

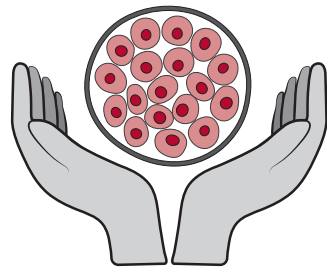


Access the
2021 Annual Report



Section of
Surgical Oncology

Julie Margenthaler, MD.



Surgeons in this section provide the most up-to-date care for breast and endocrine system diseases, melanoma and sarcoma. Faculty seek to advance treatment through leading-edge research. With one of the largest endocrine surgery practices in the country, surgeons also offer expertise in thyroid cancer, adrenal tumors and hyperparathyroidism. Surgical oncologists provide care at Siteman Cancer Center, offering clinical trials that evaluate new therapies. The section also supports clinical and research opportunities for general surgery residents, and offers a breast disease fellowship.



2,297

operating room cases



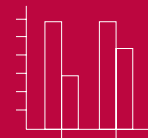
222

office procedures



19,235

visits



74

clinical research studies



11

faculty



\$3,019,123

research funding



Cancer Moonshot

From left: Graham Colditz, MD, DrPH, Li Ding, PhD, Bettina Drake, PhD, MPH, and Ryan Fields, MD.

Washington University School of Medicine in St. Louis has received a \$17 million grant from the National Institutes of Health (NIH) to address disparities in cancer research, treatment and outcomes in underrepresented populations. The research, funded through the National Cancer Institute's Cancer Moonshot program, will focus on African American patients with colorectal cancer and multiple myeloma, as well as patients of any race or ethnicity with cholangiocarcinoma, a rare cancer of the bile ducts.

The goal of the research program, called the Washington University Participant Engagement and Cancer Genomic Sequencing Center (WU-PE-CGS), is to fill gaps in knowledge to help reduce the disparities seen in rare and understudied cancers that affect underrepresented groups.

"We're interested in improving care for underserved communities and maximizing the potential of team science, bringing together a diversity of skills, to address these

problems," says Principal Investigator Graham Colditz, MD, DrPH, the Niess-Gain Professor of Surgery and Division Chief of Public Health Sciences.

The diverse team of investigators includes cancer biologist Li Ding, PhD; cancer epidemiologist and Professor of Surgery in the Division of Public Health Sciences Bettina Drake, PhD, MPH; and Chief of Surgical Oncology Ryan Fields, MD, the Kim and Tim Eberlein Distinguished Professor of Surgery.

Fields will lead the participant engagement part of the project, identifying patients with the targeted cancer types and determining who might be interested in participating. To aid these efforts, the researchers have established a patient engagement advisory board that includes patient advocates for rare diseases, as well as members of national patient support groups.

"When we look at cancer genomic studies, most of the participants have been white

male patients, so a lot of the treatment decisions we make are based on that data, and it may not be applicable to women and people of color," says Fields, who is co-leader of the Solid Tumor Therapeutics Program at Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine. "We're hoping this project can begin to address some of these disparities."

Two cancers that are more common and not studied enough among Black populations, including in the St. Louis region, are colorectal cancer in African Americans under age 50 and multiple myeloma in African Americans of any age. While cholangiocarcinoma is rare, Washington University has expertise in this cancer and provides care for patients who come to St. Louis from across the country. For each cancer type, the investigators are seeking 300 patient volunteers to participate in the research program. Patients will have their cancer genomes sequenced and compared to their healthy genomes to determine what led to their tumors' formations. The genomic data could help inform how their cancers are treated.

"We're interested in improving care for underserved communities and maximizing the potential of team science, bringing together a diversity of skills, to address these problems."

-Graham Colditz, MD, DrPH

Surgical Oncology Highlights



Katherine Glover-Collins, MD, PhD.

Clinical

Washington University and Siteman Cancer Center are addressing the issue of late-stage breast cancer presentation in underserved patient populations in North St. Louis County. Through community partnerships, screening events and collaboration with public health researchers, the breast cancer surgery program at Christian Hospital and Siteman Cancer Center North St. Louis County has seen significant clinical growth in the past year, serving more patients and detecting cancers sooner. “The Department of Surgery is addressing disparities in health care in the North County area by engaging with the community,” says surgical oncologist **Katherine Glover-Collins, MD, PhD.** “We are bringing access to cancer care that is sorely needed.”

Research

Metastasis is the most significant contributor to mortality in breast cancer patients. Disseminated tumor cells present in the bone marrow are believed to be the intermediaries in the metastatic process. **Rebecca Aft, MD, PhD,** the Jeffrey F. Moley Professor of Surgery in the Section of Surgical Oncology, is co-principal investigator of an R01 grant characterizing disseminated tumor cells in breast cancer patients. Aft and her co-investigators have developed a strategy for identifying genes associated with disseminated tumor cells, with the goal of implementing targeted therapies to eliminate these cells and interrupt metastasis.



Rebecca Aft, MD, PhD.

Education

The Gateway Curriculum at Washington University School of Medicine in St. Louis is an innovative course of study that integrates academic and clinical excellence with self-care, individualized career development, flexibility, coaching and a special emphasis on social justice. Rotation Director for the Third Year Medical Student Surgery Clerkship **T.K. Pandian, MD, MPH,** has led the development of the new Surgery Clerkship for the Gateway Curriculum. Pandian, who completed the Teaching Scholars Program at the School of Medicine, is a recipient of the 2021 Academy of Educators Honor Roll Award, which recognizes faculty members making outstanding contributions to education.



Center: T.K. Pandian, MD, MPH.



Understanding Cellular Senescence

Ryan Fields, MD.

Washington University School of Medicine in St. Louis is joining the Cellular Senescence Network (SenNet), a new research network of the National Institutes of Health (NIH) focused on the study of senescent cells, a rare and important population of cells that is difficult to study but vital for understanding aging and the diseases of aging, including cancer and neurodegeneration. The goal is to help researchers develop new therapies that target cellular senescence to prevent or treat such diseases and improve human health.

Washington University will receive \$7.5 million over five years to support the research. SenNet aims to identify and describe senescent cells across multiple tissues throughout the body, in various states of health and disease, and at many ages across the human life span. The School of Medicine will serve as one of eight tissue-mapping centers for SenNet.

The Washington University Senescence Tissue Mapping Center (WU-SN-TMC) will be led by Principal Investigator Li Ding, PhD, a professor of medicine and of genetics; and co-principal investigators Feng Chen, PhD, an associate professor of medicine; Sheila Stewart, PhD, the Gerty Cori Professor of Cell Biology & Physiology and a professor of medicine; and Chief of Surgical Oncology **Ryan Fields, MD.**

“We are excited to be part of this initiative to understand cellular senescence,” says Fields,

who is the Kim and Tim Eberlein Distinguished Professor of Surgery. “We will work together across the Department of Surgery and the medical school to collect tissues from a diverse patient population, with the goal of shedding some light on the process of cellular senescence.”

Senescent cells have stopped dividing and do not regain the ability to divide again. For years, scientists suspected that cellular senescence only happened in cells growing in a laboratory culture dish and that such cells did not exist in living organisms. Improved technologies have proven this wrong, but the cells remain difficult to study in their natural environments. Much of the consortium’s work will be focused on developing better ways to identify these elusive cells and new laboratory tools to study them. Such tools will build upon previous advances in single-cell analysis, such as those from the Common Fund’s Human Biomolecular Atlas Program and Single Cell Analysis Program.

“This research has the potential to impact patient care in numerous areas,” Fields says. “An understanding of this phenomenon of senescence could shed light on the development of age-related diseases, such as macular degeneration, Alzheimer’s and cancer. This collaboration is a unique opportunity to improve human health across the board.”