncology, MD Anderson Cancer Center

Molecular Profiling of Lung and Head and Neck Cell Lines to Develop Predictive Signatures and Identify New Potential Therapeutic Agents

Mentor John Heymach, M.D., Ph.D.

Prior Training

M.D.	Baylor College of Medicine 2003
Residency	Johns Hopkins School of Medicine, 2003–2006
Fellowship	MD Anderson Hematology/ Oncology 2006–2009
M.S.	Cancer Biology/Patient-Based Biologic Research, University of Texas Graduate School of Biomedical Sciences, 2009

ASCO Young Investigator Award 2008

National Cancer Institute Career Development Award 2008–2013

Sidney Kimmel Scholar Award 2013–present

Don Gibbons, M.D., Ph.D.

Associate Professor, Thoracic/Head & Neck Medical Oncology, MD Anderson Cancer Center

Role of the MicroRNA-200 Family in Progression and Metastasis of Lung Adenocarcinoma

Mentor Jonathan Kurie, M.D.

Prior Training

M.D.	Albert Einstein College of Medicine 2004
Ph.D.	Albert Einstein College of Medicine 2004
Residency	Baylor College of Medicine, 2004–2006
Fellowship	MD Anderson Hematology/ Oncology Fellow 2006–2009

ASCO Young Investigator Award 2008

The Jeffrey Lee Cousins Fellow in Lung Cancer Research, 2009 NIH K08 Award 2010–2015

Wei Lin, M.D.

Site Head for Oncology Product Development in Asia-Pacific at Roche, Shanghai, China

Role of CXCL12/CXCR4 Axis in Tumor-Stroma Interaction in Metastatic Lung Cancer

Mentor Jonathan Kurie, M.D.

Prior Training

M.D.	Harvard Medical School 2004
Residency	Massachusetts General Hospital, 2004–2006
Fellowship	MD Anderson Hematology/ Oncology 2006–2009

ASCO Young Investigator Award 2009

AACR-AstraZeneca Fellowship for Translational Lung Cancer Research 2009

Gheath Al-Atrash, D.O., Ph.D.

Associate Professor, Stem Cell Transplantation & Cellular Therapy, MD Anderson Cancer Center

Mislocalized Self Proteins as Targets for Anti-leukemia Immunotherapy

Mentor Jeffrey Molldrem, M.D.

Prior Training

D.O.	University of North Texas Health Science Center
Ph.D.	University of North Texas Health Science Center
Residency	The Cleveland Clinic Foundation
Fellowship	MD Anderson Hematology/ Oncology Fellow 2005–2008

ASCO Young Investigator Award 2007

Paul Armistead, M.D., Ph.D.

Associate Professor, University of North Carolina, Chapel Hill, NC

Identification of Novel Leukemia Antigens through Stem Cell Transplant Donor/Patient Polymorphism Disparities

Mentors Jeffrey Molldrem, M.D.
Jonathan Serody, M.D.

Prior Training

M.D.	University of North Carolina
Ph.D.	University of North Carolina
Residency	Brigham & Women's Hospital
Fellowship	MD Anderson Hematology/ Oncology Fellow 2005–2008

ASCO Young Investigator Award 2007

Sao Jiralerspong, M.D., Ph.D.

Assistant Professor, Lester and Sue Smith Breast Center, Baylor College of Medicine, Houston, TX

Basic Translational and Clinical Studies of Molecular Pathways Implicated in Breast Cancer

Mentors Richard Brennan, Ph.D.
Mien-Chie Hung, Ph.D.

Prior Training

M.D.	Baylor College of Medicine 2001
Ph.D.	Organic Chemistry, Rice University 2001
Residency	Boston University 2001–2004
Postdoctoral Fellowship	Harvard University, 2004–2005
Fellowship	MD Anderson Hematology/ Oncology Fellow 2005–2008

ASCO Young Investigator Award 2007

The Advanced Scholar Program continues to be supported by the generosity of our philanthropists. Their gifts have enabled the program to support scholars of great caliber each year.

These exceptionally qualified oncologists are now, in turn, training and mentoring other oncologists, but many more will be needed in the coming decades to keep pace with rising cancer rates and compensate for the expected decline in the numbers of well-trained academic oncologists. Program leaders are seeking additional sources of funding to expand the number of scholars whose future achievements will help eradicate the most challenging cancers, the value of which will substantially exceed the costs of their training.

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Catherine Butler-Gunn, J.D., Associate Director, Graduate Medical Education Program, Division of Cancer Medicine

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