



THE UNIVERSITY OF
CHICAGO
BIOLOGICAL
SCIENCES

department
of medicine
annual report
2017

powerful
connections

table of contents

Chair's message	1	Cardiology	14
Organization	2	Computational Biomedicine and Biomedical Data Science	16
Medicine by the Numbers	3	Dermatology	18
Special Awards	4	Emergency Medicine	20
Faculty Highlights	6	Endocrinology, Diabetes and Metabolism	22
Research Programs Overview	8	Gastroenterology, Hepatology and Nutrition	24
Clinical Programs Overview	10	General Internal Medicine	26
Education Programs Overview	12	Genetic Medicine	28
		Geriatrics and Palliative Medicine	30
		Hematology/Oncology	32
		Hospital Medicine	34
		Infectious Diseases and Global Health	36
		Nephrology	38
		Pulmonary/Critical Care	40
		Rheumatology	42
		Residents and Fellows	44
		Select High Impact Publications	50
		Committee Highlights	52

powerful connections

CHAIRMAN'S MESSAGE



I am delighted to present to you the **2017 Department of Medicine Annual Report** entitled **"Powerful Connections"**. Connections that bridge our programs and people are so important to enhancing our missions of discovery, innovative patient care and mentorship. Connections are fundamental to science and medicine. Across departments scientists connect scientific findings from bench to bedside and back with the goal of improving patient outcomes and developing better therapies, and our medical educators channel their knowledge to our trainees to enhance the learning environment and prepare them for their academic careers.

Some examples from the last year include:

- The discovery that the onset of Celiac disease could be triggered by prior Reovirus infection (Jabri)
- The preclinical development of novel approaches to prostate cancer immunotherapy using a tyrosine kinase inhibitor to infiltrate and clear the tumor (Patnaik)
- The expansion of the cellular and stem cell transplant program with new targeted cellular therapies, such as chimeric antigen receptor T-cell (CAR T) infusions, to improve the responsiveness of cancer
- Determining that helmet ventilation helps critically ill patients breathe better (Patel, Hall, Kress)
- The creation of a new classification of common diseases based on how often they occur among genetically-related individuals (Rzhetsky)
- The discovery that pre-existing Type 2 immune activation protects against sepsis (Verhoef, Solway, Sperling)
- New insights on improving clinical learning and patient care with the development of an online learning network to teach value based care, and improved strategies for inpatient handoffs (Arora)
- The appointment of four new administrative leaders, Matthew Sorrentino, MD as Vice Chair for Clinical Operations, Steven White, MD as Associate Vice Chair for Appointments and Promotions, Anne Sperling, PhD as Associate Vice Chair for Research and Julie White as Executive Administrator
- The creation of the new Section of Computational Biomedicine and Biomedical Data Science under the leadership of Robert Grossman, PhD and Andrey Rzhetsky, PhD
- The appointment of Esra Tasali, MD as the director of the newly structured Sleep Research Center
- The recognition of four of our faculty with named professorships from the University: Thomas Gajewski, MD, PhD as the AbbVie Foundation Professor; Robert Grossman, PhD as the Frederick H. Rawson Professor; Sonali Smith, MD as the Elwood V. Jensen Professor and Nir Uriel, MD as the Louis Block Professor.
- National and international recognition for the work of many individuals including cancer disparities and global health (Olufunmilayo Olopade, MD), bioethics (Mark Siegler, MD), novel educational systems (Vineet Arora, MD), immunotherapy (Thomas Gajewski, MD, PhD)

Other noteworthy departmental highlights from this past year include:

- The appointment of two new section chiefs: Vesna Petronic Rosic, MD as Chief, Section of Dermatology, and Stacie Levine, MD as Chief, Section of Geriatrics and Palliative Medicine

Clinically, the Department of Medicine continued to impact patient care with new initiatives and connections in the community, city, and region. This included the expansion of the Department's clinical imprint at the University of Chicago Medicine's new offsite practices in Orland Park and Chicago's South Loop, at Ingalls Hospital as well as at satellite clinics in Indiana. The Department also continues to lead efforts relating to the growth of emergency and trauma services at UCM, and looks forward to the opening of the new Emergency Department in January, 2018 and the new Trauma Center in May, 2018.

I am very proud of the Department of Medicine's contributions over the past year and the remarkable advances our faculty have achieved in patient care, research and education. I thank them for their dedication to our tripartite mission.

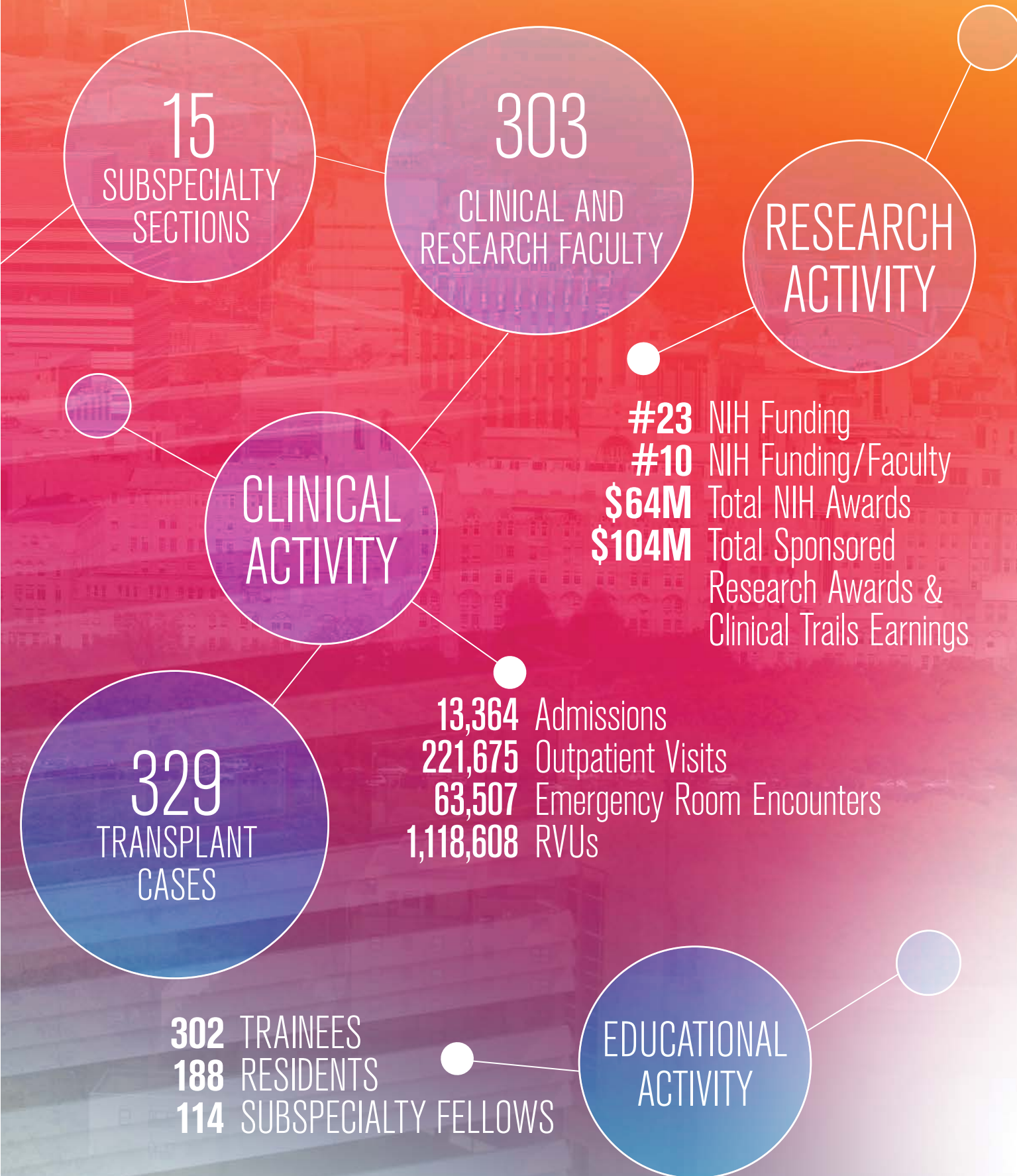
Everett E. Vokes, MD
John E. Ulmann Professor
Chairman, Department of Medicine
Physician-in-Chief, University of Chicago Medicine & Biological Sciences

department of medicine organization 2017

	Chairman, Department of Medicine	Everett E. Vokes, MD
Executive Committee:	Vice Chair of Appointments & Promotions Vice Chair of Education Vice Chair of Faculty Development Vice Chair of Research Vice Chair of Research (Basic) Associate Vice Chair – Appointments & Promotions Associate Vice Chair – Outpatients Operations Associate Vice Chair – Quality Associate Vice Chair – Research Associate Vice Chair – Urban Health Initiative/EMR & Transplant Executive Administrator Associate Executive Administrator	Dorothy Hanck, PhD John McConville, MD Deborah Burnet, MD Julian Solway, MD Bana Jabri, MD, PhD Steven White, MD* Lisa Vinci, MD Andrew Davis, MD Anne Sperling, PhD* Edward Garrity, MD Julie J. White James Manthey
Section Chief Council:	Cardiology Computational Biomedicine & Biomedical Data Science Dermatology Emergency Medicine Endocrinology, Diabetes & Metabolism Gastroenterology, Hepatology & Nutrition General Medicine Genetic Medicine Geriatrics & Palliative Medicine Hematology/Oncology Hospital Medicine Infectious Diseases & Global Health Nephrology Pulmonary/Critical Care Rheumatology	James Liao, MD Robert Grossman, PhD & Andrey Rzhetsky, PhD Vesna Petronic-Rosic, MD Linda Druelinger, MD Ronald Cohen, MD David Rubin, MD Deborah Burnet, MD Yoav Gilad, PhD Stacie Levine, MD * Walter Stadler, MD David Meltzer, MD, PhD David Pitrak, MD Arlene Chapman, MD Gokhan Mutlu, MD Marcus Clark, MD
Committee Chairs:	Diversity Committee Women's Committee	Monica Vela, MD Helen Te, MD Julie Oyler, MD*
Chief Residents	2017 Chief Residents:	Nikhil Bassi, MD Yasmin Karimi, MD Cathryn Lee, MD Aaron Tannebaum, MD
	2018 Chief Residents	Amrish Deshmukh, MD Abdul Dia, MD Michelle Fletcher, MD Erica MacKenzie, MD
Senior Management:	Budget and Finance Clinical Revenue and Billing Clinical Research Support Clinical Trials Financial Group Human Resources (Academic) Human Resources (Staff) Information Systems Research Administration	Sunila Goel Lisa Kogan Allison Buonamici Ashley Hoambrecker Sharon Frazier Chris Yaros Max Marchevsky Katie Pizer

*new in FY 18

department of medicine by the numbers



special awards 2017

Elected Fellows of the American Academy of Arts and Sciences

- Graeme Bell, PhD
- Olufunmilayo Olopade, MD

Elected Members of the Association of American Physicians

- Michael A. Becker, MD
- Eugene Chang, MD
- Arlene Chapman, MD
- Marcus Clark, MD
- Fredric Coe, MD
- Alan Leff, MD
- Bana Jabri, MD, PhD
- James Liao, MD
- David Meltzer, MD, PhD
- Olufunmilayo Olopade, MD
- Kenneth Polonsky, MD
- Mark J. Ratain, MD
- Samuel Refetoff, MD
- Angelo Scanu, MD
- Mark Siegler, MD
- Julian Solway, MD
- Everett Vokes, MD

Elected Members of the American Society for Clinical Investigation

- Marisa Alegre, MD, PhD
- Vineet Arora, MD⁺
- Michael A. Becker, MD
- Eugene Chang, MD
- Marcus Clark, MD
- Fredric Coe, MD
- Suzanne Conzen, MD
- Elbert Huang, MD, MPH
- Thomas Gajewski, MD, PhD
- Lucy Godley, MD, PhD
- Harvey Golomb, MD
- James Liao, MD
- Alan Leff, MD
- David Meltzer, MD, PhD
- Gokhan Mutlu, MD
- Olufunmilayo Olopade, MD
- Kenneth Polonsky, MD
- Samuel Refetoff, MD
- Angelo Scanu, MD
- Julian Solway, MD
- Everett Vokes, MD

Elected Members of the National Academy of Medicine

- Graeme Bell, PhD
- Marshall Chin, MD⁺⁺
- Robert Gibbons, PhD
- David Meltzer, MD, PhD
- Olufunmilayo Olopade, MD
- Kenneth Polonsky, MD

American College of Physicians Masters

- Holly Humphrey, MD
- Mark Siegler, MD

Department of Medicine Named Professorships

- Graeme Bell, PhD – Kovler Family Distinguished Professor
- Eugene Chang, MD – Martin Boyer Professor
- Marshall Chin, MD – Richard Parillo Family Professor in Healthcare Ethics
- Thomas Gajewski, MD, PhD – Abbvie Foundation Professor ⁺⁺
- Robert Gibbons, PhD – Blum Riese Professor⁺
- Harvey Golomb, MD – Lowell T. Coggeshall Professor
- Robert Grossman, PhD – Frederick H. Rawson Professor⁺
- Holly Humphrey, MD – Ralph W Gerard Professor
- James Liao, MD, PhD – Harold H. Hines, Jr. Professor
- Michelle Le Beau, PhD – Arthur and Marian Edelstein Professor
- David Meltzer, MD, PhD – Fanny L. Pritzker Professor
- Olufunmilayo Olopade, MD – Walter L. Palmer Distinguished Service Professor
- Nanduri Prabhakar, PhD – Harold H. Hines, Jr. Professor
- Kenneth Polonsky, MD – Richard T. Crane Distinguished Service Professor
- Mark Ratain, MD – Leon O. Jacobson Professor
- Samuel Refetoff, MD – Frederick H. Rawson Professor
- David Rubin, MD – The Joseph B. Kirsner Professor of Medicine
- Andrey Rzhetsky, PhD – Edna K. Papazian Professor⁺
- Christopher Shea, MD – Eugene J. Van Scott Professor
- Mark Siegler, MD – Lindy Bergman Distinguished Service Professor
- Sonali Smith, MD – Elwood V. Jensen Professor⁺⁺
- Julian Solway, MD – Walter L. Palmer Distinguished Service Professor
- Walter Stadler, MD – Fred C Buffett Professor
- Wendy Stock, MD – Anjali Seth Nayak Professor in Leukemia
- Nir Uriel, MD – Louis Block Professor⁺⁺
- Eve Van Cauter, PhD – Frederick H. Rawson Professor
- Everett Vokes, MD – John E. Ultmann Professor
- Irving Waxman, MD – Sara and Harold Lincoln Thompson Professor

⁺new in FY 17

⁺⁺new in FY 18



department of medicine awards

Distinguished Service Awards

- Joseph B. Kirsner, MD, PhD (2006)
- Janet Rowley, MD (2007)
- Louis Cohen, MD (2008)
- Morton Arnsdorf, MD (2009)
- Angelo Scanu, MD (2010)
- Keyoumars Soltani, MD (2011)
- Jesse B. Hall, MD (2013)
- Roy E. Weiss, MD, PhD (2014)
- Mark Siegler, MD (2014)
- Samuel Refetoff, MD (2015)
- Eve Van Cauter, PhD (2016)
- Roberto Lang, MD (2017)
- Dorothy Hanck, PhD (2017)

Arthur H. Rubenstein, MD Mentorship Award

- Eugene B. Chang, MD (2007)
- Julian Solway, MD (2008)
- Jesse Hall, MD (2009)
- Roberto Lang, MD (2010)
- Marshall Chin, MD (2010)
- Fredric Coe, MD (2011)
- Olufunmilayo Olopade, MD (2012)
- Deborah Burnet, MD (2013)
- Mary Strek, MD (2014)
- David Meltzer, MD, PhD (2015)
- Wendy Stock, MD (2016)
- Graeme Bell, PhD (2017)

Leif B. Sorensen, MD, PhD Faculty Research Award

- Suzanne Conzen, MD (2007)
- Marisa Alegre, MD, PhD (2008)
- Anne Sperling, MD (2008)
- Bana Jabri, MD, PhD (2009)
- Eric Svensson, MD, PhD (2010)
- Elbert Huang, MD (2011)
- Patrick Wilson, PhD (2012)
- Konstantin Birukov, MD, PhD (2013)
- Lucy Godley, MD, PhD (2013)
- John Schneider, MD, MPH (2014)
- Yu Ying He, PhD (2015)
- Esra Tasali, MD (2016)
- Monica Peek, MD (2017)

Diversity Award:

- Monica Vela, MD (2010)
- David Howes, MD (2011)
- Blanca Camoretti-Mercado, PhD (2012)
- Minoli Perera, PhD (2013)
- Monica Peek, MD, MPH (2014)
- John Schneider, MD, MPH (2015)
- James Woodruff, MD (2016)
- Doriane Miller, MD (2017)

Biological Sciences Division Awards

- Distinguished Educator/Mentor –
 - Dorothy Hanck, PhD
- Distinguished Clinicians:
 - Senior Awards – Edward Garrity, MD and Wendy Stock, MD
 - Junior Award – Kamala Cotts, MD
- Distinguished Leader in Program Innovation (Junior Awards) – Megan Huisingh-Scheetz, MD and Katherine Thompson, MD
- Distinguished Leader in Diversity and Inclusion :
 - Junior Award – Sonia Kupfer, MD
 - Senior Award – Monica Vela, MD
- Distinguished Leader in Community Service and Advocacy (Junior Award) – Anna Volerman, MD
- Francis Strauss Mentorship Awards: JP Kress, MD and Matthew Brady, PhD

faculty highlights

Sonali Smith, MD, Professor of Medicine (Hematology/Oncology) was named as the Elwood V. Jensen Professor effective July 1, 2017. Dr. Smith is an internationally recognized expert in lymphoma therapeutics who has made outstanding contributions to the field through her clinical care, education and clinical research. As Director of the Lymphoma Program for the University of Chicago Medicine, Dr. Smith's clinical research interests are in the development of new agents and rational combinations in the management of both treatment-naïve and relapsed/refractory lymphomas. She has a special interest in the prognosis and biology of lymphoma, with an ultimate aim to personalize approaches based on individual risk factors. She is currently studying the role of stem cell transplantation for patients with high-risk follicular lymphoma

Dr. Smith completed her medical and internal medicine residency training at Northwestern University where she also served as chief resident. In 1998 she joined the Department of Medicine's Hematology/Oncology fellowship program where she served as chief fellow for one year. Upon comple-

tion in 2001, she was appointed to the faculty as an instructor and successfully advanced through the academic ranks to assistant professor (2003), associate professor (2008) and was promoted to professor of medicine on March 1, 2017.

Dr. Smith currently serves in a number of leadership positions with national and international visibility. She is Vice-Chair of the Southwest Oncology Group (SWOG) Lymphoma Committee where she oversees clinical trial development at the cooperative group level and mentors faculty across the country. She is the incoming chair of the Continuous Professional Development Committee for the American Society of Oncology (ASCO) where she currently serves as the chair of the ASCO Women in Oncology Subcommittee, and as scientific track leader for Lymphoma/CLL. She is the incoming chair of ASCO's Continuous Professional Development Committee. Dr. Smith is an active member of the American Society of Hematology and is currently co-editor of Hematology, the society's annual education book and recently served as an elected representative to the American College of Radiology. Dr. Smith is also

co-chair of the Center for International Blood and Marrow Transplant Research (CIBMTR) Lymphoma Working Group, and is currently studying the role of stem cell transplantation for patients with high-risk follicular lymphoma. She serves on the Editorial Board of the *Journal of Clinical Oncology* and *Cancer*, and serves as a member of the National Cancer Institute's Lymphoma Steering Committee and on the Scientific Advisory Board for the Lymphoma Research Foundation (LRF).

Dr. Smith is also a highly regarded and dedicated educator and mentor. She recently co-chaired LRF 2017 Lymphoma Clinical Research Mentoring Program and chaired the LRF's Chicago Rounds. She is an elected fellow of the Pritzker School of Medicine's Academy of Distinguished Medical Educators and a Senior Faculty Scholar in the Bucksbaum Institute for Clinical Excellence. She has chaired, organized and given lectures at the International John Ultmann Chicago Lymphoma Symposium, now in its 15th year. As a scholar, she has published over 130 publications and lectures extensively to peers and/or patient audiences nationally and internationally.

SONALI SMITH, MD
Elwood V. Jensen Professor



THOMAS F. GAJEWSKI, MD, PHD
AbbVie Foundation Professor

Thomas Gajewski, MD, PhD, Professor of Pathology, Medicine, and the Ben May Department for Cancer Research was named as the inaugural AbbVie Foundation Professor. Dr. Gajewski is an outstanding physician scientist who combines basic, translational and clinical research to develop novel cancer immunotherapies. He has applied sophisticated technologies to generate improved understanding of the tumor/immune system interaction, and his current work focused on identifying how tumors actively evade immunity is transforming the cancer field.

Dr. Gajewski received his PhD in immunology in 1989 and his MD in 1991 from the University of Chicago. He is a graduate of the Department's Internal Medicine residency program and Hematology/Oncology fellowship program. For two years during his fellowship training, Dr. Gajewski conducted research at the Ludwig Institute for Cancer Research in Brussels, Belgium. In 1997 he was appointed to the faculty as an assistant professor in the Departments of Pathology and Medicine. He was promoted to associate professor in 2004, and professor in 2009.

Dr. Gajewski is responsible for several landmark discoveries, each of which has created new paradigms and opened up new research dimensions for his laboratory trainees and the field of cancer immunology as a whole. Early in his career, Dr. Gajewski developed vaccines to boost T cell responses against tumor antigens with the anticipation that it would drive cancer rejection. Although most patients developed immune responses against their tumors, only a subset of patients had tumor shrinkage. This observation generated a new hypothesis in the field—that the tumor itself might hold the key to resistance to host immunity. Using new genomics technologies, he identified a set of genes expressed in the tumor microenvironment that correlated with clinical outcome. Patients with clinical responses were those who, prior to therapy, already displayed T cell infiltrates in the tumor, suggesting that their immune system was initiating a response against the tumor, but these T cells appeared to be restrained by expression of inhibitory pathways. Dr. Gajewski identified several of these key negative signals, including PD-1/PD-L1 interactions, the tryptophan-catabolizing enzyme IDO, Foxp3+ regulatory cells, and intrinsic T cell

energy, and he characterized their mechanism of action. This work thus contributed to the identification of new therapeutic targets, all of which are being studied in clinical trials. The class of drugs farthest along is antibodies that block the PD-L1/PD-1 axis, which help restore the function of T cells already present at tumor sites. These discoveries have contributed to FDA approval of anti-PD1 antibodies for melanoma, and combination studies with IDO inhibitors that are in Phase 3 clinical trials.

A major question being addressed by Dr. Gajewski is why some patients fail to mount a spontaneous anti-tumor T cell response. Dr. Gajewski found that it is tumor-derived DNA that is sensed by innate immune cells, and that this happens via the STING pathway. This led to the development of new drugs that can stimulate the STING pathway, which also are now in Phase I clinical studies.

Dr. Gajewski also uncovered several mechanisms for why anti-tumor T cells fail to infiltrate the tumor in some patients and thus resist immunotherapy. Using genomic techniques, he identified tumor-intrinsic expression of β -catenin as a mechanism by which some tumors actively exclude T cells from the tumor microenvironment. This work had led to a prioritization of Wnt/ β -catenin pathway inhibitors as a therapeutic approach to expand immunotherapy efficacy. His current work is pursuing other oncogenes that can protect the tumor from the immune system and extending beyond melanoma to other cancers.

Dr. Gajewski has also recently discovered that certain components of the gut microbiota could stimulate the immune system to attack tumor cells, in a landmark paper published in *Science*, 2015. Recent work has identified a similar set of commensal bacteria associated with clinical response to anti-PD-1 in patients, and he is working with a new biotech company to develop probiotics that facilitate cancer immunotherapy.

Dr. Gajewski is the recipient of numerous awards including the American Cancer Society Jules L. Plangere Jr. Family Foundation Professorship in Cancer Immunotherapy. Most recently he was named as a recipient of an Outstanding Investigator Award by the National Cancer Institute, as a Giant in Cancer Care by OncLive, and received the William B. Coley award from the Cancer Research Institute. Dr. Gajewski also serves as editor for *Cancer Discovery* and the *Journal for Experimental Medicine*, is chair of NIH study sections focused on cancer immunotherapy grant review, and is past president of the Society for Immunotherapy of Cancer.



research programs overview

The Department of Medicine has a long tradition of conducting original and rigorous biomedical and clinical research of fundamental significance. Over the past year, Medicine investigators continued to connect bench research to clinical practice with many seminal discoveries.

For example, Medicine scientists discovered that the onset of Celiac disease could be triggered by prior Reovirus infection (Jabri, et al., *Science* 2017); created a new classification of common diseases based on how often they occur among genetically-related individuals (Rzhetsky, *Nature Genetics*, 2017); and discovered that Amish environment provides protection against asthma by engaging and shaping the innate immune response. (Hrusch, Sperling, et al., *New England Journal of Medicine*, 2016). Recognition of the Department's research programs is indicated by the consistent ranking among the top 25 NIH-funded departments of medicine by *US News and World Report*.

The Department has internationally recognized expertise in multiple domains including cancer, microbiome medicine, hypoxia, genetics, disparities/outcomes research, health services, autoimmunity and transplantation, mucosal immunology, endothelial biology, and critical care. The Department's investigative programs are diverse and span the translational research spectrum with important connections across the Biological Sciences Division, other University units and externally at Argonne National Laboratory and the Marine Biological Laboratory. Institutionally, Medicine faculty lead several multidisciplinary, intersec-

tional or interdepartmental programs, including the Comprehensive Cancer Center, Institute for Translational Medicine, Institute for Integrative Physiology, Center for Personalized Therapeutics, the Chronic Disease Center, Center for HIV Elimination, and the Center for Data Intensive Science.

New research initiatives in FY 17 included the creation of the Section of Computational Biomedicine and Biomedical Data Science (CBBDS) under the co-leadership of Robert L. Grossman, PhD, and Andrey Rzhetsky, PhD. CBBDS provides an intellectual home for faculty whose research interests encompass computational biomedicine, biomedical data science and biomedical informatics. Also in FY 17, Esra Tasali, MD, was appointed as the director of the newly structured Sleep Research Center. Dr. Tasali is an internationally recognized expert in the study of sleep disturbances as they relate to metabolic and endocrine abnormalities. As director, Dr. Tasali is developing cross-departmental collaborations to strengthen the sleep program. Relating to microbiome research, the Department created the Microbiome Medicine Program (MMP) under the co-direction of Eugene Chang, MD, and Marisa Alegre, MD, PhD, to advance the tools and practice of precision medicine through discovery and knowledge of microbiomes and their role in

human health and disease. Currently 47 faculty from across 10 sections in the Department are actively pursuing microbiome research. In other research highlights, the Section of Genetic Medicine led by Yoav Gilad, PhD, established single cell genomic services for the Department and Biological Sciences Division, and Anne Sperling, PhD, was appointed as Associate Vice Chair for Research to oversee the development and mentoring of research focused senior fellows and junior faculty.

Also in FY 17 the Department created a Research Advisory Committee (RAC), co-directed by Research Vice Chairs, Julian Solway, MD, and Bana Jabri, MD, PhD, to develop a short and long term research strategic plan for the Department that optimizes research excellence and enhances interdisciplinary research in collaboration with BSD and the University at large. Accomplishments to date includes the organization and participation in two research retreats to define the Department's thematic research priorities and launching of a nationwide search for research focused translational scientists. The Department is also augmenting the career development of junior faculty through the efforts of the newly formed Mentorship/Retention/Leadership Committee led by the Vice Chair for Faculty Development, Deborah Burnet, MD.



Drs. Bana Jabri, Julian Solway, and Anne Sperling

In FY 17 the Department of Medicine's research portfolio totaled nearly \$64M in federal awards, \$29M in industry funded grants/clinical trial earnings and almost \$11M in other non-federal awards. The Department is home to several NIH funded program or center grants as well as 10 T series and 3 K12 training programs. Other federal awards include 51 R series and 18 K (career development) grants. The Department's goal to train the next generation of academic physicians scientists successfully yielded 3 new NIH individual career development (K) awards and 2 fellowships during the past year as well as the renewal of the Endocrinology Training Grant (Graeme Bell, PhD, and Samuel Refetoff, MD, Pls). The Department conducted more than 1,805 clinical research studies, including 587 industry-funded studies.

The third annual Janet D. Rowley Research Day was held on March 6, 2017. The day commenced with an outstanding talk by Jeffrey Bluestone, PhD, the A.W. and Mary Margaret Clausen Distinguished Professor and Director of the Hormone Research Institute at the University of California at San Francisco. Best abstract winners in the faculty category include Kristin Bergsland, PhD, Joyce Tang, MD, Amy Gurlanick, MD and Willard Sharp, MD, PhD and Alexandria Bobe, MS, Julia Caldwell, PhD, Kristen Whitaker, MD and Toru Shimizu, MD, PhD in the trainee category.

Recognizing the research success of an outstanding mid-level scientist, the Department selected Monica Peek, MD, Associate Professor of Medicine, as the recipient of the 2017 Leif B. Sorensen, MD, PhD, Faculty Research Award for her pioneering research on shared decision-making among African-Americans with diabetes and effective community engagement to improve diabetes outcomes and reduce health disparities.

Department of Medicine Programmatic Awards

- **Marisa Alegre, MD, PhD⁺** – Infections and the Stability of Transplantation Tolerance (P01)
- **Michelle Le Beau, PhD** – University of Chicago Comprehensive Cancer Center (P30)
- **Graeme Bell, PhD** – Diabetes Research Training Center (P60)
- **Nanduri Prabhakar, PhD** – Integrative Consequences of Hypoxia (P01)
- **Eugene Chang, MD** – Inflammatory Bowel Disease and Mucosal Inflammation, Immunology, and Microbiology of the G.I. Tract (P30)
- **Elaine Worcester, MD⁺** – Pathogenesis of Calcium Nephrolithiasis (P01)
- **Marshall Chin, MD & Monica Peek, MD** – Chicago Center for Diabetes Translation Research (P30)

Select High Impact Awards*

- **Marc Bissonnette, MD⁺** – Development of 5HMC and 5MC Biomarkers in Cell-Free Circulating DNA for Sensitive Colon Cancer Detection and Prognosis (U01)+
- **Nanduri Prabhakar, PhD** – Therapeutic Targeting of Carotid Body Chemoreflex for Sleep Disordered Breathing (UH3)
- **Marcus Clark, MD** – Medical Scientist Training Program
- **Andrey Rzhetsky, PhD** – Big Machine Science (DARPA)
- **David Ehrmann, MD & Eve Van Cauter, PhD** – Enhancement of Beta Cell Function with Pharmacologic and Sleep Apnea Treatment (U01)
- **Renslow Scherer, MD** – WUMER Project
- **Robert Grossman, PhD** – The Open Genomic Data Commons (OGDC)
- **Anne Sperling, PhD** – Functional Genomics of IL-33 Expression and Asthma Risk
- **Karen Kim, MD** – Cook County Colon Cancer Alliance to Reignite and Enhance Screening (CDC)
- **Julian Solway, MD⁺** – ITM 2.0 Advancing Translational Science in Metropolitan Chicago (UL1)
- **Yusuke Nakamura, MD, PhD** – Development of New Targeted Cancer Therapies (OncoTherapy Science)
- **David Pitrak, MD** – University of Chicago Program for Expanded Human Immunodeficiency Testing for Disproportionately Affected Populations in Healthcare Settings in Chicago (CDPH)

*Represents \$800K+ in annual total cost funding

*New/competitively renewed in FY 18

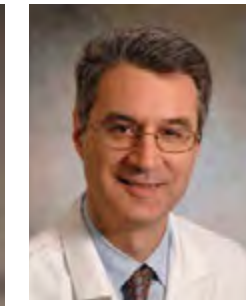
A list of the DOM's FY 17 Total Sponsored Research Awards can be found at: medicine.uchicago.edu



clinical programs overview

The Department of Medicine's clinical programs demonstrate excellence across a broad spectrum of subspecialty patient care services for the treatment of highly complex diseases. In FY 17, the Department's clinical innovators continued to impact patient care with a multitude of groundbreaking therapies and technologies. Many examples exist such as connecting research to the development of targeted therapeutic and immunotherapeutic strategies to improve the responsiveness of cancer, linking machine learning methods to cardiac arrest predictions, and associating data mining techniques to identify patients at high risk of sepsis, as well as helmet ventilation to help critically ill patients breathe better. In addition, over the past year the Department expanded its clinical imprint in the city and the region with significant presence at the University of Chicago Medicine's (UCM) new offsite practices in Orland Park and in the Chicago's South Loop, at Ingalls Hospital, as well as at satellite clinics in Indiana.

The Department of Medicine is an institutional leader as measured by faculty count and physician work RVUs generation, and a major contributor to the overall success of the University of Chicago Medicine (UCM). In FY 17, Medicine clinical faculty continued to perform at a strong level by generating nearly 1.12 million physician work RVUs (wRVUs), representing a significant portion of the clinical practice activity of the entire UCM and a 1.3% increase over last fiscal year.



Dr. Matthew Sorrentino

Park and South Loop include clinical programs in cardiology, primary care, oncology, gastroenterology, diabetes and pulmonology, and complement the five ambulatory care centers run by Ingalls throughout the South and Southwest suburbs.

The Department's Clinical Operations Committee (Matthew Sorrentino, MD - Director) launched many new initiatives in FY 17 to enhance clinical productivity and provider, housestaff and patient satisfaction, including refining inpatient service models, developing formal educational curriculum for cardiac and hematology/oncology services and enhancing new patient access. Wait times for new and return patients have been significantly reduced by initiatives that give patients more immediate access to ambulatory care. Within the area of clinical research, many of the Department's dedicated clinicians produce practice changing clinical research. The Department has a robust and highly productive therapeutic clinical trials program and broad expertise in drug development, especially targeted therapies. In FY 17 the Department conducted more than 1,800 clinical research studies, including nearly 600 industry-funded studies.

In FY 17 the University of Chicago Medicine continued to be recognized as one of the safest hospitals in the country for the 11th consecutive time by the prestigious and independent Leapfrog Group. In Leapfrog's semi-annual Hospital Safety Score, UCM garnered "Straight A's" designation for its consistency in delivering the highest level of quality and protecting its patients from preventable medical errors, injuries and infections while in the hospital. Only 63 out of 2,600 hospitals nationwide have earned continuous top marks in the twice-a-year review by The Leapfrog Group.

In FY 18 the Department looks forward to the opening of the new Emergency Department and Trauma Center as well as working with UCM leadership to finalize plans for the conversion of Mitchell Hospital into a 188 bed Cancer Hospital.



Dr. Peter Reidell with internal medicine residents

Dr. Berry assesses a patient in CCP clinic

On the inpatient side, admissions increased by 3.6% to approximately 13,360. The Department's on-site outpatient subspecialty practices and primary care visits totaled 194,000 while the offsite subspecialty practices at 150 E. Huron and at South Shore Senior Health Center recorded 15,724 and 8,035 visits, respectively. GI procedure volumes totaled nearly 18,000 with the largest increase in interventional procedures (up 6%). In FY 17, transplant cases totaled 329 representing an increase of over 14% with bone marrow transplants accounting for about half (164) of the volume. The biggest increases were seen in liver transplants (up 58%) and heart transplants (up 34%).

In FY 17 the University of Chicago Medicine and the Heart and Vascular Center opened a new 1,500 square foot Arrhythmia Technology Suite, which employs state-of-the-art magnetic technology for cardiac electrophysiological (EP) mapping and ablation. Under the direction of Roderick Tung, MD the EP lab is the lead site in

the United States evaluating this new technology in patients suffering from ventricular tachycardia.

With over 63,500 visits in FY 17, the Emergency Department (ED) focused efforts on preparing for the opening of the new emergency room on January 8, 2018. With leadership from Thomas Spiegel, MD, many operational improvements were achieved in FY 17 including reduction in length of stay and left without being seen. Soon after the new EM opens the UCM will launch Level 1 adult trauma services in spring 2018. The Center for Liver Diseases was expanded with the recruitments of Michael Charlton, MD (Director) Anjana Pillai, MD and Sonali Paul, MD, and the launch of a multidisciplinary Liver Tumor Clinic that includes coordinated visits with hepatology, surgery, oncology and other specialties.

Also noteworthy in FY 17 was the opening of two offsite ambulatory practices with significant clinical representation from the Department of Medicine. The UCM's Centers for Advanced Care at Orland



educational programs overview

The Department of Medicine is deeply committed to the education and training of skilled physician scientists and leaders bound for careers in academic medicine in an environment supporting cultural diversity and patient safety. Under the leadership of John McConville, MD, the Department's educational programs continue to successfully prepare trainees for careers in clinical medicine, teaching, and biomedical research.

Within the Internal Medicine Residency (IMR) Program, 85% of the graduates pursue subspecialty training. The 2016 fellowship match successfully matched 36 residents into many of the most competitive and premier fellowship programs in the country, including 11 who continued their training at the University of Chicago. Cardiology was the most popular fellowship choice with 8 house staff matching to outstanding programs across the country. Other frequent fellowship choices included gastroenterology (6), pulmonary/critical care (4), geriatrics (4), hematology/oncology (3) and palliative care (3).

In FY 17, Shannon Martin, MD and Amber Pincavage, MD led the IMR Intern Selection Committee. An outstanding PGY 1 class of 41 interns (10% URM's) was successfully recruited from almost 1900 applicants. IMR applicants from some of the most prestigious medical schools continue to be attracted to the rigorous clinical training, diverse patient population and outstanding faculty mentorship. Led by James Liao, MD, the Physician Scientist Development Program

recruited four outstanding MD/PhDs to continue their residency and fellowship training in cardiology, gastroenterology, hematology/oncology and infectious diseases in the Department.

With leadership from Christine Babcock, MD, the Emergency Medicine (EM) Residency Program continued to expand its robust education platform focusing on a cutting edge didactic curriculum, medical education research, and simulation opportunities for residents. In FY 17, the didactic curriculum was expanded to include diversity, quality improvement, and a wellness series to ensure a well-balanced curriculum for the EM learners as well as a formal ultrasound education for both the EM residents and the Pritzker School of Medicine students. The education platform was also expanded to include Emergency Medicine Services education and Disaster Medicine training under the direction of Katie Tataris, MD. Medical education continues to be strength and a focus in the EM program, with a total of five Emergency Medicine residents having completed University of Chicago MERITS/GME Schol-

ars training. Additionally, the Section of Emergency Medicine continued to recruit talented and competitive medical education scholars to participate in the Medical Education Fellowship (James Ahn, MD - Director). This year the Section welcomed former resident and Pritzker graduate Paul Kukulski, MD as a two-year Medical Education Scholar. From a research standpoint, curricular, simulation and procedure-based research has been published and presented nationally. For example, Eric Shappell, MD created an innovative web-based "flipped classroom" curriculum for EM interns which is currently in use by many programs nationally and internationally.

The Section of Dermatology pursues its mission of contributing to the field of academic dermatology and providing excellent resident education and training. The Dermatology Residency Program led by Sarah Stein, MD, received over 500 applications in 2016, and successfully matched outstanding candidates to each of the three available positions. Additionally, the Section hosted numerous Pritzker medical students and visiting medical students on



Dr. McConville with the Resident Research Day Abstract Winners

the clinical dermatology elective rotation. The Dermatopathology Fellowship Program, led by Vesna Petronic - Rosic, MD, continues to attract dermatology and pathology trained graduates seeking specialty training in dermatopathology, with over 40 applicants for one training position in FY 17. In continuing medical education, the Section hosted the annual Chicago Dermatological Society Educational Conference in December, 2016. This event included the Allen Lorincz Memorial Lecture as well as the Maria Medenica Dermatopathology Lecture, both of which were presented by Victor G. Prieto, MD, PhD, Chair of the Department of Pathology at the University of Texas MD Anderson Cancer Center. Dr. Prieto spoke on the updated recommendations for melanoma reporting and the use of special studies in the diagnosis of melanocytic lesions.

In FY 17 the Medicine/Pediatrics Residency Program led by Rita Rossi-Foulkes, MD had another successful match, recruiting 4 top ranked candidates into 4 open slots. Strong faculty mentorship by the internal medicine, pediatric and medicine – pediatrics faculty along with rigorous training in both disciplines and the diverse patient population attract top applicants. Candidates are also attracted to the LUCENT primary care track and the MedPeds PATHways (Program for Adolescent and Adult Transition to Health) program to improve care of adolescents and young adults with chronic childhood conditions. In FY 17, two graduating medicine-pediatrics residents completed the MacLean Fellowship in Medical Ethics and one resident completed the MERITS Medical Education Fellowship. In addition

three graduates matched at competitive fellowships in allergy-immunology, endocrinology, and palliative care at University of Michigan, Mayo Clinic and Vanderbilt respectively and the other graduate is currently serving as Pediatric Chief Resident at UCM.

Honors: The Department of Medicine's extraordinary pool of talented educators continue to be recognized for their excellence in undergraduate and graduate medical education both institutionally and nationally. In FY 17, Drs. Jeanne Farnan, Philip Hoffman, and Scott Stern were recognized as "Favorite Faculty" by the Pritzker graduating class for the seventh time in as many years. Dr. Farnan was also selected as the 2017 Clinical Teacher of the Year by the internal medicine residents. Graeme Bell, PhD was awarded the Department's Arthur Rubenstein Mentorship Award and Naveet Cheema, MD was the recipient of the Emergency Medicine Mentorship Award. Rita Rossi-Foulkes, MD was awarded the first University of Chicago Medicine-Biological Sciences Division Program Director of Year Award.

The Department is the home to several nationally recognized medical research training programs, including 10 NIH-funded training (T32) grants in cardiology, adult and pediatric endocrinology, oncology, respiratory biology, digestive diseases, social science and aging, mental health, clinical therapeutics, sleep, as well as the medical scientist training program. The Department also holds three NIH (K12) Career Development Grants in oncology, lung disease and outcomes research.



Dr. Vokes with Dr. Poston at the 2017 Medicine Awards Day

Division of Biological Sciences Awards:

- Francis Strauss Mentorship Award – Matthew Brady, PhD and JP Kress, MD

Department of Medicine Awards:

- Preclinical Teacher of the Year – Peter O'Donnell, MD
- Clinical Teacher of the Year – Jeanne Farnan, MD
- Postgraduate Teaching – Jason Poston, MD
- Arthur Rubenstein, MD Mentorship Award – Graeme Bell, PhD

Medicine Resident Teaching Awards:

- JP Kress, MD
- Nitasha Sarswat, MD
- Marion Hofman-Bowman, MD, PhD
- Ted Naureckas, MD
- Emergency Medicine Resident Awards:
 - Outstanding Emergency Medicine Faculty Member Clinical Teaching – David Harter, MD
 - Outstanding Emergency Medicine Faculty Member Mentorship – Naveet Cheema, MD
- Resident Research Day 2017
 - Most Outstanding Research Poster – Priya Mehta, MD
 - Housestaff Choice Award – Linda Lee, MD
 - Most Outstanding Clinical Vignette – Parita Patel, MD

Pritzker School of Medicine Education and Mentorship Awards:

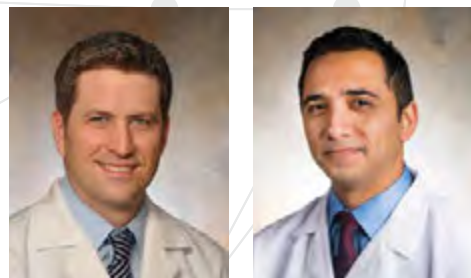
- Favorite Faculty Award Winners:
 - Adam Cifu, MD
 - Keme Carter, MD,
 - Jeanne Farnan, MD,
 - Philip Hoffman, MD,
 - Mindy Schwartz, MD
 - Scott Stern, MD,

section of cardiology



Dr. James K. Liao

Under the leadership of James K. Liao, MD, the Section of Cardiology enjoyed success across its clinical, research and educational programs in FY 17. This includes the expansion of the clinical programs with the opening of the new Arrhythmia Technology Suite and the establishment of important connections with Ingalls Health System to provide electrophysiology (EP), interventional cardiology, and advanced heart failure services outside the medical center.



Dr. Michael Broman
Dr. Jayant Raikhelkar
Dr. Corey Tabit

In FY 17 the Section welcomed five junior faculty to enhance its heart failure, electrophysiology and research programs. Jayant Raikhelkar, MD, assistant professor of medicine, specializes in heart transplantation and ventricular assist devices. Zaid Aziz, MD, assistant professor of medicine, is an interventional electrophysiologist with academic interests in the management of complex arrhythmias with a particular focus in high density mapping of scar substrates in the heart and innovative treatment options. Karima Addetia, MD, assistant professor of medicine, is a cardiac imaging expert with academic interests in right ventricular function and strain. Adding to the cardiovascular research program were the recruitments of Michael Broman, MD, PhD, assistant professor of medicine, and Corey Tabit, MD, instructor. Dr. Broman is

a clinical electrophysiologist and a physician scientist, who currently holds a NIH K award investigating mitochondrial mechanisms of atrial fibrillation and the role of cellular energetics and metabolism in mechanisms of arrhythmias. Dr. Tabit examines the effects of mechanical circulatory support on the blood vessels.

In FY 17 the University of Chicago Medicine and the Heart and Vascular Center opened a new 1,500 square foot Arrhythmia Technology Stereotaxis Suite, which employs state-of-the-art magnetic technology for cardiac electrophysiological mapping and ablation and is the lead site in the United States evaluating this new technology in patients suffering from ventricular tachycardia. Under the direction of Roderick Tung, MD, the laboratory was the first in Chicago to perform the first radiofrequency ablation of ventricular tachycardia using this technology. The EP lab also performed the first two pulmonary denervation procedures to treat pulmonary hypertension in the United States.

Also contributing to the Section's clinical programs expansion was the Advanced Heart Failure (AHF)/Cardiac Transplant/Mechanical Circulatory Support Program (Nir Uriel, MD-Director). In FY 17, 38 adult heart transplants were performed with 100% survival rate to date, 4 combined heart-kidney transplants were performed and 52 adults received LVAD

implants (88.5% survival rate to date). The AHF program also successfully implanted the first ever ambulatory intra-aortic balloon pump iVAS as part of a clinical trial and 7 patients were enrolled in the CardioMEMs program.

The Cardiovascular Imaging Center (Roberto Lang, MD-Director) is recognized for pioneering many of the cardiac and vascular imaging techniques used around the world. In FY 17, the Imaging Center realized growth across all domains including echocardiograms, cardiac CTs, cardiac MRIs, and nuclear studies over last year. The Interventional Cardiology/Cardiac Catheterization Program (Sandeep Nathan, MD, and Atman Shah, MD-Co-Directors) also experienced growth in coronary angiography and coronary interventions. In FY 17, the Cath Lab launched two new clinical initiatives: the MitraClip (percutaneous edge to edge mitral repair) Clinical Program and the Pulmonary Embolism Response Team Program.

The Section of Cardiology's research programs are robust with over 200 published manu-

scripts in FY 17. New funding include two new American Heart Association grants to Drs. Liao and Tabit to study RGS5 as a novel therapeutic target for ischemic stroke and to investigate the molecular mechanisms of non-surgical bleeding in patients with continuous-flow left ventricular assist devices, respectively. Tamar Polonsky, MD received an award from the Patient Centered Outcomes Research Institute (PCORI)/Chicago Community Trust to assess the benefits and long term effectiveness of aspirin dosing.

In the educational realm, the Section is home to one of the oldest National Institutes of Health-funded cardiovascular research programs in the nation as well as four ACGME accredited fellowship training programs. The 7th annual Morton F. Arnsdorf Cardiovascular Sciences Research Day, co-chaired by Francis Alenghat, MD, PhD, and Marion Hofmann-Bowman, MD, PhD, featured nearly 106 presentations by faculty and trainees. In FY 17, Dr. Hofmann-Bowman and Nitasha Sarswat, MD, were recognized for excellence in teaching by the Department of Medicine Residency Program.

Professors:

James Liao, MD (Chief)
Jafar Al-Sadir, MD (Emeritus)
Louis Cohen, MD (Emeritus)
Jeanne DeCara, MD
Dorothy Hanck, PhD
Roberto Lang, MD
Victor Mor-Avi, PhD*
Matthew Sorrentino, MD
Kirk Spencer, MD
Nir Uriel, MD
Parker Ward, MD

Associate Professors:

Marion Hofmann-Bowman, MD, PhD
Sandeep Nathan, MD
Amit Patel, MD
Atman Shah, MD
Roderick Tung, MD

Assistant Professors:

Karima Addetia, MD
Francis Alenghat, MD, PhD
Zaid Aziz, MD
Andrew Beaser, MD+
John Blair, MD
Michael Broman, MD, PhD
Sara Kalantari, MD+

Gene Kim, MD
Hemal Nayak, MD
Cevher Ozcan, MD
Jonathan Paul, MD
Tamar Polonsky, MD
Jayant Raikhelkar, MD
Nitasha Sarswat, MD
Gabriel Sayer, MD
Corey Tabit, MD+
Gaurav Upadhyay, MD
Rongxue Wu, PhD*

Instructor:

Wendy Hernandez, PhD+

Clinical Associates:

Marlon Everett, MD
Ankur Shah, MD
Evan Stein, MD

Part Time

Michael Davidson, MD

Section Administrator

Nishq Mody (interim)

*Research Appointee Track Faculty
+ new FY 18 faculty

Impactful Accomplishments and Discoveries:

- **Roberto Lang, MD** – Recipient of 2017 Department of Medicine Distinguished Service Award, the 2017 Gold Medal Award from the Cuban Society of Cardiology and appointed to the Board of Directors of the National Board of Echocardiography
- **James Liao, MD** – Recipient of 2016 Lifetime Scientific Achievement Award from the Chinese American Medical Society
- **Matthew Sorrentino, MD** – Appointed as Vice Chair for Clinical Operations for the Department of Medicine
- **Nir Uriel, MD** – Named as the Louis Block Endowed Professor and selected as the national PI of MOMENTUM 3 Study and Associate Editor of *Circulation Heart Failure*
- **Roderick Tung, MD** – Appointed to Editorial Board of *Heart Rhythm*
- **Amit Patel, MD** – Named as Vice Chairman of the Oversight Committee for Cardiac MRI Boards and appointed the Director of Cardiac MRI/CT Program
- **Gaurav Upadhyay, MD** – Selected to the Heart Rhythm Society Emerging Leaders Program and selected to EP Council of the American College of Cardiology

During the past year, Section of Cardiology investigators:

- Conducted a six-month analysis of the pivotal MOMENTUM 3 trial and found that patients implanted with the new HeartMate 3 left ventricular assist system (LVAS) had fewer adverse clotting and bleeding events than patients implanted with the control, HeartMate II LVAS (Uriel, et al., *Circulation*, 2017)
- Determined the mechanism of non-surgical bleeding in left ventricular assist device (LVAD) patients occurs via increased angiopoietin-2 (Tabit, Kim, Sayer, Uriel, Liao, et al., *Circulation*, 2017) and tissue necrosis factor-alpha (Tabit, Uriel, Liao, et al., *Journal of Heart & Lung Transplantation*, 2017)
- Showed how deficits in a specific pathway of genes can lead to the development of atrial fibrillation, a common irregular heartbeat, which poses a significant health risk (Broman, et al., *Science Translational Medicine*, 2016)
- Found that platelet ROCK2 plays an important role in the development of cardiac diastolic dysfunction (Liao, et al., *Journal of Investigation Insight*, 2017) and in platelet function and thrombosis (Liao, et al., *Cardiovascular Research*, 2017)
- Found novel associations with quantitative phenotypes related to cardiovascular disease (Cusanovich, Lang, DeCara, Gilad, et al., *Human Molecular Genetics*, 2016)

section of computational biomedicine and biomedical data science



Dr. Robert L. Grossman
Dr. Andrey Rzhetsky

In October 2016 the Department of Medicine announced the creation of the Section of Computational Biomedicine and Biomedical Data Science (CBBDS) as the 15th subspecialty section. Under the direction of Co-Chiefs, Robert L. Grossman, PhD, and Andrey Rzhetsky, PhD, the Section provides an intellectual home for faculty whose research interests encompass computational biomedicine, biomedical data science and biomedical informatics.

Biomedical data science and computational biomedicine are becoming increasingly important for making discoveries in the biological sciences, for improving medical care, and for contributing to the emerging field of digital health, and Dr. Grossman and Dr. Rzhetsky are leaders in these fields. Dr. Grossman, the Frederick H. Rawson Professor, Chief Research Informatics Officer of the Biological Sciences Division and Director of the Center for Data Intensive Science, is an expert in data intensive computing and its applications to biology, medicine and healthcare. Dr. Rzhetsky, the Edna K. Papazian Professor of Medicine and Human Genetics and Senior Fellow of the

Computation Institute, is an expert in computational analysis of complex human phenotypes.

In FY 17, Dr. Grossman continued to lead efforts relating to the unique information system called the Genomic Data Commons (GDC) to host, analyze and share genomic and clinical data from patients with cancer and connect it to the cancer research community. The GDC was launched in June of 2016 as part of President Obama's Precision Medicine Initiative, following two years of initial development with the goal to promote precision medicine approaches to the diagnoses and treatment of cancer. The impact of the GDC on precision medicine

was described in a Perspective in the *New England Journal of Medicine* (Grossman, et al., October 2016) and in *Blood* (Jensen, et al., July, 2017)

Additionally, Dr. Grossman led the development of the BloodPAC Data Commons (bloodpac.org), which was launched by Vice President Biden as part of the Cancer Moonshot project in October 2016, and is now a private-public partnership of 26 companies, universities, and government agencies to accelerate the development and validation of liquid biopsy assays to improve the outcomes of patients with cancer. The value of blood profiling in assessing and monitoring cancer was recently illustrated in *Clinical Pharmacology & Therapeutics* (Grossman, et al., 2017). Also in 2017, supported by a grant from the Cohen Veterans Bioscience (CVB) Foundation, Dr. Grossman began the development of a data commons, called the Brain Commons, to support precision medicine for brain health, including the diagnosis and treatment of PTSD, traumatic brain injury and major depressive disorders.

In FY 17, Dr. Rzhetsky led several projects focused on computational analysis of complex human phenotypes. He and his team analyzed the medical records for over a third of the entire United States population to create a subset of 128,989 families (481,657 unique individuals). The team then used this subset to 1) estimate the heritability and familial patterns of 149 diseases,

Dr. Grossman with Dean Kenneth Polonsky at GDC launch



spanning nearly all branches of current nosology, and 2) estimate the genetic and environmental correlations between disease pairs from a set of 29 complex diseases. They found that the genetic correlation value of each complex disease pair differed significantly from its environmental correlation value. Furthermore, some pairs had genetic and environmental correlation values that were significantly negative in one realm and positive in the other. The majority of the study's narrow-sense heritability estimates were consistent with the previously published literature (52 out of 65 estimates matched to previously published estimates), and 84 of his estimates appear to be obtained for the first time. The relatively small estimates of common-parental and common-sibling environments are notable given the scale of the data. A systematic assessment of the genetic and environmental relationships among diseases offers considerable advantages as an approach to disease classification, with potential for both improved understanding of disease mechanisms and additional insight into therapies that might be effective across diseases with shared genetic or environmental etiology.

Another project led by Dr. Rzhetsky focused on causal analysis of outbreaks of seasonal influenza. State-of-the-art research points to a seasonal drop in humidity, which increases virus stability and thus the duration of its infectious, air-borne circulation. Using three orthogonal statistical



analyses aimed at elucidating the causes of influenza outbreak, Dr. Rzhetsky found that the weather's role in this matter is distinct from that proposed in the literature and extends beyond the drops in humidity which precede infection onset. He used several, very large geo-temporal datasets, spanning the continental US for more than nine years. These datasets include: insurance claims for over 150 million people, human movement patterns inferred from billions of tweets, and whole-US weekly weather data covering the same time span as the medical records. He also explicitly accounted for the temporal and spatial auto-correlations of an infectious wave, predicting infection in each county as a function

of infection changes in the county's neighbors and the county itself, in the recent past. The data shows that typical US epidemics start in the southern continental coastline, and that infection waves flow from south to north, and inland. As expected, influenza propagation is affected by human movement (both long-and short-range), but the contribution of short-range land movement dominates disease spread. Additionally, he found that influenza epidemics are triggered by a conjunction of several factors: weather conditions (beyond just a drop in specific humidity), proximity to major airports, demographics, and degree of urbanity. Results from these studies were recently published in *Nature Genetics*.

section of dermatology



Dr. Vesna Petronic-Rosic

In May 2017, Vesna Petronic-Rosic, MD, was appointed Chief of the Section of Dermatology after leading the Section in an interim capacity for the past year. Dr. Petronic-Rosic joined the faculty of the Department of Medicine in 2003 where, in addition to her new role as Chief, she currently serves as Professor of Dermatology and Pathology and Director of the Dermatopathology Fellowship Training Program. While working to strengthen the clinical, research and educational programs of the Section of Dermatology, Dr. Petronic-Rosic's vision also includes the creation of a Skin Cancer Center of Excellence, a premier center for diagnosis, treatment and comprehensive care of patients with melanoma and non-melanoma skin cancers, as well as patients whose skin is affected by treatments for other cancers or who are at high risk of developing skin cancer due to other diseases or treatments.



Dr. Adena Rosenblatt

As one of the top programs in the nation focused on understanding, diagnosing, and treating the skin and its diseases, the Section of Dermatology is committed to providing outstanding patient care, creating innovative research, and training the future leaders in the field. In the clinical enterprise, the Section continues to be productive in outpatient visits and procedures, and in providing the highest quality interpretation of dermatopathology cases. In recognition of their outstanding patient care, three faculty were recognized by *Chicago* magazine (January 2017) as Top Dermatology Cancer Doctors: Drs. Petronic - Rosic, Christopher Shea and Diana Bolotin. Arlene Ruiz De Luzuriaga, MD, MPH, was recognized by Castle Connelly as a Top Doctor in 2016.

In FY 17, Adena Rosenblatt, MD, PhD, joined the Section of Dermatology as assistant professor



2017 Dermatology faculty

of medicine. Dr. Rosenblatt's goal is to build a comprehensive pediatric dermatology clinical practice focused on the diagnosis and management of childhood skin diseases. Dr. Rosenblatt has a special interest in vascular skin lesions and is a member of the Vascular Anomalies Group at the University of Chicago. As a physician-scientist, Dr. Rosenblatt has a particular interest in quality improvement and ensuring patient access to healthcare. She is exploring innovative ways to use information technology and tele dermatology to enhance patient care. The Section also welcomed Amy Derick, MD, as its inaugural Associate Member in 2017. Dr.

Derick is the owner and Chief Medical Officer at Derick Dermatology which operates 4 practices in the far northwestern suburbs of Chicago and is recognized as a *Chicago* magazine (January 2017) Top Dermatology Cancer Doctor.

The Section's investigative programs are focused on the fundamental question of how cells respond to radiation and chemicals from internal or external sources to cause cancer. Dr. Yu-Ying He's laboratory continues to investigate the mechanism of global genome nucleotide excision repair (GG-NER) regulation by autophagy, and its impact on UVB-induced skin tumorigenesis and tumor progression with the hope to provide new

Professors:
Vesna Petronic-Rosic, MD (Chief)
Christopher R. Shea, MD
Keyoumars Soltani, MD

Clinical Associates:
Juliana Basko-Piluska, MD
Arlene Ruiz De Luzuriaga, MD,

Associate Member:
Amy Derick, MD

Associate Professors:
Sarah L. Stein, MD
Yu-Ying He, PhD

Section Administrator:
Nishq Mody

Assistant Professors:
Diana Bolotin, MD, PhD
Adena Rosenblatt, MD, PhD

Part-Time Faculty:
Vivek Iyengar, MD

molecular insights for developing effective GG-NER modulators for cancer prevention and therapy. In FY 17, Dr. He was the recipient of a Janet D. Rowley Discovery Award to further her work in defining the role of RNA methylation in melanoma.

The Dermatology Residency Program (Sarah Stein, MD-Director), continues to recruit and train outstanding young dermatologists and works to foster the core values of collegiality, scholarship, professionalism, and accountability. The Dermatopathology Fellowship Program, led by Dr. Petronic-Rosic, also remains strong, providing an excellent training experience to an elite group of dermatologists and pathologists.

Impactful Accomplishments, Highlights, and Discoveries:

- **Vesna Petronic-Rosic, MD** – Recipient of the 2017 Exceptional Women in Medicine Award from Castle Connolly and named as Treasurer, International Academy of Cosmetic Dermatology
- **Christopher R. Shea, MD** – Served as Editor in Chief of the *Journal of Cutaneous Pathology* and was the recipient of the Founders Award from the American Society of Dermatopathology, in recognition of his outstanding original and significant contributions to the field of Dermatopathology
- **Arlene Ruiz De Luzuriaga, MD** – Recipient of Castle Connolly's 2017 Exceptional Women in Medicine Award and named as Editor of Research Techniques Made Simple for the *Journal of Investigative Dermatology*;
- **Juliana Basko-Piluska, MD** – Appointed to the editorial board of *Clinical and Cosmetic Dermatology*.

The Section of Dermatology's investigative programs have continued to make key contributions to research in skin conditions, carcinogenesis, and melanocyte differentiation. Significant highlights include:

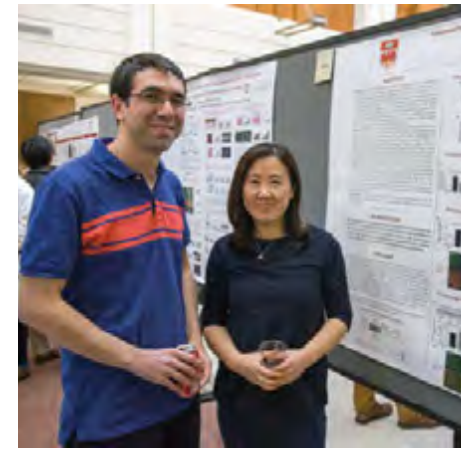
- Provided new insights into the prevention of arsenic induced skin cancer (Shah, He, et al, *Molecules*, 2017)
- Defined new molecular insights into the role of autophagy in tumor cell survival which may facilitate the development of improved therapeutic strategies for targeting autophagy for cancer therapy (Yang, He et al, *Journal of Biological Chemistry*, 2017)

section of emergency medicine



Dr. Linda Druelinger

Under the direction of Linda Druelinger, MD the Section of Emergency Medicine continues to maintain its stature as a nationally prominent emergency medicine program. Over the past year, the Section's efforts have been focused on preparing for the opening of the new emergency department (ED) planned for January 8, 2018. With leadership from Thomas Spiegel, MD, the ED Medical Director, many operational improvements were achieved relating to throughput including the use of data driven metrics to evaluate the decision time to discharge after completion of laboratory and imaging studies. In addition, plans were developed for an extended coverage model that places a doctor 'up front' to facilitate the door to doctor time and work up of patients presenting to the ED and to meet the clinical care needs based on an increase in patient volume of 65,000 annual visits in FY 18. Also in FY 17, Teresita Hogan, MD, Director of Geriatric Emergency Medicine, led efforts that successfully resulted in the selection of University of Chicago Medicine's ED as a member of the Geriatric Emergency Department Collaborative (GEDC), a project funded by the John Hartford and Gary and Mary West Foundations, with a goal of establishing GED guideline initiatives to improve ED elder care.



Drs. Peng and Fang at
2017 Research Day



Dr. Daniel Robinson
Dr. Alfredo Garcia

In FY 17 two new faculty were welcomed to the Section. Daniel Robinson, MD, assistant professor of medicine, focuses his work on medical simulation and medical education. He utilizes simulation as a novel tool for introducing new procedures, skills, and teamwork to medical students, resident physicians, and practicing physicians as well as nurses and EMTs. Alfredo Garcia, PhD, assistant professor of medicine joined the Section's research programs. Dr. Garcia has a broad research interests in the influence of local neuronal environments on neurodevelopment and the coordination of information among neural networks. His work has implications for the understanding of the neural basis for autonomic function and cognitive dysfunction in conditions ranging from opioid overdose to epilepsy and sleep apnea.

In the research realm, the Section was awarded nearly \$5M in extramural research funding. New grants in FY 17 include a NIH funded R01 awarded to Willard Sharp, MD, PhD focused on pharmacological induced torpor/hypothermia as a novel therapy for improving post cardiac arrest resuscitation outcomes. Within the Center for Ox-

ygen Sensing (Nanduri Prabhakar, PhD-Director) work continued on the effects of systemic, cellular and molecular responses to chronic intermittent hypoxia and on therapeutic targeting of carotid body chemoreflex for sleep disordered breathing.

As one of the oldest emergency medicine training programs in the country, the Emergency Medicine Residency Program (Christine Babcock, MD-Director) continues to attract trainees from outstanding medical schools, many of whom are successfully securing sought after fellowship positions after completing residency training. Dr. Babcock has gained regional recognition for her work with the Illinois College of Emergency Physicians (ICEP) and was elected to the Board of Directors as well as a member of the Executive Board for the College. Dr. Babcock will represent the state of Illinois as Councilor at the national American College of Emergency Physicians (ACEP) Council meeting. Naveet Cheema, MD, and David Harter, MD, were honored by the Emergency Medicine residents with the Outstanding Faculty Mentorship Award and Outstanding Clinical Teacher Awards, respectively.

Professors:

Linda Druelinger, MD (Chief)
Ira Blumen, MD
David Howes, MD
Jayasri Nanduri, PhD*
Nanduri Prabhakar, PhD
James Walter, MD

Associate Professors:

David Beiser, MS, MD
Keme Carter, MD
Teresita Hogan, MD
Robert Mulliken, MD
Aasim Padela, MD
Ying-Jie Peng, PhD*

Assistant Professors:

Claire Abramoff, MD+
James Ahn, MD
Christine Babcock, MD
Krystal Baciak, MD+
Keegan Checkett, MD
Navneet Cheema, MD
Alfredo Garcia, PhD
Nadim Hafez, MD+
Gregg Helland, MD
P. Quincy Moore, MD+
Alejandro Palma, MD+
John Purakal, MD+
Daniel Robinson, MD
Willard Sharp, MD, PhD
Thomas Spiegel, MD

Clinical Associates:

Kimberly Stanford, MD+
Katie Tataris, MD

Part time Faculty:

Eric Beck, DO
Andrew Bokarius, MD
Thomas Fisher, MD
Cai Glushak, MD
Kamaldeep Heyer, MD
Murray Keene, MD
Marshall Segal, MD

Clinical Associates:

Diane Chaney, MD
David Harter, MD
Julianne Kjolhede, MD+

Medical Education Fellow:

Paul Kukulski, MD+
Eric Shappell, MD

Section Administrator:

Bradford Lane (interim)

*Research Appointee Track Faculty
+ new FY 18 faculty

Impactful Accomplishments, Highlights, and Discoveries:

- **Nanduri Prabhakar, PhD** – Elected as a Fellow of the American Physiological Society
- **Robert Mulliken, MD** – Recipient of the 2017 Department of Medicine's Overall Clinical Activity and Evaluation and Management Awards
- **Aasim Padela, MD** – Accepted into the Mid-Career Leadership Program of the Society of Behavioral Medicine
- **Willard Sharp, MD, PhD** – Best Abstract Award (Basic Research), 2017 Department of Medicine Janet D. Rowley Research Day

During the past year, Section of Emergency Medicine investigators:

- Demonstrated that imbalanced expression of gaseous transmitters carbon monoxide and H₂S leads to obstructive and central sleep apnea (Peng, Prabhakar, et al., *Proceedings of the National Academy of Sciences, USA*, 2017).
- Showed that epigenetic regulation of redox state mediates persistent cardio-respiratory abnormalities in a rodent model of sleep apnea. (Nanduri, et al., *Journal of Physiology*, 2017)
- Found that religious beliefs influence decisions to pursue mammography across the ethnic/racial diversity of Muslim women (Padela et al., *Psychooncology*, 2016)
- Designed a clinical intervention, I-PREP (Improving Pain Relief in Elder Patients) that significantly improved pain management for older adults in the ED (Hogan, et al., *Journal of the American Geriatrics Society*, 2016)

Section of endocrinology, diabetes and metabolism



Dr. Ronald Cohen

Under the direction of Ronald Cohen, MD, the Section of Endocrinology, Diabetes and Metabolism continues to maintain its impressive stature as one of the top adult and pediatric endocrine centers as well as enjoy great success for its outstanding research and educational programs. The ability to directly connect adult and pediatric researchers and clinicians has enabled the Section to be a leader in understanding the genetics of diabetes and thyroid disorders, and to translate these advances to the care of patients.

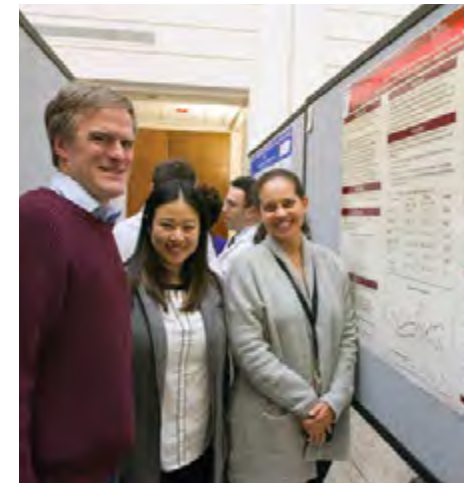
In FY 17, the Section's clinical and outreach programs were highlighted by several new initiatives. The Chicago Weight Program (Silvana Pannain, MD-Director), a multidisciplinary program involving endocrinologists, nutritionists, and psychologists that focuses on patients with obesity, was enhanced with the addition of a clinic focusing on weight management of women with PCOS in collaboration with Susan Sam, MD. Celeste Thomas, MD, partnered with the National Commission on Correctional Healthcare

to enhance diabetes treatment of individuals in prisons, jails, and juvenile detention centers. She also co-chaired the Hypoglycemia Oversight Committee to institute best practices regarding insulin therapy in hospitalized patients at the University of Chicago Medicine. The Kovler Diabetes Center (Louis Philipson, MD, PhD-Director) hosted four Living Well with Diabetes seminars for adults with diabetes in the local community. In total, more than 300 individuals attended the free community programs that included discus-

sions on diabetes and emotional health, diabetes complications and diabetes and exercise.

The Section's internationally recognized investigators have made important scientific contributions that have impacted our understanding of diabetes, thyroid disease, sleep and polycystic ovary disease. In FY 17, the Section was the recipient of over \$5.4M in total grant funding. New grants include an NIH R01 for Louis Philipson, MD, PhD, to evaluate the consequences of a diagnosis of monogenic diabetes and to develop and validate new cost-effective methods to improve diagnosis and treatment. Siri Greeley, MD, PhD, was the recipient on an American Diabetes Association grant to investigate the impact of diabetes in infancy. Alexandra Dumitrescu, MD, PhD, was awarded an NIH R01 to study rare genetic syndromes caused by SBP2 mutations. Rochelle Naylor, MD, also received notification of an NIH K08 award to develop a personalized genetic medicine approach for patients with maturity-onset diabetes of the young in a multi-ethnic population.

The Kovler Diabetes Center celebrated its 10th anniversary as the premier destination for diabetes care and for world-class scientific research. As part of the celebration, the Center hosted over 100 guests to "Salon Kovler: The Politics and Economics of Diabetes" on November 14th, 2016. This event featured conversations with Cook County Board Presi-



Research Day 2017

dent Toni Preckwinkle, Medtronic Chief Medical Officer Francine R Kaufman, MD, and Elbert Huang, MD, and was moderated by Mary Ann Ahern, Political Reporter for NBC5 News.

The Thyroid Study Unit (Samuel Refetoff, MD-Director) continues to work on the identification and treatment of congenital thyroid diseases, in particular those that cannot be managed by simple hormone replacement. In FY 17, researchers identified alterations in the gene for DUOX2 as a new cause of resistance to thyrotropin.

One of the unique aspects of the Section is the fully integrated nature of the adult and pediatric training



programs. With two NIH T32 grants to support training in pediatric endocrinology research and integrated clinical and basic endocrinology, there is no other such program in the United States. In FY 17, the dual program successfully graduated its 4th fellow, Katie O'Sullivan, MD, who joined the faculty in August 2017. The Endocrinology T32 Training Program (Graeme Bell, PhD and Samuel Refetoff, MD - PIs) completed its 42nd year of training endocrinology researchers, and the program competitively renewed for five additional years of funding from the National Institutes of Health. The Committee on Molecular Metabolism and Nutrition (Matthew Brady, PhD-Chair) successfully graduated five doctoral students.

Highlights, Discoveries, and Accomplishments:

- **George Bakris, MD** – Named as Chair of the Steering Committee for CALM-FIM Outcome Trial in United States to evaluate a Mobius device for resistant hypertension
- **Graeme Bell, PhD** – Awarded the Department of Medicine's 2017 Arthur H. Rubenstein Mentorship in Academic Medicine Award
- **Matthew Brady, PhD** – Awarded the 2017 Francis Straus Mentorship Award from the Biological Sciences Division and appointed as a standing member of the National Institutes of Health Cellular Aspects of Diabetes and Obesity grant review panel
- **Ronald Cohen, MD** – Recipient of the Department of Medicine's 2017 Patient Satisfaction Award
- **Samuel Refetoff, MD** – Served as the keynote speaker at Sociedad Española de Endocrinología y Nutrición, Malaga, Spain
- **Eve Van Cauter, PhD** – Served as the Plenary Speaker at the Société Française du Sommeil, Strasbourg, France

During the past year, Section of Endocrinology, Diabetes and Metabolism investigators:

- Performed a whole-genome sequencing study on the genetic architecture of diabetes that provided important clues about lower frequency variants in the role of type 2 diabetes (Fuchsberger, Bell, et al., *Nature*, 2016)
- Provided new insights into the role of high-sensitivity troponin and cardiovascular outcomes in patients with diabetes (Cavender, Bakris, et al., *Circulation*, 2017)
- New insights into the interaction between circadian rhythms and bariatric surgery to improve metabolic health (Brady, et al., *American Journal of Physiology*, 2016)
- Demonstrated that patients with KCNJ11-related diabetes frequently have neuropsychological impairments compared with sibling controls (Greeley, Naylor, Philipson, et al., *Diabetic Metabolism*, 2016)
- Identified a novel form of resistance to the hormone thyrotropin (Refetoff, et al., *Thyroid*, 2017)

Professors:

George Bakris, MD
Graeme Bell, PhD
Ali Cinar, PhD*
David Ehrmann, MD
Murray Favus, MD
Louis Philipson, MD, PhD
Kenneth Polonsky, MD
Samuel Refetoff, MD**
Christopher Rhodes, PhD**
Eve Van Cauter, PhD**
Tamara Vokes, MD

Assistant Professors:

Alexandra Dumitrescu, MD, PhD
Siri Atima Greeley, MD, PhD
Erin Hanlon, PhD*
Rochelle Naylor, MD
Katie O'Sullivan, MD+
Decheng Ren, PhD*
Susan Sam, MD
Celeste Thomas, MD
Christine Yu, MD
Meltem Zeytinoglu, MD

Clinical Associates:

David Sarna, MD
Farah Hasan, MD

Associate Professors:

Ronald Cohen, MD (Chief)
Matthew Brady, PhD
Dianne Deplewski, MD
Manami Hara, PhD*
Silvana Pannain, MD
Ann Zmuda, DPM

Section Administrator:

Ann M. Leu

*Research Appointee Track Faculty

**Emeritus

+New FY 18 faculty

section of gastroenterology, hepatology and nutrition



Dr. David T. Rubin

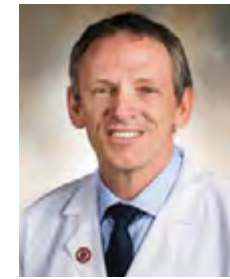
Under the direction of David T. Rubin, MD the Section of Gastroenterology, Hepatology and Nutrition continued its growth across the clinical, research and educational programs. In FY 17 the Section expanded its clinical programs to University of Chicago Medicine's (UCM) offsite clinics in Chicago and at satellite clinics in Indiana. Other major sectional accomplishments include successful recruitment of three hepatologists, including a Director of the Center for Liver Diseases, the growth of the research faculty, and a thorough review and update of the educational programs to ensure that the Section continues to lead the country in the training of new academic gastroenterologists.

In FY 17, the Section welcomed six new faculty: Drs. Michael Charlton, Christopher Chapman, Sonali Paul, Anjana Pillai, Vanessa Leone and Jeannette Messer. Dr. Charlton, professor of medicine, is an international leader in hepatology and liver transplantation and director of the Center for Liver Diseases and the Department's first

co-director of the UCM's restructured Transplant Institute. Joining Dr. Charlton in the Center for Liver Diseases are Dr. Pillai, associate professor of medicine and Dr. Paul, assistant professor of medicine. Dr. Pillai's research is focused on viral hepatitis and hepatocellular carcinoma. Within the Department, Dr. Pillai is developing and directing

a multidisciplinary liver tumor clinic. Dr. Paul has a particular interest in hepatitis B, autoimmune and cholestatic liver diseases, and liver transplantation. Dr. Chapman, assistant professor of medicine, specializes in interventional gastroenterology including novel endoscopic procedures for weight loss and bariatric surgery and serves as director of the new Metabolic Endoscopy Program and co-director of the GI Obesity Program. The Section's Microbiome Research Program (Eugene Chang, MD-Director) was expanded with the recruitments of two pathway instructors, Drs. Leone and Messer. Dr. Leone's work examines the influence of the gut microbiome on complex disease development. Dr. Messer's work focuses on the field of host-microbe interactions in IBD and colorectal cancer. Both have been successful in obtaining NIH K career development awards for 5 years.

The Inflammatory Bowel Disease Center (Russell Cohen, MD-Director) continued to lead IBD care in the region and as one of the country's preeminent programs. Andrew Aronsohn, MD is leading a telehealth initiative as part of a grant from the Centers for Disease Control and Prevention to battle hepatitis C in Chicago. In FY 17, the Section expanded this initiative to include telehealth conferences for the treatment of IBD. The Liver Transplant Program (Helen Te, MD-Director) continued to grow with the opening of two off-site clinics in Indiana. The metrics of transplant wait-list mortality and post-transplant survival are the best in the region.



Dr. Michael Carlton, Dr. Christopher Chapman, Dr. Vanessa Leone, Dr. Anjana Pillai, Dr. Jeannette Messer, and Dr. Sonali Paul

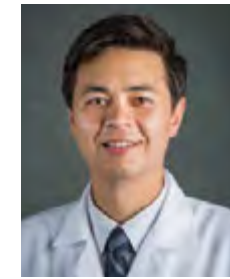
The Section's research portfolio continues to be strong, with nearly \$10 million in annual total cost funding across multiple subspecialties. Under the direction of Associate Section Chief Eugene B. Chang, MD, and Bana Jabri, MD, PhD, the

Professors:

David Rubin, MD (Chief)
Eugene B. Chang, MD
Michael Charlton, MD
Russell Cohen, MD
Ira Hanan, MD
Bana Jabri, MD, PhD
Karen Kim, MD
Carol Semrad, MD
Irving Waxman, MD
Helen Te, MD
Charles Winans, MD**

Associate Professors:

Andrew Aronsohn, MD
Marc Bissonnette, MD
Yanchun Li, PhD



Anjana Pillai, MD
Kapuluru Gautham Reddy, MD
Uzma Siddiqui, MD

Assistant Professors:

Christopher Chapman, MD
Sushila Dalal, MD
Murat Eren, PhD
Yong Huang, PhD*
Robert Kavitt, MD
Sonia Kupfer, MD
Edwin McDonald III, MD
Dejan Micic, MD+
Sonali Paul, MD
Joel Pekow, MD
Vijaya Rao, MD+

basic/translational research agenda combines assets of the Biological Sciences Division, Marine Biological Laboratory, and Argonne National Laboratory to investigate the role of the intestinal microbiome that impacts health and disease, gut immune regulation and oral tolerance, host genetic factors, celiac disease, and pathobiology of GI cancers. In FY 17, the Section was awarded multiple new federal and non-federal grants including a new NIH R01 awarded to Dr. Chang to explore paneth cell peptide YY in the pathogenesis of ileal Crohn's disease. Dr. Leone was awarded an NIH K08 to study diurnal oscillations in gut microbes and host immunity in health and obesity and Joel Pekow, MD, secured a NIH R03 to investigate new models to dissect molecular pathways in IBD-neoplasia using human colonoids. Dr. Rubin received a multi-year grant from Takeda Pharmaceuticals to study quality of life in IBD patients using passive biosensors. Through ongoing support from industry partnerships and support from Gastro-Intestinal Research Foundation, the Section expanded its translational core (Joel Pekow, MD-Director) with biospecimens across multiple subspecialties from more than 7,000 patients.

In the educational realm, Sonia Kupfer, MD was named the Associate Section Chief for educational programs. The Section's training program (Gautham Reddy, MD-Director) had a very successful fellowship match and performed a thorough review and update of the GI fellowship curriculum. The Section also hosted multiple CME programs, and two annual and nationally recognized interventional endoscopy conferences.

Atsushi Sakuraba, MD
Neil Sengupta, MD

Instructors:

Vanessa Leone, PhD
Jeannette Messer, DVM, PhD

Clinical Associates:

Bertram Rogers, MD

Part Time Faculty

(Co-appointment with ANL):
Dionysios Antonopoulos, PhD
Folker Meyer, PhD

Secondary Appointments

Alexander Chervonsky, PhD
Erika Claud, PhD
John Hart, MD
Cathryn Nagler, PhD

Clinical Associate:

Bertram Rogers, MD

Section Administrator:

Mark Mitchell

+ New Faculty FY 18

*Research Appointee Track Faculty

**Emeritus

Unique Highlights, Accomplishments, and Discoveries:

- **Bana Jabri, MD, PhD** – Recipient 2017 of the University of Chicago's Llewellyn John and Harriet Manchester Quantrell Award for Excellence in Undergraduate Education
- **Carol Semrad, MD** – Recipient of the American Society for Parenteral and Enteral Nutrition's Excellence in Nutrition Support Education Award
- **Sonia Kupfer, MD** – Recipient of the Biological Sciences Division's Distinguished Leader in Diversity and Inclusion Award
- **Marc Bissonnette, MD** – Recipient of the Pritzker School of Medicine's 2017 John D Arnold Mentor Award

During the past year, Section of Gastroenterology, Hepatology and Nutrition investigators:

- Discovered that the onset of Celiac disease could be triggered by prior Reovirus infection (Jabri et al., *Science*, 2017)
- Provided a compelling argument to rethink and correct current practices of indiscriminate and empirical use of antibiotics during the peripartum period (Myoshi, Chang, et al., *Cell Reports*, 2017)
- Described the findings from two phase I clinical trials to treat celiac disease using the therapeutic vaccine, Nexvax2, that renders gluten-specific CD4-positive T cells unresponsive to further antigenic stimulation (Goel, Jabri, Anderson, et al., *Lancet Gastroenterology*, 2017)
- Found that miR-193a-3p is downregulated in ulcerative colitis neoplasia, and its loss promotes carcinogenesis through upregulation of IL17RD. This finding suggested potential new therapeutic targets for the treatment of colon cancer. (Pekow, Rubin, Bissonnette, et al., *Clinical Cancer Research*, 2017)
- Used novel analytical strategies to provide genomic insights into bacterial populations that may be critical to the efficacy of fecal microbiota transplantation (Lee, Rubin, Eren, et al., *Microbiome*, 2017)

section of general internal medicine



Dr. Deborah Burnet

Under the leadership of Deborah Burnet, MD, the Section of General Internal Medicine (GIM) comprises highly talented faculty dedicated to providing exceptional clinical care, teaching and leading our educational programs, and building powerful connections to conduct innovative, real-world research addressing health disparities. The Section is home to several outstanding multidisciplinary academic centers and programs including the MacLean Center for Clinical Medical Ethics, the Chicago Center for Diabetes Translation Research, and the Center for Translational and Policy Research for Chronic Diseases.



Dr. Jason Alexander



Dr. Rajlakshmi Krishnamurthy



Dr. Jennifer Rusiecki

FY 17 faculty awards include: Dr. Burnet received the national Chief's Recognition Award from the Association of Chiefs & Leaders of General Internal Medicine. Vineet Arora, MD was elected to the American Society for Clinical Investigation and named a Master of the Society of Hospital Medicine. Mark Siegler, MD received the Harvey M. Meyerhoff Leadership in Bioethics Award from the Johns Hopkins Berman Institute of Bioethics. Institutionally, Rita Rossi Foulkes, MD was named as Inaugural University of Chicago Medicine Program Director of the Year. Monica Vela, MD received the Biological Sciences Division Distinguished Leader in Diversity and Inclusion Award. Anna Volerman Beaser, MD received the BSD Distinguished Leader in Community Service and Advocacy Award, and Kamala Cotts, MD received the BSD Distinguished Junior Clinician Award. Within the Department of Medicine, Monica Peek, MD received the Leif B. Sorensen, MD Faculty Research Award, and Doriane Miller, MD was named as the Diversity Award winner.

GIM welcomed three new faculty to the Section in FY 17. Rajlakshmi (Raj) Krishnamurthy, MD, associate professor of medicine, serves as Chief Clinical Transformation Officer for UCM overseeing the further development of the ambulatory health system efforts and clinical programs related to value-based care and population health. Jason Alexander, MD, assistant professor of medicine, has academic interests focused on curriculum development and teaching clinical reasoning. Jennifer Rusiecki, MD, assis-

tant professor of medicine, is developing a women's health curriculum for internal medicine residents.

Under direction of Lisa Vinci, MD the Primary Care Group (PCG) cared for approximately 25,000 patients through 56,000 patient encounters during FY 17. GIM is leading development of the new population health and value-based care initiatives at UCM. To target services where they are needed most, George Weyer, MD designed and directs UCM's new Outpatient Complex Care Coordination Program for vulnerable patients, coordinating high-touch care for medically complex patients and building powerful connections across our expanding regional health system. To more effectively track our primary care patient population, Chief Medical Informatics Officer David Liebovitz, MD, Sachin Shah, MD and other GIM faculty are leading the design and implementation of a new electronic health record tool, 'Healthy Planet,' to help clinicians oversee and care for their panels of patients. The MacLean Center for Clinical Medical Ethics (Mark Siegler, MD - Director) trained 35 ethics fellows over the past year. Now in its third year, the LUCENT Primary Care Program (Leading Urban Primary Care Education and Transformation) (Deborah Burnet, MD and Anna Volerman, MD - Directors) trains and supports primary care residents, fellows and faculty as they develop leadership skills and implement practice-based innovation projects on campus and in community sites.

In FY 17, GIM faculty were successfully awarded approximately \$4.3 million in research funding. Marshall Chin, MD led the successful

renewal of the NIH funded Chicago Center for Diabetes Translation Research (P30) and Elbert Huang, MD received an NIH R56 multiple PI award to study diabetes care and outcomes in a diverse elderly population.

GIM faculty are implementing novel community-based research and education to address health disparities in Chicago and beyond. Drs. Marshall Chin, Arshiya Baig, Scott Cook, Elbert Huang, Neda Laiteerapong, Monica Peek and Monica Vela lead an initiative to study and improve shared decision making between clinicians and LGBTQ patients of color within healthcare systems. Drs. Volerman and Burnet are working with local schools on Chicago's South Side to improve health for children with asthma and to decrease obesity through healthy nutrition and exercise in partnership with Pilot Light, a collaborative of Chicago's elite chefs. Dr. Miller conducts an on-going series of 'Community Grand Rounds,' connecting health speakers with community groups to address a variety of health and social topics. Dr. Baig connects with churches in Pilsen-Little Village to conduct diabetes empowerment classes for Spanish-speaking patients and family members. Drs. Miller and Burnet lead the UC Institute for Translational Medicine Community Cluster, partnering with the Chicago Department of Public Health, organizations and colleagues city-wide to promote research and policy to improve Chicago's health.

GIM faculty are national leaders in promoting and disseminating the most up to date evidence-based practices, building powerful

Professors:

Deborah Burnet, MD (Chief)
Diane Altkorn, MD
Halina Brukner, MD
Marshall Chin, MD
Adam Cifu, MD
Elbert Huang, MD
Mindy Schwartz, MD
Mark Siegler, MD
Scott Stern, MD
James Woodruff, MD
Monica Vela, MD
Lisa Vinci, MD

Associate Professors:

Vineet Arora, MD
Dionne Blackman, MD
Andrew Davis, MD
Rajlakshmi Krishnamurthy, MD
Patricia Kurtz, MD
David Liebovitz, MD
Doriane Miller, MD
Julie Oyler, MD
Monica Peek, MD
Amber Pincavage, MD
Rita Rossi-Foulkes, MD

Assistant Professors:

Nabil Abou Baker, MD+
Jason Alexander, MD
Irsk Anderson, MD
Mim Ari, MD+
Arshiya Baig, MD,
Kamala Cotts, MD
Neda Laiteerapong, MD
Wei Wei Lee, MD
Valerie Press, MD
Jennifer Rusiecki, MD
Milda Saunders, MD
Sachin Shah, MD
Todd Stern, MD
Anna Volerman Beaser, MD
George Weyer, MD

Instructor:

Elizabeth Tung, MD

Clinical Associates:

Joseph Asbury, MD
Marius Commodore, MD
Ashley Martin, MD
Sandra Naaman, MD
Katarina Veskovc, MD

Section Administrator:

Cindy Kitching

+new FY 18 faculty

connections from research to practice. Drs. Andy Davis and Adam Cifu serve as editors for the influential *JAMA Clinical Guidelines Synopsis* series, publishing 14 pieces in FY 17.

Highlights, Discoveries, and Accomplishments:

- **Jason Alexander, MD** – Recipient of the 2017 Department of Medicine Clinical Productivity Award.
- **Elbert Huang, MD** – Appointed as a NIDDK-B Standing Study Section member, reviewing career development award applications and training grants
- **Neda Laiteerapong, MD** – Recipient of the Midwest Society of General Internal Medicine Award for Excellence in Clinical Investigation
- **Wei Wei Lee, MD** – Recipient of the Midwest Society of General Internal Medicine Clinician Educator Award and the Bucksbaum Institute for Clinical Excellence Junior Faculty Scholar Award
- **Doriane Miller, MD** – Recipient of the Midwest SGIM Advocacy and Community Service Award
- **Monica Peek, MD** – Appointed to the Editorial Board for *Health Services Research*

During the past year, Section of General Internal Medicine investigators:

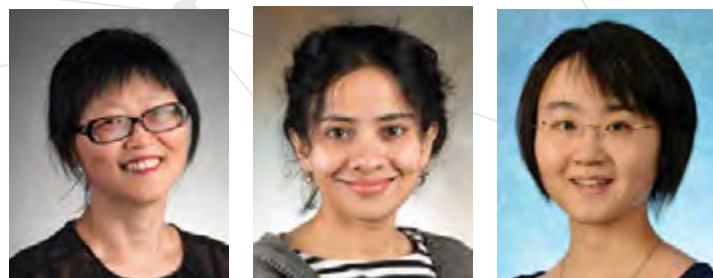
- Evaluated relevant statutes related to alternate decision makers when patients lost decisional capacity (DeMartino, Siegler, et al., *New England Journal of Medicine*, 2017)
- Showed an association between inpatient sleep loss and hyperglycemia in hospitalized patients with and without diabetes (Arora, et al., *Diabetes Care*, 2017)
- Determined that Asian Americans were the least likely racial and ethnic group to receive recommended diabetes screening, despite their high risk of diabetes (Tung, et al., *Journal of General Internal Medicine*, 2016)
- Showed an association between insurance status and mortality in individuals with albuminuria (Saunders, et al., *BMC Nephrology*, 2016)

section of genetic medicine



Dr. Yoav Gilad

Under the leadership of Yoav Gilad, PhD, the Section of Genetic Medicine made significant progress in its quest to become a leader in translational genetic research at the University of Chicago in FY 17. This included the launch of new technological developments, such as single cell genomics, and a training core for stem cells, establishing stronger connections with basic and clinical researchers on and off campus, and the expansion of the computational and statistical genetics programs with the recruitment of three new faculty.



Dr. Hae Kyung Im
Dr. Anindita Basu
Dr. Mengjie Chen

The Section has developed a new core facility that serves the Biological Sciences Division (BSD) faculty by training personnel to use the latest episomal techniques to reprogram, expand and characterize human and mice induced pluripotent stem cells from skin or blood tissues of healthy subjects and diseased patients. The core also developed the capability to differentiate the iPS cells into specific somatic cells, such as neurons, cardiomyocytes, and hepatocytes. The Section also partnered with the University's Functional Genomic Facility to develop and offer single cell genomic and gene expression data collection through two platforms, a Drop-SEQ and the Fluidigm C1.

In FY 17, the Section organized joint scientific retreats between UChicago and Argonne National Laboratory (ANL) investigators, which were followed by an RFA for collaborative initiatives between the institutions. Four proposals for collaborative work were funded this year, including two from the Department of Medicine.

Joining the Section of Genetic Medicine in FY 17 were three assistant professors of medicine, Drs. Anindita Basu, Mengjie Chen and Hae Kyung Im. Dr. Basu received her PhD in physics from the University of Pennsylvania in 2016 and completed her postdoctoral fellowship training in applied physics at Harvard University's Broad Institute. Dr. Basu's research focuses on the multi-disciplinary fields of microfluidics, genomics, and nano- and bio-mate-

The University of Chicago & Argonne National Laboratory
Joint Retreat
"Single Cell and Nano Technology"
Thursday
October 6, 2016
10:00 AM — 2:00 PM
Knapp Center for Biomedical Discovery (KCBD)
Auditorium 1103

OPENING REMARKS
T. Conrad Gilliam, Ph.D.,
Dean for Research and Graduate Education, U of C.
Everett Vokes, M.D.,
Chair, Department of Medicine, U of C.
Supratak Guha, Ph.D.,
Director, Center for Nanoscale Materials & the Nanoscience Technology Division, ANL.

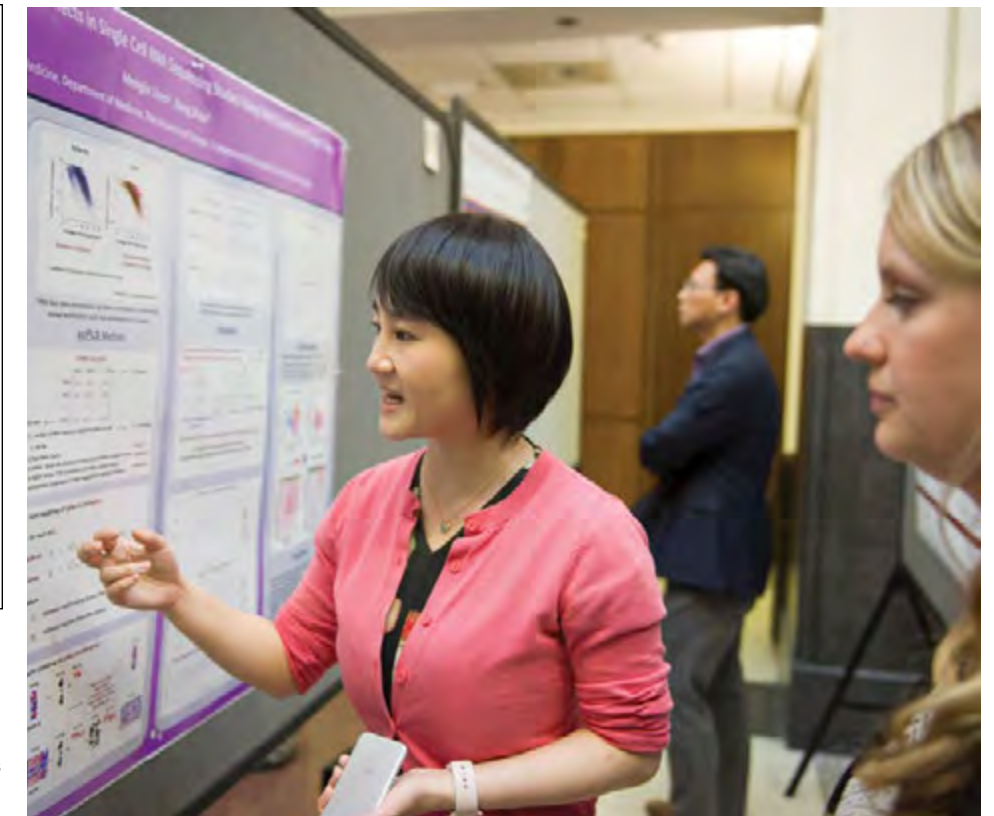
PRESENTATIONS
Tijana Rajh, Ph.D.,
Deputy Director, Nanoscience Technology Division, ANL.
Savas Tay, Ph.D.,
The Institute for Molecular Engineering, U of C.
Gary Wiederrecht, Ph.D.,
Nanophotonics & Biofunctional Structures Group, ANL.
Mark Ratain, M.D.,
Director, Center for Personalized Therapeutics, U of C.
Elena Rozhkoova, Ph.D.,
Nanophotonics & Biofunctional Structures Group, ANL.
Anindita Basu, Ph.D.,
Broad Institute of MIT and Harvard
Leo Ocola, Ph.D.,
Nanofabrication and Devices Group, ANL.

CLOSING REMARKS
Yoav Gilad, Ph.D.,
Chief, Section of Genetic Medicine, U of C.

Join us for presentations and discussions on focused single cell approaches and Nano technologies as they relate to genomic, genetic and clinical research
Lunch will be served
Persons with disabilities, who need assistance, please call Sue Levison at 773.702.2464

rials. She will draw from these diverse disciplines to aid in the diagnosis and treatment of human disease through new device technologies. As a joint appointee at Argonne National Lab, she works at the interface of science by bringing bio/nano materials, device capabilities and characterization techniques from Argonne National Lab to answer pressing scientific questions in medicine, genomics, and biology to the Department. Dr. Chen received her PhD in computation biology & bioinformatics from Yale University in 2014 and served as assistant professor in the Department of Biostatistics and Genetics at UNC-Chapel Hill before joining the Section. Dr. Chen's interests include the utilization of statistical methods to address the challenges of high throughput technologies, particularly for data emerging from biological and biomedical studies, such as epigenetic and cancer genomics related research. Dr. Im received her MS in financial mathematics and PhD in statistics from the University of Chicago. Her research centers on developing statistical methods to sift through the vast amounts of genomic and other high dimensional data to understand the biological mechanisms that drive complex diseases with the ultimate goal of making discoveries that can be translated into improving health. Dr. Im's current work is supported by an NIH R01 where she is developing a novel computational method that links mechanistically the genetic variability to disease risk and applies it to a range of mental disorder studies to provide more biological insights and enable discovery of potential targets for drug development.

Other Section highlights in FY 17 include the successful acquisition of a NIH R01 to support Dr. Gilad's efforts to characterize regulato-



Dr. Chen at 2017 Research Day

ry noise in single-cell gene expression data, identify genomic loci in which genetic variation is associated with inter-individual differences in regulatory noise (robustness QTLs), and develop an understanding of the mechanisms that underlie gene regulatory robustness. Several other high impact projects were ongoing in FY 17. Barbara Stranger, PhD, continued her work on the genetics of gene expression in human left ventricular myocardium. The GTEx project, with one of the methodology development groups led by Dan Nicolae, PhD, continued to generate new data for characterizing genetic variants implicated in transcriptome regulation, disease susceptibility and pharmacogenomics.

- Professors:**
Yoav Gilad, PhD (Chief)
Dan Nicolae, PhD
- Section Administrator:**
Ann Leu
- Assistant Professors:**
Anindita Basu, PhD
Mengjie Chen, PhD
Hae Kyung Im, PhD
Yang Li, PhD+
Barbara Stranger, PhD
- *Research Appointee Track Faculty
+New FY 18 faculty

During the past year, Section of Genetic Medicine investigators:

- First to assess the role of genome-wide host genetic variation in shaping the human microbiome at two upper airway sites and provided evidence of host genetic influences on upper airway microbial composition in humans and implicate mucosal immunity genes in this relationship (Igartua, Gilad, Nicolae, et al., *Microbiome*, 2017)
- Predicted susceptibility to tuberculosis based on gene expression profiling in dendritic cells (Gilad, et al., *Science Reports*, 2017)
- Identified a group of genes associated with hypoxia response in aggressive neuroblastoma potentially representing a novel target for biomarker and therapeutic development (Applebaum, Godley, Stranger, Prabhakar, et al., *Oncotarget*, 2016).
- Developed SynthEx, a novel tool for detecting copy number alterations from whole exome and genome sequencing (Silva, Chen et al., *Genome Biology*, 2017)

Section of Geriatrics and Palliative Medicine



Dr. Stacie Levine

In August 2017, Stacie Levine, MD, Professor of Medicine, was appointed as chief of the Section of Geriatrics & Palliative Medicine (GPM). Dr. Levine received her MD from Rush Medical College in 1997 followed by internal medicine residency and geriatrics fellowship training at Mount Sinai Medical Center, NY. In 2001 she arrived at the University of Chicago as a research fellow in geriatric medicine and joined the faculty in 2002.

Dr. Levine successfully led efforts to build a clinical palliative medicine program in order to improve the clinical care for our seriously ill patients. This accomplishment was recognized internally through renaming the Section of Geriatrics to the Section of Geriatrics and Palliative Medicine in 2008. She also successfully led an initiative to develop a Supportive Oncology inpatient service in collaboration with the Section of Hematology/Oncology that focuses on supporting patients and families with advanced solid tumor malignancies.

In the educational realm, Dr. Levine directed the development of two nationally-recognized

fellowship programs in geriatrics and palliative medicine. These programs are consistently recognized as among the best in the Midwest, and continue to attract excellent candidates from across the country. As a clinician educator she has been recognized for her contributions with appointments as a fellow in the Academy of Distinguished Medical Educators and as a faculty scholar in Bucksbaum Institute for Clinical Excellence. This year Dr. Levine was selected to participate in the Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) leadership program for women in medicine.

Nationally, Dr. Levine is an active member of the American Geriatrics Society and fellow of the American Academy of Hospice and Palliative Medicine (AAHPM) where she served as the chair of the fellowship director's task force committee and member of the Curricular Milestones and Entrustable Professional Activity work group. She is also a member of the Academic Palliative Medicine Council and Workforce and Leadership Development Strategic Coordinating Committee. Dr. Levine has earned recognition as a Castle Connolly and Chicago Magazine's Top Doctor. She is currently Co-PI for a multi-centered regional palliative medicine education program with Rush University engaging 22 hospitals across the greater Chicago-land area, and funded by the Coleman Foundation (\$1.4 million). She has published numerous book chapters and manuscripts in top journals in her field.

Dr. Levine's vision for the Section includes growth in the research programs including the creation of an Aging Research Institute, growth in the clinical programs including an on-site geriatrics assessment clinic in the DCAM and other satellite clinics, and enhancing the fellowship programs with additional mentoring and research opportunities.

As the largest independent geriatrics & palliative medicine section/division in Chicago, GPM continues to achieve substantial success across



Dr. Lauren Gleason

its key programs: Frailty (Successful Aging for Frail Elders [SAFE] Clinic), Geriatric Pharmacy, SOCARE Geriatric-Oncology Clinic, and Palliative Medicine. In FY 17, Lauren Gleason, MD, MPH, assistant professor of medicine became the newest member of the GPM faculty. Dr. Gleason's primary interests in geriatrics are in fractures, frailty, delirium, and polypharmacy as well as having expertise in geriatric surgical co-management models. She has joined Teresita Hogan, MD, to improve the evaluation and management of older adults who fall, and is also a partner on the Geriatrics Emergency Department Collaborative (GEDC), a project funded by the John Hartford and Gary and Mary West Foundations, with a goal of establishing GED guideline initiatives to improve elder care in the emergency department.

The inpatient and ambulatory Oncology Palliative Medicine Programs continue to grow steadily under the direction of Monica Malec, MD, who is leading the first integrated mesothelioma program in palliative medicine in the United States. The Cardiac Palliative Service (Charles Rhee, MD-Director) has seen growth as it provides support to patients with advanced heart failure, including patients with left ventricular assist devices. Within the outpatient programs, the nationally recognized SAFE Clinic (Katherine Thompson, MD, and Megan Huisingsh-Scheetz, MD-Co-Directors) continues to provide comprehensive geriatric assessment and frailty evaluations for vulnerable older patients as well as serve as a platform for research and teaching efforts. The Specialized Oncology Care & Research in the Elderly (SOCARE) clinic (Selina Chow, MD, and James Wallace, MD-Co-Directors) remains an integral centerpiece to geriatric oncologic care in Chicago. New in FY 17 was the creation of an APN led, Polypharmacy in Late Life (PILL) Clinic under the direction of Tia Kostas, MD.

Research efforts by GPM faculty and staff continue to be supported by a variety of external sources, including NIA, HRSA, and the Coleman Foundation. Dr. Thompson is leading a HRSA-funded Geriatric Workforce Enhancement Program which created the South Side Healthy Aging Resource Experts (SHARE) Network to improve health for older adults across Chicago's South Side. Through this program, Dr. Thompson and the geriatrics faculty provide geriatrics training to ambulatory and skilled nursing facility health professionals through Extension for Community Healthcare Outcomes (ECHO). Dr. Huisingsh-Scheetz continued her work on predicting early frailty biomarkers to advance understanding of the role of activity and sedentary behavior in the pathophysiology and treatment of frailty as part of her NIH K23 award.

In the educational realm, Dr. Kostas was awarded two grants funded by the Academy of Distinguished Medical Educators and the Medical Education, Research Innovation, Teaching, and Scholarship (MERITS) program. With support from these awards she created a successful longitudinal, interprofessional pharmacy experience for Pritzker medical students. Shellie Williams, MD, continues to direct the Geriatrics and Aging through Transitional Environments (GATE) Program, a longitudinal curriculum in geriatrics for medical students. In post-graduate education, the Hospice and Palliative Medicine Fellowship continues to attract excellent candidates from across the country with over 60 applicants in FY 17, and is now under the direction of Dr. Charles Rhee, MD. The Geriatrics Fellowship Program, led by Dr. Thompson, also attracted two top graduates from the internal medicine residency class.

Professor:
Stacie Levine, MD (Chief)

Associate Professor:
Daniel Brauner, MD

Assistant Professors:
Lauren Gleason, MD
Megan Huisingsh-Scheetz, MD, MPH
Tia Kostas, MD
Monica Malec, MD
Michelle Martinchek, MD+
Charles Rhee, MD
Katherine Thompson, MD
Sandy Tun, MD+
Shellie Williams, MD

Clinical Associates:
Selina Chow, MD
James Wallace, MD

Secondary Appointments:
Stacy Lindau, MD
Tamara Konetka, PhD
Erin Zahradnik, MD

Section Administrator:
Bradford Lane

+New FY 18 faculty

Highlights, Accomplishments, and Impactful Discoveries:

- **Megan Huisingsh-Scheetz, MD & Katherine Thompson, MD** – Recipients of the BSD Distinguished Leaders in Program Innovation (Junior Award) in recognition of Successful Aging and Frailty Evaluation (SAFE) Clinic
- **Katherine Thompson, MD** – Elected to the Academy of Distinguished Medical Educators
- **Megan Huisingsh-Scheetz, MD** – Received the Presidential Poster Award from the American Geriatrics Society
- **Lauren Gleason, MD** – Appointed to the Young Professionals Advisory Group for the American Geriatrics Society
- **Monica Malec, MD** – Participated in the American Academy of Hospice and Palliative Medicine Ascend Leadership Forum and was named by Castle Connolly as a Top Doctor in Chicago and Exceptional Women in Medicine

During the past year, Section of Geriatrics & Palliative Medicine investigators:

- Described frailty evaluation and management guidelines for oncologists in order to improve outcomes for this vulnerable population (Huisingsh-Scheetz, et al., *Journal of Geriatric Oncology*, 2017)
- Identified differences in estimation of surgical risk of lung resection related to physician and patient gender (Ferguson, Huisingsh-Scheetz, Thompson, et al., *Annals of Thoracic Surgery*, 2017)
- Provided insights into role of verbal and non-verbal communication in physicians' communication with older patients (Gorawara-Bhat, et al., Patient Education & Counseling, 2017) and patients' perceptions of hormone therapy in recurrent prostate cancer in older patients (Gorawara-Bhat, et al., *Journal of Geriatric Oncology*, 2017)
- Described the impact of a multi-centered interdisciplinary training program in palliative medicine (Levine, et al., *Journal of Pain and Symptom Management*, 2017)

section of hematology/ oncology



Dr. Walter Stadler

Under the direction of Walter Stadler, MD the Section of Hematology/Oncology continues to enjoy national and international prominence for its impactful contributions to the clinical, research and educational missions. Among the many accomplishments this past year, most notable were the successful initiation of value based care through the Medicare Oncology Care Model and growth of immunotherapy clinical research, which has begun to realize a long sought connection of harnessing the immune system for cancer therapy, and which in turn strengthens the connections between cancer care and research with the powerful work ongoing in the Department and the institution in basic immunology, infectious disease, and the microbiome.



Dr. Peter Riedell
Dr. Satyajit Kosuri
Dr. Emily Curran



In FY 17 three new faculty were welcomed to the Section: Peter Riedell, MD, Satyajit Kosuri, MD, and Emily Curran, MD. Dr. Riedell, assistant professor of medicine, focuses his efforts on the development of innovative treatments for lymphoma with an emphasis on cellular and immunotherapies. Dr. Kosuri, assistant professor of medicine, interests lie in the area of stem cell transplantation for patients diagnosed with acute leukemia, myelodysplastic syndrome and myelofibrosis. Dr. Curran, pathway instructor, is investigating mechanisms of immune resistance in leukemia by utilizing murine models to identify therapeutic strategies to enhance anti-leukemia immunity.

Also in FY 17 several Section faculty were recognized nationally for their outstanding academic contributions: Funmi Olopade, MD was named

as the recipient of the 2017 American Society for Clinical Oncology's (ASCO) Humanitarian Award and Thomas Gajewski, MD, PhD was the recipient of the National Cancer Institute Distinguished Investigator Award. Dr. Gajewski was also named the AbbVie Foundation Professor. Sonali Smith, MD, was named the Elwood V. Jensen Professor for her outstanding contributions to lymphoma therapeutics and Wendy Stock, MD was the recipient of the Biological Sciences Division (BSD) Distinguished Clinician Award.

In the clinical arena, the Section was once again recognized by *USNWR* as one of the top cancer programs in the nation (August 2017) and over two dozen faculty were named as "Top Cancer Doctors" by *Chicago* magazine (January 2017). In FY 17, the Section conducted over 43,000

outpatient visits and continued to expand the cellular and stem cell transplant program (Michael Bishop, MD - Director), with 164 patients treated. Cellular therapies, and CAR-T cell therapy specifically, is a rapidly emerging treatment modality that utilizes autologous T-cells with genetically modified receptors targeting tumor antigens that has been investigated by this program. The Section is now poised to be one of the first centers in the Midwest to have this complex treatment available as a standard of care. Under the direction of Blase Polite, MD, the Section continued its effort toward implementing standardized care pathways as well as value based care models. This capability and standardization has been critical to the successful negotiation of a number of insurance contracts by UCM. In regard to value based care models, the Section implemented the Medicare Oncology Care Model and continues to support value based contracts with Aetna and Blue Cross and Blue Shield. This effort has involved a large cadre of individuals from the Department and institution resulting in growth and improved utilization of the Supportive Care Unit. In FY 17, the Supportive Care Unit (Chris Daugherty, MD and Stacie Levine, MD - Co-directors) evaluated an average of 290 patients monthly which has helped the UCM retain and negotiate a number of insurance contracts and resulted in quality care certification under the QOPI program sponsored by ASCO.

The Section maintains a very strong and successful program in basic, translational and clinical research. In FY 17 section faculty were awarded over \$20M in total costs grant funding coupled with an additional \$19.2 M in clinical trial earnings. Specifically, Akash Patnaik, MD garnered a number of new grants to augment his prostate cancer research; Suzanne Conzen, MD was the recipient of a large Prostate Cancer Foundation award to investigate the use of selective glucocorticoid receptor antagonists in castration-resistant prostate cancer; Michael Thirman, MD was the recipient of a new NIH R01 to study the instructive role of MLL fusion proteins in lineage determination and leukemogenesis; and Lucy Godley, MD, PhD and Amittha Wickrema, PhD each were awarded grants from the Leukemia and Lymphoma Society. Clinical research in the Section was similarly active with nearly 320 active therapeutic clinical trials conducted and enrollment of over 791 patients annually. Under the direction of Dr. Gajewski and Jason Luke, MD, the Section continues to be a national leader in immunotherapy clinical trials. The Section expanded its clinical research into the broader UCM based network at Silver Cross, Orland Park

and continues to grow its multisite portfolio through this Personalized Cancer Care Consortium.

Under the direction of Kenneth Cohen, MD and Olwen Hahn, MD the Section continues to run a highly successful fellowship program. The 7 fellows selected annually typically come from the highest ranked residency training programs. For FY 17, over 80% of the graduating fellows are starting their careers with an academic affiliation and one is extending her laboratory training as a physician scientist, reflecting success in the strategic goal of training future leaders in oncology. Several fellows and junior faculty have earned external training awards in FY 17.

Professors:

Walter Stadler, MD (Chief)
Michael Bishop, MD
Suzanne Conzen, MD
Christopher K. Daugherty, MD
M. Eileen Dolan, PhD
Gini F. Fleming, MD
Thomas F. Gajewski, MD, PhD
Lucy A. Godley, MD, PhD
Harvey M. Golomb, MD
Philip Hoffman, MD
Andrzej Jakubowski, MD, PhD
Hedy L. Kindler, MD
Richard A. Larson, MD
Michelle M. Le Beau, PhD
Mark Lingen, DDS, PhD
Yusuke Nakamura, MD, PhD
Olufunmilayo Olopade, MD
Jyoti Patel, MD
Mark J. Ratain, MD
Sonali M. Smith, MD
Wendy Stock, MD
Everett Vokes, MD
Amittha Wickrema, PhD

Associate Professors

Andrew Artz, MD
Joseph M. Baron, MD
Kenneth Cohen, MD
Olwen Hahn, MD
Olatoyosi M. Odenike, MD
Rita Nanda, MD
Blase N. Polite, MD
Angela Stoddart, PhD*
Michael J. Thirman, MD

Assistant Professors

Daniel Catenacci, MD, PhD
Jane Churpek, MD
Justin Kline, MD

Satyajit Kosuri, MD
Chih-Yi (Andy) Liao, MD+
Tanguy Lim-Seiwert, MD
Hongtao Liu, MD, PhD
Jason Luke, MD
Peter O'Donnell, MD
Akash Patnaik, MD
Alexander Pearson, MD, PhD+
Peter Riedell, MD
Manish Sharma, MD
Russell Szmulewitz, MD
Yonglan Zheng, PhD*

Instructors:

Emily Curran, MD
Steven Maron, MD+
Randy Sweis, MD+

Clinical Associates:

Andrea Amico, MD
Sunila Narula, MD
Brooke Phillips, MD
Murtuza Rampurwala, MD
Shayan Rayani, MD
Ardaman Shergill, MD
Grace Suh, MD
Samir Undevia, MD

Part Time Faculty

Mark Kozloff, MD

Section Administrator

Jerry Schissler

*Research Appointee Track Faculty
+New FY 18 faculty

Unique Highlights, Accomplishments, and Discoveries:

- **Philip Hoffman, MD** – Appointed to serve on the FDA's Oncologic Drugs Advisory Committee and selected by the Pritzker School of Medicine Class of 2017 as a recipient of the Favorite Faculty Award for the 7th consecutive time.
- **Joseph Baron, MD** – Appointed as a Bucksbaum Institute for Clinical Excellence Senior Faculty Scholar

During the past year, Section of Hematology/Oncology investigators:

- Conducted a series of translational studies exploring the hypothesis that the glucocorticoid receptor is a therapeutic target in a variety of malignancies, including breast, ovarian, and prostate cancers (Szmulewitz, Conzen, et al., *Molecular Cancer Therapeutics*, 2017 and Conzen et al., *Molecular Cancer Research*, 2016)
- Showed that the density of immunogenic antigens does not explain the presence or absence of the T-cell-inflamed tumor micro-environment in melanoma (Spranger, Luke, et al., *Proceedings of the National Academy of Sciences of the United States of America*, 2016)
- Made important contributions to understanding the immunobiology of the T-cell reaction against tumors (Saloura, Nakamura, Vokes, Lingen, Seiwert, et al., *Clinical Cancer Research*, 2017 and Inoue, Nakamura, et al., *Oncol Immunology*, 2016)
- Developed novel approaches to prostate cancer immunotherapy, a tumor type that has not been highly responsive to the recently developed PD1 pathway inhibitors (Patnaik, et al., *Cancer Discovery*, 2017)
- Identified a number of novel mutations predisposing patients to hematologic and other malignancies and investigated the biologic mechanisms by which these mutations have their deleterious effects. (Godley et al., *Blood*, 2017 and Godley, Churpek, Larson, et al., *Biology and Blood Marrow Transplant*, 2016)

section of hospital medicine



Dr. David Meltzer

Under the leadership of David Meltzer, MD, PhD, the Section of Hospital Medicine is recognized for its strong and integrated programs in clinical care, research, and education. Utilizing innovative care models, Section faculty care for some of the most medically complex patients admitted to the University of Chicago Medicine (UCM). The Section of Hospital Medicine is also known for its innovative research that is advancing the frontiers of clinical practice and training future generations of physicians in hospital medicine.



Dr. Ishanu Chattopadhyay

In FY 17, the Section continued to enhance its growing inpatient programs at UCM by developing and implementing a plan led by Marius Chivu, MD, Director of Clinical Operations, that expanded clinical coverage to include oncology hospitalists and staff new services. Staffing these new services required recruiting 15 new clinicians, which was made possible by a highly structured approach to identifying, screening, interviewing, and hiring new clinicians. FY 17 was also a major year for the Section's Medicare-funded Comprehensive Care Physician (CCP), a program that seeks to improve care and lower costs through continuity of care. FY 17 highlights for the CCP include the completion of

one-year follow-up for all 2,000 patients, receipt of funding from the Donoghue Foundation to extend follow up to 3 years, and the launch of the Robert Wood Johnson Foundation's funded Comprehensive Care Community and Culture Program to better engage CCP patients by screening for unmet social needs, addressing those needs through the services of a community health worker, and engaging patients in arts and cultural programming. Another ambulatory-based initiative was the establishment of an International Patient Program at 150 E. Huron offsite practice (Cheng Kai Kao, MD—Director).

In FY 17, the Section welcomed Ishanu Chattopadhyay, PhD, assistant professor of medicine, to the faculty. Dr. Chattopadhyay is an expert in machine learning and predictive analytics whose research is focused on the theory of unsupervised machine learning, the interplay of stochastic processes and formal language theory in exploring the limits of automated learning algorithms, and the philosophical and mathematical underpinnings of the question of inferring causality from data. His current work is supported by a new grant from the Defense Advanced Research Projects Agency.

The Section's research portfolio consisted of nearly \$5.0 million in extramural funding in FY 17. In addition to the new CCP funding noted above, major new funding was awarded to Dr. Meltzer from a NIH U54 award supporting the ACCOuNT (African American Cardiovascular Pharmacogenomics



Dr. Joyce Tang – Recipient of the Department of Medicine's 2017 Janet Rowley Research Day Best Abstract Award in Health Services Research

CONsorTium) to enhance the application of personalized medicine targeted to African Americans and a new grant from the Richmond Foundation to launch a 5-year study assessing the effects of free dental care on oral and systemic health for older persons. Dr. Meltzer was also the recipient of a National Institute on Aging R21 that will utilize a national database linked with Medicare claims data to develop a novel big-data screening tool to identify and reduce cost-related medication non-adherence.

Hospital Medicine faculty continue to be actively engaged in teaching and training the next generation of physicians and physician scientists at the medical school, residency and at the post graduate level. Leadership roles in the medical school include Assistant Dean for Curricular Development and Evaluation (Jeanne Farnan, MD), the Global Health Scholarship and Discovery track (Brian Callender, MD), Director and Assistant Program Director of the Internal Medicine Residency Program at Mercy Hospital (Shalini Reddy, MD and John Yoon, MD), director of the MD/PhD Program in the Social Sciences and chair of the Committee on Clinical and Translational Science (David Meltzer, MD, PhD). Dr. Farnan was featured as a master teacher in a book on teaching inpatient medicine by the University of Michigan's Dr. Sanjay Saint. Drs. Joyce Tang and Audrey Tanksley led the CCP physicians in developing a well-received new longitudinal clinical exposure curriculum for first year medical students.

Professors:

David Meltzer, MD, PhD (Chief)
Robert Gibbons, PhD
Shalini Reddy, MD

Associate Professors:

Jeanne Farnan, MD

Assistant Professors:
Brian Callender, MD
Matthew Cerasale, MD+
Ishanu Chattopadhyay, PhD
Thomas Chen, MD+
Anton Chivu, MD
Dana Edelson, MD
Cheng-Kai Kao, MD
V. Ram Krishnamoorthi, MD
Shannon Martin, MD
Elizabeth Murphy, MD+
Gregory Ruhnke, MD
Milda Saunders, MD
Andrew Schram, MD+
Joyce Tang, MD
Audrey Tanksley, MD
Anshu Verma, MD+
John Yoon, MD

Instructor:

Micah Prochaska, MD

Clinical Associates:

Hatem Al Kassem, MD
Rizma Bajwa, MD+
Nicole Bendin, MD
Grace Berry, MD
Christina Boutsicaris, MD+
Bryan Campbell, MD
Kwang Jin Choi, MD
Tatvam Choksi, MD
Anne Cramer, MD
Parin Desai, MD
Anubhan Ganjoo, MD
Lizhu Gao, MD
Sarah Haroon, MD
Christine Jun, MD
Navett Kaur, MD
Ehtasham Khattak, MD
Sladjana Mitric, MD+
Tokhanh Nguyen, MD
Dragana Radovanovic, MD
Edwin Rosas, MD
Chang Yang, MD
Madhu Yarlagadda, MD

Section Administrator:

James Skish (Interim)

+New FY 18 faculty

Highlights, Accomplishments, and Discoveries:

- **Robert Gibbons, PhD** – Appointed as an Advisor to David Shulkin, MD, the Secretary of Veterans Affairs
- **Jeanne Farnan, MD** – Recipient of the Pritzker School of Medicine L.D.H. Wood Pre-Clerkship Teaching Award and Favorite Faculty Award and the 2017 Department of Medicine Clinical Teacher of the Year Award
- **Cheng-Kai Kao, MD** – Elected as a Fellow of the Society of Hospital Medicine and of the American College of Physicians

During the past year, Section of Hospital Medicine investigators:

- Provided insights into the educational impact of the electronic health record (Shannon, Farnan, *Journal of Graduate Medical Education*, 2017)
- Conducted a national longitudinal survey of medical students' intentions to practice among the underserved and found that growing up in medically underserved settings and a strong sense of calling and other factors were associated with intentions to practice medicine in underserved areas (Yoon, et al., *Academic Medicine*, 2017)
- Developed a new set of recommendations to improve the quality of cost-effectiveness analyses (Sanders, Ganiats, Meltzer, et al., *JAMA*, 2016)
- Demonstrated an association between in-hospital critical illness events and outcomes in patients on the same ward (Kang, Edelson, et al., *Critical Care Medicine*, 2016; Churpek, Edelson, et al., *Journal of Hospital Medicine*, 2016)

section of infectious diseases and global health



Dr. David Pitrak

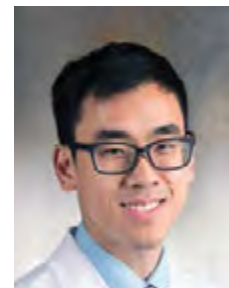
Under the direction of Dr. David Pitrak, the Section of Infectious Diseases and Global Health has seen continued growth and expansion of clinical activities, clinical trials, research, educational activities, and service to the institution. The Section is currently comprised of 14 faculty who have special expertise in all areas of clinical infectious diseases, as well as education and clinical research in infectious diseases, public health, and global health. Efforts in public health, particularly HIV care and prevention, connect out into communities on both the south and west sides of Chicago that are disproportionately affected by HIV with vulnerable populations that include minorities and members of the LGBTQ community. The Section also has programs to combat HIV, HCV, and drug addiction across the state, and internationally, with global connections in HIV prevention work in India and Greece, and efforts to reform medical education in China.

In FY 17 Titus Daniels, MD, joined the Section as associate professor of medicine and vice president and chief ambulatory medical officer for University of Chicago Medicine (UCM). In addition to his large administrative role, Dr. Daniels is an active clinician and director of the Section's ambulatory programs, including the outpatient

antibiotic therapy program (OPAT). Jonathan Lio, MD, assistant professor of medicine, and Moira McNulty, MD, Coggeshall instructor, also joined the Section in FY 17. Dr. Lio currently serves as the co-director of residency training for the Wuhan University Medical Education Reform Project. His interests are focused on improving the quality of



Dr. Titus Daniels,
Dr. Jonathan Lio, and
Dr. Moira McNulty



residency training through curricular development. Dr. McNulty's interests are focused on investigating the effectiveness of different HIV testing strategies and the unique populations at risk for HIV infection identified by those strategies.

The Section continues to provide outstanding consultative services 24/7 to ensure optimal and timely management of serious infectious diseases and has invested a large amount of manpower serving the oncology and transplant programs by running an immunocompromised host service, 7

days a week. In FY 17, the Section implemented an outpatient antibiotic therapy program, a joint effort between the antimicrobial stewardship program (ASP), the pharmacy and the Section to provide follow up of patients discharged on IV antibiotic therapy. The ASP continues to make great progress in assuring appropriate antimicrobial use at UCM, not only through day to day review of antibiotic usage, but also innovative education efforts aimed at both physicians and patients. In quality initiatives, the UCM has continued to meet all its goals with respect to hand hygiene, central line associated bloodstream infections, and catheter associated UTIs, and continues to combat *C. difficile* infection in the hospital.

Within the Section, the Chicago Center for HIV Elimination (John Schneider and David Pitrak, co-directors) provides care for HIV-infected patients, as well as screening, prevention education treatment for pediatric HIV patients who are transitioning to adult care and post-partum care for HIV-infected women and their exposed children. With uninterrupted funding from the Chicago Department of Public Health (CDPH) since 2011, Dr. Pitrak continues to focus his efforts on expanded HIV testing and linkage to care (X-TLC) for disproportionately affected populations in healthcare settings at UCM and at 12 other sites on the south and west sides of Chicago. The impact of this program has led to an increase in early stage disease diagnosis and reduced early AIDS-related deaths within 1 year of diagnosis. HIV testing will be expanded at UCM in FY 18.

In FY 17, the Section's research portfolio totaled over \$6.0M. Dr. Schneider continues to have significant extramural funding including 5 NIH funded awards. New grants this year included a NIH R01 to investigate relationships between GPS-defined activity space neighborhoods, social and sexual networks, and HIV pre-exposure prophylaxis among young Black men who have sex with men in the Chicago metropolitan area. Dr. Schneider was also awarded a NIH UO1 to develop and implement a health care engagement intervention to increase and strengthen access to care among men and their networks. Under the direction of Dr. Schneider, and with co-directorship by Dr. Pitrak and participation by Jessica Ridgway, MD, the Section continued its involvement in the Third Coast Center for AIDS Research (CFAR) partnership with Northwestern University, the AIDS Foundation of Chicago, the Chicago Department of Public Health, the Alliance of Chicago Community Health Systems, and the Center on Halsted, to reduce the very high rate of new HIV infections among young minority MSM in

Chicago. Other research highlights include funding for Dr. Ridgway from Gilead Sciences to develop rapid response team and algorithmic HIV post-test counseling in high-volume settings and funding from the Chicago Department of Public Health to utilize informatics to identify patients with HIV who are out of a care network. Dr. Ridgway was also awarded a CFAR administrative supplement to examine the barriers to PrEP (pre-exposure prophylaxis) against HIV infection among African American Women in Chicago. Mai Pho, MD was awarded funding from CFAR administrative supplement for Prelink (Pre-Release Linkage to HCV, HIV, and Addiction Services), a project that seeks to implement a coordinated management model of pre-release assessment, screening, and linkage to care in a rural jail setting. She was recently awarded a NIH UG3 grant to inform and implement methods to end the transmission of HIV, HCV, and STDs and provide access to clinical services for people who inject drugs in rural communities in Illinois. In clinical research, Kathleen Mullane, MD continues to conduct a number of clinical trials of new antimicrobial agents, with many of her studies benefiting the immunocompromised patients in our leukemia, stem cell transplant, and solid organ transplant programs.

In the educational arena, the Infectious Diseases and Global Health Fellowship Program continues to attract outstanding fellows, the majority from the Department's internal medicine residency program. Within the Pritzker School of Medicine, courses on global health and HIV infections have been incorporated into medical school curriculum. The Wuhan University Medical Education Reform (WUMER) Project, (Renslow Sherer, MD-Director) is now in its ninth year and is funded through 6/30/2019. The highly successful effort continues to provide faculty development programs, undergraduate curriculum improvement, and residency training at Wuhan University and has been lauded by the China Higher Education Association.

Professors:

David Pitrak, MD (Chief)
Kathleen Mullane, DO, Pharm D
Kenneth Pursell, MD
Renslow Sherer, MD
Stephen Weber, MD

Associate Professors:

Jean-Luc Benoit, MD
Titus Daniels, MD
John Schneider, MD

Assistant Professors:

Emily Landon, MD
Jonathan Lio, MD
Jennifer Pisano, MD
Mai Pho, MD
Jessica Ridgway, MD

Coggeshall Instructor

Moira McNulty, MD

Section Administrator

Elizabeth Fitzgerald

Highlights, Accomplishments, and Discoveries:

- **John Schneider, MD** – Elected as a Bucksbaum Institute for Clinical Excellence Senior Faculty Scholar and nominated as the City of Chicago's representative for the International Association of Physicians in AIDS Care and the UN AIDS fast-track city initiative.
- **Mai Pho, MD** – Completed her term as the Interim Chief Medical Officer for the Illinois Department of Public Health
- **Renslow Sherer, MD** – Delivered the Harry F. Dowling, MD Memorial Lecture at the University of Illinois at Chicago entitled "Prospects for HIV Elimination in Chicago"

During the past year, Section of Infectious Diseases and Global Health investigators:

- Studied the time course of microbial colonization in the Center for Care and Discovery and the interplay between the hospital environment and patients in colonized environments (Lax, Weber, Landon, et al., *Science Translational Medicine*, 2017)
- Reported on the first US cases of *Candida auris*, a multi-drug resistant fungal pathogen that is emerging worldwide (Vallabhaneni, Landon, Ridgway, et al., *American Journal of Transplantation*, 2017)
- Provided new insights into social networks and their importance in HIV prevention efforts (Schneider, et al, *Network Science*, 2016)
- Showed that recurrence rates of *Clostridium difficile* infection were lower with surotomycin with higher sustained clinical response rates compared with vancomycin (Mullane, et al., *Journal of Antimicrobial Chemotherapy*, 2016) and determined the efficacy and safety of isavuconazole for treatment of mucormycosis (Marty, Mullane, et al., *Lancet Infectious Diseases*, 2016)

section of nephrology



Dr. Arlene Chapman

The Section of Nephrology has a distinguished history in the study of and potential treatments for kidney disease. Under the direction of Arlene Chapman, MD, Professor of Medicine, the Section had a very productive and successful year with many accomplishments to be proud of including the recruitment of Rita McGill, MD, associate professor of medicine, an expert in end stage renal disease, vascular access and their associated complications. Dr. McGill serves as the Medical Director for the Section's 5th outpatient dialysis center, the Park Manor Unit that opened in September 2017.



Dr. Rita McGill

Within the clinical area, the Renal Ambulatory Care Clinic (Anna Zisman, MD - Director) increased its visit volume by over 10% in FY 17 while reducing wait times so that the next available appointment is always under one week. Patient satisfaction surveys have remained excellent and reorganization of the outpatient clinic has allowed for better patient flow and care for kidney disease patients. The Acute Dialysis Unit (Jay Koyner, MD - Director) successfully and seamlessly relocated to a 7 chair unit with a central nurses station and dedicated space for dialysis specific needs in the Center for Care and Discovery (CCD). Dr. Koyner was instrumental in

the development and validation of Nephrocheck, a clinical biomarker test used to predict the future development of acute kidney injury (AKI) in ICU patients that became available at University of Chicago Medicine in May 2017. Mary Hammes, DO continues her collaborative efforts with interventional radiology to standardize measurement of venous stenosis in patients requiring interventional procedures to repair arteriovenous fistulas and grafts and is developing prediction models for successful outcomes after angioplasty. In FY 17, the Section established a Glomerulonephritis Clinic (Patrick Cunningham, MD - Director) to serve as a referral clinic for a variety of patients with glomerulonephritis, focusing on those who are APOL1 genotype positive. The Renal Transplantation Program (Michelle Josephson, MD - Director) is working closely with the leadership of the new Transplant Institute and has successfully developed the Champion Kidney Donor Program to identify motivated donors for renal transplantation. Orly Kohn, MD, in conjunction with Paul Chang MD (Department of Radiology), continues to train clinical nephrology fellows on both transplant and native kidney biopsy through didactic sessions and specialized training within the simulation center.

The four University of Chicago-led Davita-owned outpatient dialysis units, the Kenwood Chronic Hemodialysis (Bharathi Reddy, MD - Medical Director), the Home Dialysis/Chronic Peritoneal Dialysis unit (Orly Kohn, MD - Medical Director), the Woodlawn Hemodialysis Unit (Mary Hammes,

DO - Medical Director) and the Stony Island Hemodialysis Unit (Nichole Stankus, MD - Medical Director) continue to deliver excellent patient care. The Stony Island and Kenwood facilities report a relative death ratio of 0.69 compared to the national average. With regard to national performance measures, all four units rank in the top 5 in their regions, and Stony Island unit ranks in the top 20% nationally. The Kenwood Facility has received, for the second consecutive year, 5 out of 5 stars on the CMS created star-rating system. Dr. Stankus with Stony Island Dialysis Unit was awarded the "DaVita Core Value Award of Team" by the DaVita Physician Council.

The Section of Nephrology is proud of its diverse bench, translational and patient oriented investigations in polycystic kidney disease, acute kidney injury, epithelial cell transport, growth, and gene expression, and the pathophysiology of kidney stone formation. New in FY 17 was the addition of two NIH subcontracts (Arlene Chapman, MD - PI), the first with the University of California, Davis, a study of metabolomics discovery of biomarkers for disease progression and response to therapies. The second is a subcontract with the University of Kansas as part of the Consortium for Radiologic Imaging Studies of Polycystic Kidney Disease (CRISP), a unique, longitudinal, observational cohort study of 241 autosomal dominant polycystic kidney disease (ADPKD) patients that began in 2000 and was competitively renewed in FY 17. The Consortium consists of researchers at University of Alabama, University of Chicago, Emory University, University of Kansas Medical Center, Mayo Clinic, and University of Pittsburgh. CRISP continues to define the natural history of ADPKD and to discover prognostic biomarkers in early Disease that can accurately predict long-term renal outcomes. Hatim Hassan, MD, PhD continued his NIH funded investigations on calcium oxalate kidney stones where he recently identified a family of Oxalobacter formigenes-derived proteins, represented by OF301, to be one of the major factors stimulating oxalate transport by human intestinal Caco2-BBE (C2) cells (Hassan, et al., *Journal of the American Society of Nephrology*, 2017). This discovery has a significant potential for clinical application in the prevention and/or treatment of hyperoxaluria. The Pathogenesis of Calcium Nephrolithiasis (Elaine Worcester, MD - Principal Investigator) NIH P01 studying idiopathic hypercalciuria and renal stone formation, has been competitively renewed for five more years representing its 36th year of continuous funding. New investigator initiated studies include the effect of renal denervation using Vessix catheterization for severe pain in autoso-

mal dominant polycystic kidney disease (Arlene Chapman, MD - PI, Bharathi Reddy, MD - Co-PI).

In the educational realm, the Nephrology Fellowship Program boasts a successful match of 4/4 fellowship spots for FY 18 at a time when 40% of the nation's training slots were left unfilled. The Nephrology Fellowship Program is a joint University of Chicago-NorthShore University effort. The second year of the fellowship program has been reorganized to provide intensive training in specific areas of nephrology to allow all fellows to become subject matter experts in a particular subspecialized area of Nephrology. The second year tracks program has produced meaningful research with three abstracts presented at Department of Medicine's 2017 Research Day and two abstracts submitted to the American Society of Nephrology annual meeting and two publications. In addition, one fellow successfully completed his MSCS through his work in the Stones and Bones track focusing on albuminuria, nephrolithiasis and metabolic bone disease. Dr. Koyner has developed a new educational track for fellows starting in FY 18 that focuses on AKI-critical care nephrology and onco-nephrology.

Dr. Ko has begun a new national TREKS (Tutored Research and Education for Kidney Scholars) program in conjunction with the American Society of Nephrology for medical students interested in careers in nephrology. In July 2017, students travelled to Chicago from the United States and Canada and spent a week participating in research and clinical experiences spanning a range of nephrology topics. The students will continue have access to ongoing mentorship and participation in national ASN meetings.

Professors:

Arlene Chapman, MD (Chief)
Fredric Coe, MD
Michelle Josephson, MD
Elaine Worcester, MD

Associate Professors:

Mary Hammes, DO
Orly Kohn, MD
Jay Koyner, MD
Rita McGill, MD
Tipu Puri, MD, PhD
Nicole Stankus, MD

Assistant Professors:

Kristin Bergsland, PhD*
Patrick Cunningham, MD
Hatim Hassan, MD, PhD
Benjamin Ko, MD
Bharathi Reddy, MD
Pratik Shah, MD+
Anna Zisman, MD

Clinical Associate:

John Asplin, MD

Section Administrator:

Elizabeth Fitzgerald

*Research Appointee Track Faculty
+New FY 18 Faculty

Highlights, Accomplishments, and Discoveries:

- **Michelle Josephson, MD** – Appointed to the Policy and Advocacy Committee of the American Society of Nephrology and the Data Safety and Monitoring Board for the University of Pennsylvania Thinker Study (Open labeled trial of MK-5172 and MK-8742 for treatment of hepatitis C negative patients who receive kidney transplants from hepatitis C positive donors).
- **Jay Koyner, MD** – Reappointed to a two year term as Chair of the American Society of Nephrology Critical Care Nephrology Pre-Course.
- **Tipu Puri, MD, PhD** – Awarded the Harold & Molly Schwartz Founders Lifetime Achievement Award by the National Kidney Foundation of Illinois and was named as a Bucksbaum Institute for Clinical Excellence Senior Faculty Scholar
- **Bharathi Reddy, MD** – Re-elected to the Medical Review Board of the ESRD Network 10 for a second 3 year term.
- **Nicole Stankus, MD** – Appointed as panel member of the CMS Technical Expert Panel for the ESRD Dialysis Facility Compare (DFC) Star Ratings.



- **Kristin Bergsland, PhD** – Recipient of the Best Abstract Award (Translational Research) at the Department of Medicine 2017 Janet Rowley Research Day.
- **Patrick Cunningham, MD and Anna Zisman, MD** – Named as Bucksbaum Institute for Clinical Excellence Associate Junior Faculty Scholars.

During the past year, the Section of Nephrology have made significant discoveries in the areas of urinary acidification, renal imaging, genetic biomarkers for pharmacogenomics and the physiology of epithelial oxalate transport.

section of pulmonary/ critical care



Dr. Gökhan Mutlu

as the largest program in Illinois and received the Center of Comprehensive Care designation from the Pulmonary Hypertension Association. Dr. McShane reestablished the bronchiectasis program, which received the designation of national center in the National Bronchiectasis.

The Section maintains a successful research program and continued to have a successful year securing extramural NIH support. Anne Sperling, PhD received a new R01 to show IRF4+ dendritic cells promote type 2 inflammation in asthma. Imre Noth, MD received a new R01 to identify functional TOLLIP variants associated with IPF and to delineate the mechanisms by

which they regulate innate TLR responses in IPF. Robert Guzy, MD, PhD received a K08 award to study the role of FGF2 in alveolar epithelial repair following acute lung injury. Matthew Churpek, MD, PhD received an R01 grant to study whether data from the electronic health record and statistical modeling techniques can be used to identify infected patients who are at high-risk for sepsis. In other research highlights, Esra Tasali, MD, an internationally recognized expert in sleep research was appointed as the Director of the newly structured Sleep Research Center. Drs. Anne Sperling, Cara Hrusch, JP Kress and Bhakti Patel were selected by the Clinical Research Forum (CRF) as #1 and #2 in its annual

competition to determine the top ten outstanding research accomplishments in the U.S.

On the educational front, the Section faculty continue to distinguish themselves in all domains of teaching and training. John P. Kress, MD and Edward Naureckas, MD received the Department's Medical Resident Teaching Award and Jason Poston, MD was the recipient of the Favorite Faculty Award from the Pritzker School of Medicine graduating students for the fifth time and the Department's Postgraduate Teaching Award. The Section continues to recruit outstanding fellows into our three fellowship programs; pulmonary and critical care medicine, sleep medicine and interventional pulmonary.

Professors:

Gökhan M. Mutlu, MD (Chief)
Edward Garrity, Jr., MD
Jeffrey Glassroth, MD
Jesse Hall, MD**
Holly Humphrey, MD
John P. Kress, MD
Alan Leff, MD**
Babak Mokhlesi, MD

Edward Naureckas, MD
Imre Noth, MD
Julian Solway, MD
Anne Sperling, PhD
Mary Strek, MD
Steven White, MD

Associate Professors:

Remzi Bag, MD
Bohao Chen, PhD*
Nicolai Dulin, PhD
Kyle Hogarth, MD
Shwu Fan Ma, PhD*
John McConville, MD
Septimiu Murgu, MD
Esra Tasali, MD

Assistant Professors:

Matthew Churpek, MD, PhD
Jessica Cooksey, MD
Yun Fang, PhD
Laura Frye, MD
Amy Guralnick, MD+
Robert D. Guzy, MD, PhD
Robert B. Hamanaka, PhD*
Kristen Knutson, PhD

Pamela J. McShane, MD
Bhakti Patel, MD+
Jason Poston, MD
Philip Verhoef, MD, PhD

Clinical Associate:

Rekha Vij, MD

Section Administrator:

Elneda Boyd

Instructors:

Ayodeji Adegunsoye, MD+
Catherine Bonham, MD
Cara Hrusch, PhD

*Research Appointee Track Faculty

+New FY 18 Faculty

**emeritus



Under the direction of Gökhan Mutlu, MD, the Section of Pulmonary and Critical Care Medicine continues to be recognized nationally for excellence in clinical medicine, impactful research and innovative educational programs. In FY 17, six new faculty joined the Section: Jessica Cooksey, MD, assistant professor, is a physician who has expertise in sleep medicine. Laura Frye, MD, assistant professor, is an interventional pulmonologist who directs the complex airway program.



Pamela J. McShane, MD, assistant professor, is an expert in bronchiectasis and lung transplantation. Philip Verhoef, MD, PhD, assistant professor, is a physician scientist whose research is focused on the role of the type 2 immune response as a mediator of protection against mortality in sepsis. Catherine Bonham, MD, instructor, is a physician scientist whose research focuses on the interstitial lung diseases and sarcoidosis. Cara Hrusch, PhD, instructor, is a scientist with interest in understanding the immunologic mechanisms involved in the pathogenesis of acute lung injury and fibrosis.



Dr. Catherine Bonham
Dr. Jessica Cooksey
Dr. Pamela McShane

Among the clinical programs within the Section, the interventional pulmonary (IP) program (Kyle Hogarth, MD & Septimiu Murgu, MD - Co-directors) one of the top three centers for bronchial thermoplasty, navigational bronchoscopy and EBUS in the U.S., was enhanced in FY 17 with the recruitment of Dr. Frye and the expansion of the lung cancer screening and lung nodule evaluation clinics. The Section's interstitial lung

disease (ILD) program (Mary Strek, MD and Imre Noth, MD - Co-directors) remains the top referral center for patients with interstitial lung disease in Chicago area. The chronic obstructive pulmonary disease (COPD) program (Steven White, MD - Director) successfully reduced early readmissions from 22% in 2012 to about 12% in 2017. The pulmonary hypertension program (Remzi Bag, MD - Director) maintained its volume

Highlights, Accomplishments, and Discoveries:

- **Catherine Bonham, MD** – Received the American Thoracic Society (ATS) Science and Innovation Award
- **Edward Garrity, MD** – Recipient of the BSD's Distinguished Clinician Award
- **Kyle Hogarth, MD** – Named as the President of the Society for Advanced Bronchoscopy.
- **Holly Humphrey, MD** – Elected member of Alpha Omega Alpha Board of Directors.
- **John P. Kress, MD** – Recipient of the BSD's Francis Straus Mentorship Award, and the ATS Assembly on Clinical Problems 14th Annual Educator Award.
- **Babak Mokhlesi, MD** – Appointed as the President-Elect for the Society of Anesthesia and Sleep Medicine.
- **Septimiu Murgu, MD** – Received the Clinician Educator Award from the American College of Chest Physicians and named as the Vice Chair of Education Committee for CHEST.
- **Gokhan M. Mutlu, MD** – Appointed as an Associate Editor of the *American Journal of Respiratory Cell and Molecular Biology*.
- **Edward Naureckas, MD** – Named as the Chair of the CF Foundation Guidelines Committee
- **Anne Sperling, PhD** – Appointed Associate Vice Chair for Research for the Department of Medicine
- **Mary Strek, MD** – Appointed to the Editorial Board of Annals of the American Thoracic Society
- **Philip Verhoef, MD, PhD** – Recipient of the ASCI Young Physician-Scientist Award
- **Esra Tasali, MD** – Appointed as the Chair of Program Committee of ATS Sleep and Respiratory Neurobiology Assembly
- **Steven White, MD** – Appointed to be member of ATS Publications Policy Committee and as the Associate Vice Chair for Appointments and Promotions for the Department of Medicine

During the past year, Section of Pulmonary/Critical Care investigators:

- Demonstrated an association between in-hospital critical illness events and outcomes in patients on the same ward. (Churpek, Howell, et al., *JAMA*, 2016)
- Demonstrated a key role for KLF2 in endothelial permeability during acute lung injury. (Hamanaka, Kress, Mutlu, Fang, et al., *American Journal of Respiratory & Critical Care Medicine*, 2017).
- Discovered a role for FGF signaling in pulmonary fibrosis. (Guzy, et al., *Journal of Biological Chemistry*, 2017)
- Discovered that Amish environment provides protection against asthma by engaging and shaping the innate immune response. (Hrusch, Sperling, et al., *New England Journal of Medicine*, 2016).
- Demonstrated that elevated levels of HLA-G are a marker for a low-inflammatory endotype in asthma. (White, Naureckas, Hogarth, Solway, Sperling, et al., *Journal of Allergy & Clinical Immunology*, 2017)
- Discovered that HIF regulates cellular metabolism in aortic endothelial cells (Wu, Fang, Mutlu, et al., *ELife* 2017)



Dr. Marcus Clark

section of rheumatology

Autoimmunity has been a longstanding strength of the Section of Rheumatology. Under the leadership of Marcus Clark, MD, the Section continued its tradition of clinical excellence, innovative research and outstanding training focused on the pathogenesis of autoimmune diseases. In the past year, Section faculty contributed to major advancements in the field of immunology that have the potential to translate into cutting edge treatments for those suffering from autoimmune and metabolic diseases.



Dr. Vladimir Liarski

In FY 17 the Section of Rheumatology welcomed Vladimir Liarski, MD, to the faculty. Dr. Liarski, assistant professor of medicine, is a graduate of the Section's fellowship program and recently served as a Coggeshall Fellow. Dr. Liarski's research is focused on the study of the role, cellular make-up, and processes that lead to inflammation. He is currently investigating the importance of in situ immune responses in lupus renal interstitial inflammation and polymyositis as part of his NIH K08 funded project.

The Section maintains outstanding disease focused clinical programs that drive its

reputation for excellence in the treatment of rheumatic diseases. New clinical initiatives in FY 17 include a Vasculitis Center (Anisha Dua, MD - Director), a longitudinal study of lupus patients with nephritis (Kichul Ko, MD - Director) and new a clinical fellowship in checkpoint blockade-induced autoimmunity. Through the efforts of Drs. James Curran and Reem Jan, the Inflammatory Arthritis Clinic has grown and has gained prominence in the community and now includes joint ultrasound. The Gout Clinic (Michael Becker, MD - Director) continues to be nationally prominent.

With research funding of nearly \$6.0M, the Section's robust investigative programs focus on innate and adaptive immunity with a special emphasis on T and B cells which are responsible for autoimmunity. In FY 17 Section investigators were successful in obtaining additional federal NIH funding. Dr. Clark was awarded an NIH R21 to test a novel model of epigenetic regulation controlling differentiation and selection of B cell developmental states. Patrick Wilson, PhD was awarded a NIH subcontract in collaboration with the University of Pennsylvania to study the impact of prior influenza exposures on antibody repertoires to new viral strains. Marisa Alegre, MD, PhD, was awarded funding from the American Heart Association to study the role of microbiota in allograft rejection and



Drs. Gounari, Ozcan & Liarski at the 2017 Research Day Keynote Presentation



Dr. Marisa Alegre

Dr. Fotini Gounari, PhD received an award from the American Association of Immunologists to study the properties of pathogenic RORyt/ Foxp3 double positive regulatory T cells in colon cancer. Section faculty continued to be extremely productive, publishing results of their work in high impact journals such as *Cell*, *Science*, *Nature Immunology*, *Immunity*, *Journal of Clinical Investigation*, *Science Immunology* and *Science Translational Medicine*.

On the educational front, the Section is very active in multiple training and teaching venues. Within the rheumatology fellowship program, the Section matched top three candidates from a record number of applications. The Section has also added new clinical rotations for the fellows in musculoskeletal ultrasound. Finally, one fellow, Pankti Reid, MD, has begun a clinical pharmacology fellowship to develop expertise and study autoimmune complications of checkpoint blockade in cancer.

Professors

Marcus Clark, MD (Chief)
Maria-Luisa Alegre, MD, PhD
Michael Becker, MD+
James Curran, MD
Leif Sorensen, MD, PhD+
Patrick Wilson, PhD

Associate Professors

Fotini Gounari, PhD
Malay Mandal, PhD*

Assistant Professors

Anisha Dua, MD
Reem Jan, MD
Kichul Ko, MD
Vladimir Liarski, MD
Kimberly Trotter, MD

Clinical Associate:

Aimee Mayuga, MD

Section Administrator

Ann Leu

+Emeritus

*Research Appointee Track Faculty

Highlights, Accomplishments, and Discoveries:

- **Marisa Alegre, MD, PhD** – Appointed as Co-Director of the Medicine Microbiome Program

During the past year, Section of Rheumatology investigators:

- Provided new insights into the molecular understanding of serological immunity to influenza in young adults before and after administration (Wilson, et al., *Nature Medicine*, 2016)
- Described the impact of environmental factors on immune function and on alloimmune function, as well as on transplant fate (Alegre, et al., *Journal of Clinical Investigation*, 2016)
- Demonstrated that Bcl-2 is an attractive therapeutic target in patients with lupus nephritis who manifest tubulointerstitial inflammation (Ko, Liarski, Clark, et al., *Arthritis and Rheumatology*, 2016)
- Defined a new treatment option for gout patients (Becker, et al., *Arthritis and Rheumatology*, 2017)
- Provided evidence that CTLA4-Ig in combination with FTY720 promotes allograft survival in sensitized recipients (Alegre, et al., *Journal of Clinical Investigation Insights*, 2017)

residents & fellows

INTERNAL MEDICINE RESIDENTS

2017 Chief Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED
Nikhil Bassi	Northwestern University
Yasmin Karimi	University of Pennsylvania
Cathryn Lee	Emory University
Aaron Tannenbaum	Temple University

2018 Chief Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED
Amrith Deshmukh	Case Western Reserve University
Abdulrahman Dia	University of Illinois
Michelle Fletcher	University of Chicago
Erica MacKenzie	University of Chicago

Third Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Maria Bacalao	III	University of Texas Southwestern
Mark Belkin	III	Rush Medical College
Margaret Boyle	III	Saint Louis University
Samantha Catlett	III	Georgetown University
Kira Charney	III	Michigan State University
Noa Cleveland	III	University of Illinois
Michael Cui	III	University of Chicago
Andre Davies	III	University of Chicago
Lauren Feld	III	Mount Sinai
Sarah Gray	III	University of Michigan
Greg Haman	III	Harvard University
Rebecca Harris	III	University of Chicago
Blake Jones	III	Loyola University
Albert Lee	III	University of California San Francisco
Linda Lee	III	Rush Medical College
Zachary Lonjers	III	Loyola University
Marie McKinnon	III	University of Colorado
Priya Mehta	III	Ohio State University
Charles Muller	III	University of Chicago
Julie Neborak	III	University of Minnesota
Jerry Nnanabu	III	Brown University
Parita Patel	III	Case Western Reserve University
Steven Pearson	III	University of Illinois
Gina Piscitello	III	University of Minnesota
Caitlyn Plonka	III	University of Pittsburgh
Natalie Reizine	III	Loyola University
Trisha Saha	III	Duke University
Claire Shappell	III	University of Chicago
Ethan Silverman	III	Wayne State University
Danielle Stahlbaum	III	Case Western Reserve University
David Tehrani	III	University of California Irvine
Allison Thoburn	III	University of Illinois
Eisha Wali	III	Case Western Reserve University
Hannah Wenger	III	University of Chicago

Second Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Nina Arhin	II	Meharry Medical College
Rene Bermea, Jr	II	University of Chicago
Brittany Bindon	II	Loyola University
Keely Browning	II	Medical College of Wisconsin
Kirk Cahill	II	University of Chicago
Mike Cheng	II	Case Western Reserve University
Noura Choudhury	II	University of Chicago
Anthony de la Pena	II	University of Illinois

Second Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Sarah Feenstra	II	University of Chicago
Christopher Fernandes	II	University of Illinois
Felipe Fernandez del Castillo	II	University of Massachusetts
Christopher Frohne	II	University of Virginia
Amulya Gampa	II	University of Illinois
Raffi Hagopian	II	Ohio State University
Michael Hawking	II	University of Michigan
Jennifer Houpy	II	University of Chicago
Anupama Joseph	II	Ohio State University
Joshua Katz	II	Loyola University
Kendall Kling	II	Loyola University
Grace Koo	II	University of Maryland
Shawn Kothari	II	University of Pennsylvania
Ernesto Llano	II	University of Texas Southwestern
Alexandru Marginean	II	Rosalind Franklin University
Daniel Meza	II	University of Illinois
Elizabeth Munroe	II	University of Chicago
Justin Porter	II	New York University
Elzbieta Stob	II	Creighton University
Julia Sun	II	Duke University
Eric Swei	II	Ohio State University
Natalie Tapaskar	II	Case Western Reserve University
Adam Vohra	II	University of Chicago
Thomas Wagner	II	Medical College of Wisconsin

First Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Murtaza Bharmal	I	University of Vermont
Kent Brummel	I	Northwestern University
Jennifer Cooperrider	I	Ohio State University
Bonnie Diep	I	University of Southern California
Elizabeth Donnelly	I	University of Chicago
Donald Goens	I	University of California San Francisco
Gregory Ingolia	I	University of Colorado
Anthony Kanelidis	I	University of Miami
Shivani Khanna	I	Boston University
Neal Klauer	I	University of Minnesota
Brian Labadie	I	University of California Irvine
Jonathan Lattell	I	Loyola University
Betty Li	I	University of Illinois
Austin Lin	I	University of Michigan
Maria Maldonado	I	Baylor College of Medicine
Michael Maranzano	I	Duke University
Steven Mazzone	I	Rush Medical College
Christopher Miller	I	University of Illinois
Rebeca Ortiz Worthington	I	University of Chicago
Charles Oshinsky	I	New York University
Raghavendra Paknikar	I	University of Michigan
Kathleen Pollard	I	George Washington University
Eleanor Reimer	I	University of Michigan
Hannah Roth	I	University of Chicago
Brooke Scheidemantle	I	Thomas Jefferson University
Anthony Serritella	I	Johns Hopkins University
Wenfei Wang	I	University of Toledo
Hannah Wey	I	Rutgers The State University of New Jersey
William Wilson	I	Indiana University
Thomas Yates	I	Wake Forest University

Preliminary

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Edward Chen	I	University of Alabama
Nicholas Feinberg	I	Columbia University
Sarah Jarjour	I	University of Illinois
Shruti Mishra	I	Washington University
Kevin Rogacki	I	Case Western Reserve University
Jordan Standlee	I	Washington University
Sean Wu	I	Case Western Reserve University

Physician Scientist Development Program

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Ariel Halper-Stromberg	I	Cornell University
Benjamin McDonald	I	University of Chicago
Matthew Odenwald	I	University of Chicago
Athalia Pyzer	I	University of Birmingham
Sherin Rouhani	II	University of Virginia
Obada Shamaa	II	Ohio State University

MEDICINE-PEDIATRICS PROGRAM

Fourth Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Jessica Gold	IV	Thomas Jefferson University
Katie Good	IV	Virginia Commonwealth University
Ellora Karmarkar	IV	University of California Los Angeles
Amy Wang	IV	University of Texas Houston

Third Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Zainab Abdul-Rahim	III	University of Massachusetts
Rebecca Chohlas-Wood	III	University of Washington
Thomas Couri	III	University of Chicago
Robert Sanchez	III	University of Chicago

Second Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Erin Hickey	II	University of Colorado
Stephanie Kelly	II	McGill University
Jori Sheade	II	Rush Medical College
Daniel Teixeira da Silva	II	Boston University

First Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Alanna Burnett	I	University of Illinois
Nathan Georgette	I	Harvard University
Sanjay Juman	I	Rutgers The State University of New Jersey
Bennett Waxse	I	University of Texas Southwestern

DERMATOLOGY RESIDENTS

Third Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Laura Buford	IV	University of Oklahoma
Jingyun (Juliana) Gao	IV	Duke University
Ashley Jenkins	IV	University of Missouri
Rebecca Kaiser	IV	University of Chicago

Second Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Stephanie Kazantsev	III	University of Chicago
Kathleen Kelley	III	Indiana University
Larry Napolitano	III	Case Western Reserve University

First Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Clifford Hsieh	II	University of Chicago
Emily Lund	II	Columbia University
Jared Wishik	II	University of Florida

EMERGENCY MEDICINE RESIDENTS

Third Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Sina Akhavan	III	University of California San Francisco
Dillon Barron	III	University of North Carolina
Lauren Cooper	III	Meharry Medical College
Michael Ernst	III	Michigan State University
Steven Flynn	III	University of Washington
Racheal Gilmer	III	University of Colorado
Omobolawa Kukoyi	III	Duke University
Albert Leung	III	Harvard University
Andrew Marshall	III	Meharry Medical College
Jacob Moore	III	University of Illinois at Chicago
Natalie Neumann	III	Harvard University
Archana Shah	III	Texas Tech University
Brian Sprouse	III	University of California Irvine
Shameeke Taylor	III	University of Pittsburgh
Joshua Wunder	III	Case Western Reserve University
Richard Zhang	III	University of Pittsburgh

Second Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED	
Zakaria Abdulnabi	II	Case Western Reserve University
Patrick Ardron-Hudson	II	Oregon Health & Science University
Maureen Canellas	II	University of Colorado
Mark Chottiner	II	University of Maryland
Dustin Harris	II	University of California Los Angeles
Michelle Ho	II	University of Maryland
Andrew Hogan	II	University of Texas Southwestern
Eric Keast	II	University of Michigan
Jason Kopec	II	University of Rochester
Hani Kuttub	II	Loyola University
Zayir Malik	II	Emory University
Abdullah Pratt	II	University of Chicago
Kevin Quirke	II	Loyola University
Charlotte Roy	II	Cornell University
Brian Strickland	II	University of Southern California
Garth Walker	II	University of Illinois at Chicago

residents & fellows

EMERGENCY MEDICINE RESIDENTS

First Year Residents

PGY LEVEL	MEDICAL SCHOOL ATTENDED
I	University of Rochester
I	University of Pittsburgh
I	University of Michigan
I	Ohio State University
I	Northwestern University
I	University of Michigan
I	University of Virginia
I	Harvard University
I	Rush Medical College

First Year Residents (continued)

I	Meharry Medical College
I	University of Michigan
I	Rutgers University
I	New York University
I	University of Chicago
I	University of Chicago
I	Georgetown University
I	Northwestern University

FELLOWS

Cardiology Cardiovascular Diseases

PGY LEVEL	MEDICAL SCHOOL	RESIDENCY
VI	University of Illinois	University of Pittsburgh
VI	University of Kentucky	Johns Hopkins University
VI	University of Minnesota	Mayo Clinic
VI	Vanderbilt University	University of Chicago
VI	University of Illinois	University of Chicago
VI	University of Nebraska	University of Nebraska
V	University of Wisconsin	University of Chicago
V	University of Chicago	Stanford University
V	International Program	Albert Einstein College of Medicine
V	Tulane University	University of California
V	Loyola University	University of Michigan
V	Loyola University	University of Chicago
IV	University of Nebraska	University of Nebraska
IV	Case Western Reserve University	University of Chicago
IV	Northwestern University	Medical College of Wisconsin
IV	Georgetown University	Medstar Georgetown University
IV	Indiana University	Oregon Health and Science University
IV	University of Texas Southwestern	University of Chicago

Interventional Cardiology

	University School of Medicine	Loyola University Medical Center
VII	Northwestern University	University of Chicago

Clinical Cardiac Electrophysiology

PGY LEVEL	MEDICAL SCHOOL	RESIDENCY
VII	East Carolina University	Marshall University

Advanced Heart Failure

VII	Jefferson Medical School	University of Chicago
VII	University of Texas Houston	University of Chicago

Cardiac Imaging

VII	Maulana Azad Medical School	Marshall University
VII	University of Illinois at Chicago	University of Chicago

Dermatology

V	Sree Balaji Medical College and Hospital of Chennai, India	Orlando Health
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Endocrinology, Diabetes and Metabolism

Adult

IV	Rawalpindi Medical College, Pakistan	North Shore Medical Center, Salem, MA
IV	Siriraj Hospital Faculty of Medicine, Thailand	Bassett Medical Center
IV	University of Washington	University of Chicago
V	Emory University	University of Chicago
VI	Oregon Health & Science University	University of Chicago

Pediatrics

VI	University of Miami	University of Chicago
VI	Rosalind N Franklin University	Northwestern University
V	Andhra Medical College, India	John Stroger Hospital
IV	University of Illinois	Lutheran General Hospital
IV	Howard University	The Steven and Alexandra Cohen's Medical Center

Gastroenterology, Hepatology and Nutrition

VIII	Technion, Hifa, Israel	Rambam Medical Center
VIII	Tel Aviv University, Israel	Maimonides Medical Center
VII	Semmelweis University	Hadassah University Medical Center
VII	University of Chicago	University of Chicago
VI	Georgetown University	Georgetown University
VI	Emory University	Northwestern University
VI	University of Chicago	University of Chicago
VI	University of Cincinnati	University of Illinois, Chicago
VI	Penn State University	University of British Columbia
V	University of Cincinnati	University of Chicago
V	Cornell University	Cedars-Sinai Medical Center

Gastroenterology, Hepatology and Nutrition (continued)

PGY LEVEL	MEDICAL SCHOOL	RESIDENCY
V	Purdue University	University of Chicago
V	Shanxi Medical University, China	University of Nevada
IV	NUI Galway School of Medicine, Ireland	Mayo Clinic Rochester
IV	Indiana University	Emory University
IV	University of Chicago	University of Chicago

Geriatrics and Palliative Medicine

VI	University of Chicago	University of Chicago
V	University of Tennessee	University of Oklahoma
IV	Loyola University	University of Chicago
IV	Allama Iqbal Medical College, Pakistan	Jamaica Hospital, New York
IV	Case Western Reserve University	University of Chicago

Hematology/Oncology

VI	Kempegowda Institute of Medical Science	University of Buffalo
V	Kamner Institute	State University of New York
V	University of Pennsylvania	Duke University
V	University of Chicago	University of Chicago
V	Ohio State University	Ohio State University
V	Loyola University	University of Chicago
V	Obafemi Awolowo College	Morehouse School of Medicine
V	Rush Medical College	University of Chicago
V	Penn State University	University of Chicago
V	University of Chicago	University of Chicago
V	New York University	University of Chicago
V	Drexel University	George Washington Hospital
V	New York University	University of Chicago
IV	Northwestern University	Rush University
IV	University of Maryland	University of Pittsburgh
IV	Loyola University	University of Chicago
IV	Emory University	Emory University
IV	Weill Cornell Medical	Johns Hopkins University
IV	Rush Medical College	Northwestern University
IV	Columbia University	University of Pittsburgh
IV	University of Iowa	University of Chicago

Hospital Medicine /Hospitalist Scholars

IV	Johns Hopkins University	Johns Hopkins University
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Infectious Diseases & Global Health

VI	Kobe University	University of New Mexico
V	University of Illinois at Chicago	University of Illinois at Chicago
V	University of California, San Diego	Scripps Green Hospital
IV	University of Michigan	Oregon Health & Sciences University
IV	Thomas Jefferson University	Thomas Jefferson University

Nephrology

PGY LEVEL	MEDICAL SCHOOL	RESIDENCY
V	University of Damascus	Presence Health
V	Saba University	St. Joseph, Chicago Advocate Lutheran General Hospital, Park Ridge, IL
V	Chicago Medical School	University of Illinois, Advocate Christ Medical Center
V	Jordan University of Science and Technology	University of Illinois, Advocate Christ Medical Center
IV	Medical College of Thiruvananthapuram	John H. Stroger Jr. Hospital of Cook County
IV	Catholic University of Korea	Englewood Hospital & Medical Center
IV	Kakatiya Medical College,- India	St. Francis Medical Center
IV	University of Arizona	University of South Carolina

Pulmonary/Critical Care

VII	Georgetown University	University of Chicago
VI	Ohio State University	University of Chicago
VI	Case Western Reserve University	University of California, San Francisco
VI	University of Chicago	University of Chicago
VI	University of Illinois, Chicago	University of Chicago
VI	University of Chicago	University of Chicago
VI	University of California, Los Angeles	University of Chicago
V	University of Texas, Galveston	Baylor University
V	(Siva) Bhavani	Georgetown University
V	St. George's University	University of Pennsylvania
V	University of Freiburg	University of Texas, Southwestern
V	University of Texas, Southwestern	University of Texas, Southwestern
IV	University of Chicago	University of Chicago
IV	Emory University	University of Chicago
IV	University of Virginia	University of California, Los Angeles

Sleep Medicine

VII	Shahid Beheshti University of Medical Sciences	Loyola University
VII	Northeast Ohio Medical University	Brown University
IV	Vanderbilt University	University of Chicago

Interventional Pulmonology

VII	Albany Medical College	Medical College of Wisconsin
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Rheumatology

V	Ohio State University	University of Cincinnati
V	Universidade de Brasilia	Icahn School of Medicine
V	American University of Antigua College of Medicine	UTHealth McGovern Medical School
IV	University of Alabama	Virginia Commonwealth University

residents & fellows

GRADUATES FY 17

Internal Medicine

NAME	POSITION	INSITUATION
Vanessa Alonso	Geriatrics Fellow	University of Chicago
Emeka Anyanwu	Cardiology Fellow	University of Chicago
Joshua Bakke	Dermatology Resident	University of Tennessee
Nikhil Bassi	Cardiology Fellow	University of California, Los Angeles
Ankit Bhatia	Cardiology Fellow	Washington University
Daniel Bradley	Radiology Resident	University of California, Los Angeles
Abdallah Bukari	Hospitalist	University of Chicago NorthShore
Anisha Chandiramani	Informatics Fellow	Duke University
Nimit Desai	Hospitalist	University of Chicago NorthShore
Amrsh Deshmukh	Chief Resident	University of Chicago
Abdulrahman Dia	Chief Resident	University of Chicago
Danielle Farrington	Chief Resident	MacNeal Hospital
Michelle Fletcher	Chief Resident	University of Chicago
Nathan Frogge	Cardiology Fellow	Washington University
Shewit Giovanni	Pulmonary and Critical Care Fellow	University of Washington
Xiaoxiao Guo	Anesthesiology Resident	Emory University
Nina Gupta	Gastroenterology Fellow	University of Chicago
Susan Han	Pulmonary and Critical Care Fellow	University of Chicago
Yasmin Karimi	Hematology/Oncology Fellow	Stanford University
Katherine Khatibi	Anesthesiology Resident	Johns Hopkins University
Carmela Kiraly	Sleep Medicine Fellow	University of Chicago
David Kopelman	Cardiovascular Hospitalist	Intermountain Medical Center
Cathryn Lee	Pulmonary and Critical Care Fellow	University of Chicago
Michael Leukam	Hematology/Oncology Fellow	University of Chicago
Katherine Ligtenberg	Dermatology Resident	Yale University
Nayna Lodhia	Gastroenterology Fellow	Brigham and Women's
Erica MacKenzie	Chief Resident	University of Chicago
Mary Masters	Infectious Diseases Fellow	Northwestern University
Chandni Patel	Geriatrics Fellow	University of Chicago
Krishna Patel	Research Year / Dermatology Resident	Northwestern University/ University of Illinois
Juan Reyes Genere	Gastroenterology Fellow	Mayo Clinic
Erin Rocci	Dermatology Resident	Mayo Clinic
Sandra Shi	Geriatrics Fellow	Beth Israel Deaconess Medical Center
Aadhavi Sridharan	Cardiology Fellow	Tufts University
Aaron Tannenbaum	Pulmonary and Critical Care Fellow	University of Pennsylvania
Justin Tomal	Gastroenterology Fellow	Vanderbilt University
Dovie Watson	Infectious Diseases Fellow	University of Pennsylvania
Benjamin Weber	Cardiology Fellow	Loyola University
Mia Weiss	Hematology/Oncology Fellow	Rush University
Dong Bo Yu	Cardiology Fellow	University of Chicago
Dawen Zhang	Rheumatology Fellow	University of California, Los Angeles
Linda Zhu	Hospitalist	University of Chicago NorthShore

Medicine-Pediatrics

NAME	POSITION	INSITUATION
Sofija Degeysys	Allergy & Immunology Fellow	University of Michigan
Vincent DiMaggio	Chief Resident (Pediatrics)	University of Chicago
Natalia Genere	Endocrinology Fellow	Mayo Clinic
Ashley Thomas	Palliative Care Fellow	Vanderbilt University

Dermatology

NAME	POSITION	INSITUATION
Ashley Feneran	Private Practice	Chicago, Illinois
Heather Peck	Anatomic and Clinical Pathologist	Clinical Laboratory of the Black Hills
Haider Bangash	Private Practice	Elmhurst Dermatology
Olga Radkevich-Brown	Clinical Associate/Private Practice	University of Chicago/Southwest Dermatology, Orland Park
Carly Roman	Private Practice	Modern Dermatology, Seattle, Washington

Emergency Medicine

NAME	POSITION	INSITUATION
Elyssa Berg	Attending Physician	Locum Tenens
Andrew Bokarius	Attending Physician	Mercy Health System; Lake Geneva, WI
Colton Clay	Attending Physician	Northwest Community Hospital, Arlington Heights, IL
Amy Ho	Associate Medical Director	John Peter Smith Hospital and Integrative Emergency Services; Dallas, TX
Joffe Johnson	Attending Physician	St. Joseph Mercy Hospital; Ann Arbor, MI
Carrie Jurkiewicz	Wilderness Medicine Fellow	Stanford University
Paul Kukulski	Medical Education Fellow	University of Chicago
Ernest Nwachukwu	Attending Physician	Houston Methodist West Hospital; Houston, TX
Jen Nykiel	Attending Physician	Fairview Hospital; Great Barrington, MA
Alejandro Palma	Assistant Professor of Medicine	University of Chicago
Nishma Sachedina	Attending Physician	Holy Cross Hospital; Ft. Lauderdale, FL
Yong Suh	Clinical Partner	CEP America; Emeryville, CA
Eric Toone	Attending Physician	Carle Hospital; Champagne, IL
Omar Usman	Medical Informatics Fellow	Stanford University
Kenneth Young	Simulation Fellow	NorthShore University HealthSystem

Cardiology

NAME	POSITION	INSITUATION
Isida Byku	Interventional Fellow	Emory University
Ben (Bow Young) Chung	Advanced Heart Failure and Transplant Cardiology Fellow	University of Chicago
Akhil Narang	Cardiac Imaging Fellow	University of Chicago
Annie Nguyen	Advanced Heart Failure and Transplant Cardiology Fellow	University of Chicago
Adam Oesterle	Advanced Electrophysiology Fellow	University of California, San Francisco
Jonathan Rosenberg	Interventional Fellow	University of Chicago
Amita Singh	Assistant Professor of Medicine	University of Wisconsin
Noreen Nazir	Assistant Professor of Medicine	University of Illinois, Chicago
Diego Medvedofsky	Cardiovascular Investigator, Faculty	Core Lab of the MedStar Health Research Institute
Jonathan Grinstein	Advanced Heart Failure Physician	Medstart

Heart and Vascular

NAME	POSITION	INSITUATION
Sara Kalantari	Assistant Professor of Medicine	University of Chicago
Ajay Patel	Private Practice	Bakersfield Heart Hospital
Andrew Beaser	Assistant Professor of Medicine	University of Chicago
Kelvin Chua		Hong Kong

Endocrinology, Diabetes & Metabolism

NAME	POSITION	INSITUATION
Rajesh Jain	Assistant Professor of Medicine	Temple University
Katie O'Sullivan	Assistant Professor of Medicine	University of Chicago
Magdalena Dumin	Pediatric Endocrinologist	Academic Endocrinology-Wheaton, IL

Gastroenterology, Hepatology & Nutrition

NAME	POSITION	INSITUATION
Emmanuel Coronel	Advanced Endoscopy Fellow	MD Anderson
Bilal Gondal	Staff Physician	University of Illinois, Urbana
Vijaya Rao	Assistant Professor of Medicine	University of Chicago
Arsalan Khan	Hospitalist	Advocate Christ Hospital
Sudarshan Paramsothy	Advanced IBD Fellow	Mount Sinai, NY
Keith Naylor	Clinical Lecturer	University of Michigan

General Internal Medicine

NAME	POSITION	INSITUATION
Elizabeth Tung	Pathway Instructor	University of Chicago
Ashley Haddad	Internal Medicine Physician	Oak Street Health

Geriatrics and Palliative Medicine

NAME	POSITION	INSITUATION
Pringl Miller (Palliative)	Palliative Medicine Physician	Rush University Medical Center/JourneyCare Hospice
Janet Starck (Palliative)	Director, Palliative Medicine Inpatient Unit	VITAS Hospice and Palliative Medicine
Emily Escue (Geriatrics)	Hospice & Palliative Medicine Fellow	University of Chicago
Michelle Martinchek (Geriatrics)	Assistant Professor of Medicine	University of Chicago

Hematology/Oncology

NAME	POSITION	INSITUATION
Jamie Brewer	Pharmacology Fellow	University of Chicago
Kevin Wood	Assistant Professor of Medicine	University of California, San Diego
Poornima Chennamaneni	Academic Lead of Breast Medical Oncology	Northshore
Steven Maron	Coggeshall Fellow	University of Chicago
Michael Tallarico	Attending medical oncologist/hematologist	Northwest Oncology, P.C.
Sope Olugbile	Assistant Professor of Medicine	The Ohio State University
Randy Sweis	Pathway Instructor	University of Chicago

Hospital Medicine /Hospitalist Scholars

NAME	POSITION	INSITUATION
Jonathan Erlich	Gastroenterology Fellow	Beth Israel Deaconess Medical Center
Michael Huber	Geriatrics and Palliative Care Fellow	University of Chicago
Jonathon Lio	Assistant Professor of Medicine	University of Chicago
Marc Robinson	Assistant Professor of Medicine	Baylor College of Medicine

Infectious Diseases and Global Health

NAME	POSITION	INSITUATION
Mary Ellen Acree	Attending Physician	Northshore University Health System
Daniela Pellegrini	Attending Physician	Mercy Health Partners, Muskegon, Michigan

Nephrology

NAME	POSITION	INSITUATION
Manpreet Samra	Assistant Professor, Transplant Nephrology	University of Illinois, Chicago
Omar Al Dhaybi	Hypertension Fellow	University of Chicago
Vamshi Bende	Hospitalist	Franciscan Health Munster, Indiana

Pulmonary/Critical Care

NAME	POSITION	INSITUATION
Ayodeji Adegunsoye	Coggeshall Fellow	University of Chicago
Leah Witt	Geriatrics Fellow	University of California, San Francisco

Sleep Medicine

NAME	POSITION	INSITUATION
Jennifer Butler	Attending Physician	Piedmont Hospital, GA
Julio Noda Milla	Attending Physician	Salem Health, Salem, OR
Adam Rappoport	Instructor	Nemours Children's Specialty Care

Interventional Pulmonology

NAME	POSITION	INSITUATION
Sean Stoy	Attending Physician	Undecided

Rheumatology

NAME	POSITION	INSITUATION
Heena A. Birbal Jain	Attending Physician	University of Illinois
Ahmad Salah	Attending Rheumatologist	Franciscan Alliance/Health

select high impact publications

Department of Medicine faculty are extremely productive, publishing over 1400 original articles in a number of outstanding internal medicine and subspecialty journals. Below is a sampling of some recent high impact papers.

Annals of Internal Medicine

1. Edelson DP; Churpek MM. Annals for Hospitalists Inpatient Notes - Predicting Codes-A Future With Fewer In-Hospital Cardiac Arrests. *Annals Internal Medicine* 16;166(10),2017

Cell

1. Manolio TA, Fowler DM, Starita LM, Haendel MA, MacArthur DG, Biesecker LG, Worthey E, Chisholm RL, Green ED, Jacob HJ, McLeod HL, Roden D, Rodriguez LL, Williams MS, Cooper GM, Cox NJ, Herman GE, King-smore S, Lo C, Lutz C, MacRae CA, Nussbaum RL, Ordovas JM, Ramos EM, Robinson PN, Rubinstein WS, Seidman C, **Stranger BE**, Wang H, Westerfield M, Bult C. Bedside Back to Bench: Building Bridges between Basic and Clinical Genomic Research. *Cell* 169(1):6-12,2017
2. Burgess MR, Hwang E, Mroue R, Bielski CM, Wandler AM, Huang BJ, Firestone AJ, Young A, Lacap JA, Crocker L, Asthana S, Davis EM, Xu J, Akagi K, **Le Beau MM**, Li Q, Haley B, Stokoe D, Sampath D, Taylor BS, Evangelista M, Shannon K. KRAS Allelic Imbalance Enhances Fitness and Modulates MAP Kinase Dependence in Cancer. *Cell* 168(5):817-829,2017

Journal of the American Medical Association

1. **Jain A, Cifu AS**. Antithrombotic Therapy for Venous Thromboembolic Disease. *Journal of the American Medical Association* 317(19):2008-2009,2017
2. **Kavitt RT, Cifu AS**. Management of Helicobacter pylori Infection. *Journal of the American Medical Association* 317(15):1572-1573,2017
3. Brito JP, Montori VM, **Davis AM**. Metabolic Surgery in the Treatment Algorithm for Type 2 Diabetes: A Joint Statement by International Diabetes Organizations. *Journal of the American Medical Association* 317(6):635-636,2017
4. **Medalie L, Cifu AS**. Management of Chronic Insomnia Disorder in Adults. *Journal of the American Medical Association* 317(7):762-763,2017
5. Roman CJ, **Cifu AS, Stein SL**. Clinical Guidelines for Management of Acne Vulgaris-Reply. *Journal of the American Medical Association* 317(2):213,2017
6. **Howell MD, Davis AM**. Management of Sepsis and Septic Shock. *Journal of the American Medical Association* 317(8):847-848,2017
7. **Cohen RN, Davis AM**. Management of Adult Patients with Thyroid Nodules and Differentiated Thyroid Cancer. *Journal of the American Medical Association* 317(4):434-435,2017
8. Culbertson S, **Davis AM**. Nonsurgical Management of Urinary Incontinence in Women. *Journal of the American Medical Association* 317(1):79-80,2017
9. Volchenbom SL, Mayampurath A, Göksoy-Gürsoy G, **Edelson DP, Howell MD, Churpek MM**. Association Between In-Hospital Critical Illness Events and Outcomes in Patients on the Same Ward. *Journal of the American Medical Association* 316(24):2674-2675,2016
10. **Arora VM, Farnan JM**. Inpatient Service Change: Safety or Selection? *Journal of the American Medical Association* 316(21):2193-2194,2016
11. **Wray CM**, Chaudhry S, Pincavage A, Miller R, DeCherrie L, Ouchida K, Arora VM. Resident Shift Handoff Strategies in US Internal Medicine Residency Programs. *Journal of the American Medical Association* 316(21):2273-2275,2016
12. **Alexander J, Cifu AS**. Transfusion of Red Blood Cells. *Journal of the American Medical Association* 316(19):2038-203,2016

13. Skelly CL, **Cifu AS**. Screening, Evaluation, and Treatment of Peripheral Arterial Disease. *Journal of the American Medical Association* 316(14):1486-148,2016
14. Tao JX, **Davis AM**. Management of an Unprovoked First Seizure in Adults. *Journal of the American Medical Association* 316(15):1590-1591,2016
15. **Patel BK, Hall JB, Kress JP**. Face Mask vs Helmet for Noninvasive Ventilation-Reply. *Journal of the American Medical Association* 316(14):1492,2016
16. **Cifu AS**, Walker DD, Gluth MB. Guidelines for Tinnitus-Reply. *Journal of the American Medical Association* 316(11):1215,2016
17. Roman CJ, **Cifu AS, Stein SL**. Management of Acne Vulgaris. *Journal of the American Medical Association* 316(13):1402-140,2016
18. Sanders GD, Neumann PJ, Basu A, Brock DW, Feeny D, Krahn M, Kuntz KM, **Meltzer DO**; Owens DK, Prosser LA, Salomon JA, Sculpher MJ, Trikalinos TA, Russell LB, Siegel JE, Ganiats TG. Recommendations for Conduct; Methodological Practices; and Reporting of Cost-effectiveness Analyses: Second Panel on Cost-Effectiveness in Health and Medicine. *Journal of the American Medical Association* 316(10):1093-10,2016
19. **McNulty M, Cifu AS, Pitrak D**. HIV Screening. *Journal of the American Medical Association* 316(2):213-4,2016
20. Dunlap B, **Cifu AS**. Clinical Management of Opioid Use Disorder. *Journal of the American Medical Association* 316(3):338-9,2016
21. Steiger N, **Cifu AS**. Primary Prevention of Stroke. *Journal of the American Medical Association* 316(6):658-9,2016
22. Chopra V, **Edelson DP**, Saint S. Mentorship Malpractice. *Journal of the American Medical Association* 315(14):1453-1454,2016

Journal of Clinical Investigation

1. Riella LV, Bagley J, Iacomini J, **Alegre ML**. Impact of Environmental Factors on Alloimmunity and Transplant Fate. *Journal of Clinical Investigation* 127(7):2482-2491,2017
2. Gilles L, Arslan AD; Marinaccio C, Wen QJ, Arya P, McNulty M, Yang Q, Zhao JC, Konstantinoff K, Lasho T, Pardanani A, Stein B, Plo I, Sundaravel S, **Wickrema A**, Migliaccio A, Gurbuxani S, Vainchenker W, Platanias LC, Tefferi A, Crispino JD. Downregulation of GATA1 Drives Impaired Hematopoiesis in Primary Myelofibrosis. *Journal of Clinical Investigation* 127(4):1316-1320,2017
3. Lei YM, Chen L, Wang Y, Stefka AT, Molinero LL, Theriault B, Aquino-Michaels K, Sivan AS, Nagler CR, **Gajewski TF**, Chong AS, Bartman C, **Alegre ML**. The Composition of the Microbiota Modulates Allograft Rejection. *Journal of Clinical Investigation* 126(7):2736-44,2016

Lancet

1. Ginsburg O, Badwe R, Boyle P, Derricks G, Dare A, Evans T, Eniu A, Jimenez J, Kutluk T, Lopes G, Mohammed SI, Qiao YL, Rashid SF, Summers D, Sarfati D, Temmerman M, Trimble EL, **Padela AI**, Aggarwal A, Sullivan R. Changing Global Policy to Deliver Safe, Equitable, and Affordable Care for Women's Cancers. *Lancet* 389(10071):871-880, 2017

Nature

1. Dickinson ME, Flenniken AM, Ji X, Teboul L, Wong MD, White JK, **Dolan ME**, Murray SA. High-throughput Discovery of Novel Developmental Phenotypes. *Nature* 537(7621):508-514,2016
2. Anderson TM, **Garcia AJ 3rd**, Baertsch NA, Pollak J, Bloom JC, Wei AD. A Novel Excitatory Network for the Control of Breathing. *Nature* 536(7614):76-80,2016
3. Fuchsberger C, Flannick J, Teslovich TM, Mahajan A, Agarwala V, Gaulton KJ, **Im HK, Bell GI**, McCarthy MI. The Genetic Architecture of type 2 Diabetes. *Nature* 536(7614):41-7,2016
4. Lek M, Karczewski KJ, Minikel EV, Samocha KE, Banks E, Fennell T, **Bell GI**, MacArthur DG; Exome Aggregation Consortium. Analysis of Protein-Coding Genetic Variation in 60,706 Humans. *Nature* 536(7616):285-912,2016

Nature Communications

1. Mathias RA, Taub MA, Gignoux CR, Fu W, Musharoff S, O'Connor TD, **Olopade C, Olopade O**, Barnes KC. A continuum of admixture in the Western

Hemisphere Revealed by the African Diaspora Genome. *Nature Communications* 7:12522,2016

2. Gu Z, Churchman M, Roberts K, Li Y, Liu Y, Harvey RC, **Stock W**, Mullighan CG. Genomic Analyses Identify Recurrent MEF2D Fusions in Acute Lymphoblastic Leukaemia. *Nature Communications* 7:13331,2016
3. Lawrenson K, Kar S, McCue K, Kuchenbaecker K, Michailidou K, Tyrer J, **Olopade OI**, Gayther SA. Functional Mechanisms Underlying Pleiotropic Risk Alleles at the 19p13.1 Breast-Ovarian Cancer Susceptibility Locus. *Nature Communications* 7:12675,2016

Nature Genetics

1. Day FR, Thompson DJ, Helgason H, Chasman DI, Finucane H, Sulem P, Ruth KS, Whalen S, Sarkar AK, Albrecht E, Altmaier E, Amini M, **Im HK**, Hinds D, Murray A, Murabito JM, Stefansson K, Ong KK, Perry JRB. Genomic Analyses Identify Hundreds of Variants Associated with Age at Menarche and Support a Role for Puberty Timing in Cancer Risk. *Nature Genetics*, 49(6):834-841,2017
2. Phelan CM; Kuchenbaecker KB; Tyrer JP; Kar SP; Lawrenson K; Winham SJ, **Olopade OI**, Pharoah PD. Identification of 12 New Susceptibility Loci for Different Histotypes of Epithelial Ovarian Cancer. *Nature Genetics* 49(5):680-691,2017
3. Zhang J, McCastlain K, Yoshihara H, Xu B, Chang Y, Churchman ML, **Stock W**, Mullighan CG. Deregulation of DUX4 and ERG in Acute Lymphoblastic Leukemia. *Nature Genetics* 48(12):1481-1489,2016

Nature Medicine

1. Lee J, Boutz DR, Chromikova V, Joyce MG, Vollmers C, Leung K, Horton AP, **Wilson PC**, Kwong PD, Georgiou G. Molecular-Level Analysis of the Serum Antibody Repertoire in Young Adults Before and After Seasonal Influenza Vaccination. *Nature Medicine* 22(12):1456-1464,2016

New England Journal of Medicine

1. DeMartino ES, Dudzinski DM, Doyle CK, Sperry BP, Gregory SE, **Siegler M**, Sulmasy DP, Mueller PS, Kramer DB. Who Decides When a Patient Can't? Statutes on Alternate Decision Makers. *New England Journal of Medicine* 376(15):1478-1482,2017
2. Hochhaus A, **Larson RA**, Guilhot F, Radich JP, Branford S, Hughes TP, Baccarani M, Deininger MW, Cervantes F, Fujihara S, Ortmann CE, Menssen HD, Kantarjian H, O'Brien SG, Druker BJ. Long-Term Outcomes of Imatinib Treatment for Chronic Myeloid Leukemia. *New England Journal of Medicine* 37(10):917-927,2017
3. Welch JS, Petti AA, Miller CA, Fronick CC, O'Laughlin M, Fulton RS, Wilson RK, Baty JD, Duncavage EJ, Tandon B, Lee YS, Wartman LD, Uy GL, Ghobadi A, Tomasson MH, Pusic I, Romee R, Fehniger TA, Stockerl-Goldstein KE, Vij R, Oh ST, Abboud CN, Cashen AF, Schroeder MA, Jacoby MA, Heath SE, Lubner K, Janke MR, Hantel A, Khan N, Sukhanova MJ, Knoebel RW, **Stock W**, Graubert TA, Walter MJ, Westervelt P, Link DC, DiPersio JF, Ley TJ. TP53 and Decitabine in Acute Myeloid Leukemia and Myelodysplastic Syndromes. *New England Journal of Medicine* 375(21):2023-2036,2016
4. Ferris RL, Blumenschein G Jr, Fayette J, Guigay J, Colevas AD, Licitra L, Harrington K, Kasper S, **Vokes EE**, Even C, Worden F, Saba NF, Iglesias Docampo LC, Haddad R, Rordorf T, Kiyota N, Tahara M, Monga M, Lynch M, Geese WJ, Kopit J, Shaw JW, Gillison ML. Nivolumab for Recurrent Squamous-Cell Carcinoma of the Head and Neck. *New England Journal of Medicine* 375(19):1856-1867,2016
5. **Grossman RL**, Heath AP, Ferretti V, Varmus HE, Lowy DR, Kibbe WA, Staudt LM. Toward a Shared Vision for Cancer Genomic Data. *New England Journal of Medicine* 375(12):1109-12,2016
6. **Mokhlesi B**, Ayas NT. Cardiovascular Events in Obstructive Sleep Apnea - Can CPAP Therapy SAVE Lives. *New England Journal of Medicine* 375(10):994-6,2016
7. Kantarjian HM, DeAngelo DJ, Stelljes M, Martinelli G, Liedtke M, **Stock W**, GÅkbuget N, O'Brien S, Wang K, Wang T, Paccagnella ML, Sleight B, Vandendries E, Advani AS. Inotuzumab Ozogamicin versus Standard Therapy for Acute Lymphoblastic Leukemia. *New England Journal of Medicine* 375(8):740-53,2016

8. Park JW, Liu MC, Yee D, Yau C, van 't Veer LJ, Symmans WF, Paoloni M, Perlmutter J, Hylton NM, Hogarth M, DeMichele A, Buxton MB, Chien AJ, Wallace AM, Boughey JC, Haddad TC, Chui SY, Kemmer KA, Kaplan HG, Isaacs C, **Nanda R**, Tripathy D, Albain KS, Edmiston KK, Elias AD, Northfelt DW, Pusztaï L, Moulder SL, Lang JE, Viscusi RK, Euhus DM, Haley BB, Khan QJ, Wood WC, Melisko M, Schwab R, Helsten T, Lyandres J, Davis SE, Hirst GL, Sanil A, Esserman LJ, Berry DA. Adaptive Randomization of Neratinib in Early Breast Cancer. *New England Journal of Medicine* 375(1):11-22,2016
9. Rugo HS, **Olopade OI**, DeMichele A, Yau C, van 't Veer LJ, Buxton MB, Hogarth M, Hylton NM, Paoloni M, Perlmutter J, Symmans WF, Yee D, Chien AJ, Wallace AM, Kaplan HG, Boughey JC, Haddad TC, Albain KS, Liu MC, Isaacs C, Khan QJ, Lang JE, Viscusi RK, Pusztaï L, Moulder SL, Chui SY, Kemmer KA, Elias AD, Edmiston KK, Euhus DM, Haley BB, **Nanda R**, Northfelt DW, Tripathy D, Wood WC, Ewing C, Schwab R, Lyandres J, Davis SE, Hirst GL, Sanil A, Berry DA, Esserman LJ. Adaptive Randomization of Veliparib-Carboplatin Treatment in Breast Cancer. *New England Journal of Medicine* 375(1):23-34,2016
10. Stein MM, **Hrusch CL**, Gozdz J, Igartua C, Pivniouk V, Murray SE, Ledford JG, Marques dos Santos M, Anderson RL, Metwali N, Neilson JW, Maier RM, Gilbert JA, Holbreich M, Thorne PS, Martinez FD, von Mutius E, Vercelli D, Ober C, **Sperling AI**. Innate Immunity and Asthma Risk in Amish and Hutterite Farm Children. *New England Journal of Medicine* 375(5):411-21,2016

Proceedings from the National Academy of Sciences USA

1. Peng YJ; Zhang X; Gridina A; Chupikova I; McCormick DL; Thomas RJ; Scammell TE; Kim G; Vasavda C; **Nanduri J**; Kumar GK; Semenza GL; Snyder SH; **Prabhakar NR**. Complementary Roles of Gasotransmitters CO and H2S in Sleep Apnea. *Proceedings from the National Academy of Sciences USA* 114(6):1413-1418,2017
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Science

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committee highlights



Women's Committee

The Department of Medicine's Women's Committee serves as an important mechanism for networking, mentorship, professional development and advocacy for our female faculty. With leadership from Helen Te, MD, the Committee is comprised of women from multiple sections within the Department, all of whom are amazing leaders, scientists, clinicians and educators in their own right. On October 1, 2017 Julie Oyler, MD, Associate Professor of Medicine, assumed the role as Chair of Women's Committee. Dr. Oyler succeeds Dr. Te who has led the Women's Committee since 2014 and has accepted a position on the University of Chicago's Women's Leadership Council. The Department is grateful for Dr. Te's outstanding leadership of the Women's Committee over the past three years.

The DOM Women's Committee enjoyed several successes in FY 17:

- Published two issues of the "Women at the Forefront" newsletter, highlighting the accomplishments of women faculty and trainees
- Conducted a workshop, "Speak for Success," featuring Lori Klinka, a public speaking coach
- Conducted a workshop on "Leading High Impact Teams," featuring Leigh Thompson, J. Jay Gerber Professor of Dispute Resolution &

Organizations and Professor of Organization and Management in the Kellogg School of Management at Northwestern University

- Hosted Mark Linzer, MD, Division Director, General Internal Medicine Clinics, Hennepin County Medical Center, as the Women's Committee's Grand Round Speaker for 2017, who spoke on "The Epidemic of Physician Burnout: We Can Turn It Around"

Diversity Committee

The Department of Medicine actively promotes diversity, community-based research, and understanding (toward eliminating) health care disparities. The goal of the Diversity Committee, led by Monica Vela, MD, is to build upon the long tradition of excellence in the fields of clinical care, research and education by working to improve diversity among all programs in the Department.

In addition, the Diversity Committee serves to focus and promote departmental activities that improve recruitment, retention, scholarship, leadership, and mentorship of minority medical students, house staff and faculty in an environment rich with cultural awareness, and sensitivity. To that end, in FY 17, under the direction of Dr. Vela, the Bowman Society hosted "Empowerment Stories" the Inaugural Black and Latina Women in Medicine Forum. Over 60 medical students and

Women's Committee

residents from all of the medical schools in Chicago and three from the east coast attended the event. The forum was moderated by Milda Saunders, MD with participation by Drs. Monica Peek, Rochelle Naylor, Doriane Miller and Keme Carter from the Department. The Bowman Society also hosted the first-ever "Black Men in Medicine" Forum, bringing faculty from various Chicago medical institutions together with Pritzker medical students and residents in an open panel discussion. Seven panelists, including Medicine faculty Drs. Keith Naylor and Edwin McDonald, were drawn from three different Chicago medical schools and together, represented decades of collective experience in the fields of cardiology, gastroenterology, pediatrics, psychiatry, and ophthalmology.

Other highlights from FY 17 include:

- **Doriane Miller, MD** – Recipient of the Department of Medicine's Diversity Award
- **Monica Vela, MD** – Recipient of the Distinguished Leader in Diversity and Inclusion (Senior) Award by the Biological Sciences Division
- **Sonia Kupfer, MD** – Recipient of the Distinguished Leader in Diversity and Inclusion (Junior) Award by the Biological Sciences Division



Please visit medicine.uchicago.edu for a full version of the **2017 Department of Medicine Annual Report** which includes a detailed list of sponsored research

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2017 total sponsored research awards

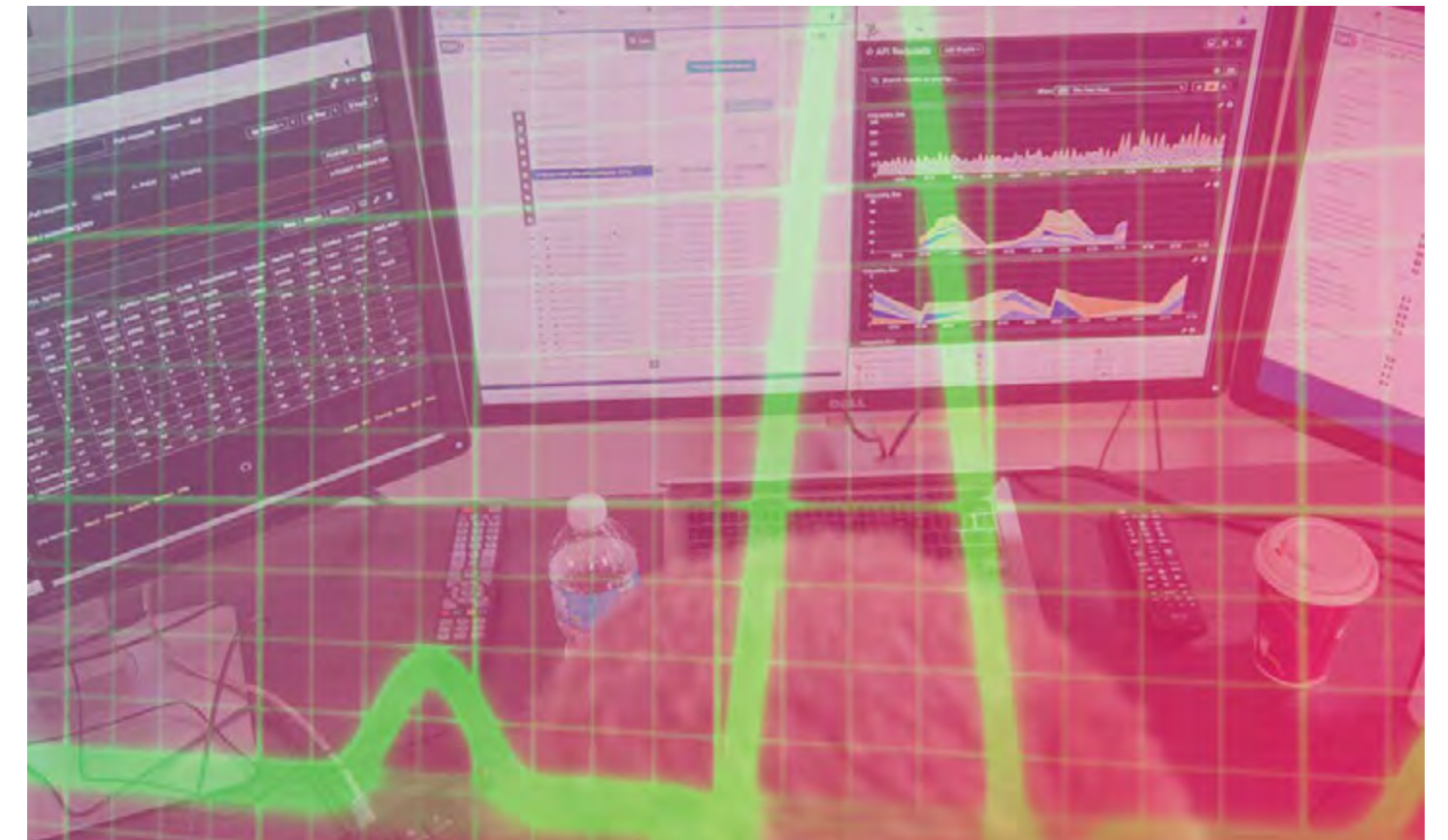


SECTION OF CARDIOLOGY

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED			
PUBLIC HEALTH SERVICE						
Alenghat, Francis	Integrin-Triggered Signaling and Macrophage Mode Switching in Atherosclerosis	\$136,085	\$10,887			
Broman, Michael	FOG-2 Upregulation Induces Atrial Fibrillation	\$119,395	\$9,552			
Liao, James	Cardiovascular Sciences Training Grant	\$476,254	\$35,667			
	Lipoproteins Effect on G Protein Function	\$250,000	\$145,000			
Ozcan, Cevher	Mitochondrial Mechanisms and Novel Therapeutic Targets in Atrial Fibrillation	\$151,800	\$12,144			
Polonsky, Tamar	Myocardial Ischemia & Transfusion (Subcontract with Rutgers)	\$81,391	\$49,916			
Total PHS Research		\$1,214,925	\$263,166			
STATE/ASSOCIATION/FOUNDATION GRANTS						
Blair, John	Microvascular Dysfunction in Heart Failure with Preserved Ejection Fraction (American Heart Association)	\$70,000	\$7,000			
Polonsky, Tamar	Aspirin Dosing: A Patient-Centric Trial Assessing Benefits and Long-term Effectiveness (PCORI/Chicago Community Trust)	\$184,341	\$36,868			
Tabit, Corey	Molecular Mechanisms of Non-Surgical Bleeding in Human Patients (American Heart Association)	\$70,000	\$7,000			
Wu, Rongxue	Functional characterization of ARNT/HIF1beta (American Heart Association)	\$70,000	\$7,000			
Total State/Association/ Foundation Grants		\$394,341	\$57,868			
INDUSTRY GRANTS						
Ancsin, John	Peptidomimetics with Companion Assay for the Treatment of Hypertriglyceridemia (CORVIDIA)	\$64,267	\$25,707			
Nayak, Hernal	Clinical Cardiac Electrophysiology Fellowship Program (Medtronic)	\$30,000	\$0			
	University of Chicago Clinical Cardiac Electrophysiology (CCEP) Fellowship Program (Boston Scientific)	\$25,000	\$0			
Spencer, Kirk Thomas	Finding-based Clinical Context Delivery (Philips)	\$14,286	\$5,714			
Total Clinical Trials Earnings		\$1,468,373	\$367,093			
Total Industry Grants		\$1,601,926	\$398,514			
Total Sponsored Research						
Public Health Service		FY13	FY 14	FY 15	FY16	FY17
State/Association/ Foundations		\$5,049,581	\$3,816,494	\$1,963,339	\$1,807,597	\$1,478,091
Industry Grants		\$564,683	\$429,876	\$472,312	\$391,786	\$452,209
TOTAL		\$1,614,635	\$885,107	\$1,356,465	\$1,668,923	\$2,000,440
		\$7,228,899	\$5,131,477	\$3,792,116	\$3,868,306	\$3,930,740

SECTION OF COMPUTATIONAL BIOMEDICINE AND BIOMEDICAL DATA SCIENCE

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED
PUBLIC HEALTH SERVICE			
Grossman, Robert	The Bionimbus Protected Data Cloud (Subcontract with LBR)	\$43,822	\$25,417
	Workshop on Translational Data Science	\$25,000	\$0
	Innovation through collaboration at the intersection of childhood development and cancer: a platform for the Gabriella Miller Kids First Pediatric Data Resource Center	\$565,613	\$350,680
Melamed, Rachel	Using Clinical Data to Identify FDA-Approved drugs for Cancer Prevention and Therapeutic Repurposing	\$116,142	\$8,811
Rzhetsky, Andrey	2/2-Measuring Translational Dynamics and the Proteome to Identify Potential Brain Biomarkers for Psychiatric Disease	\$380,000	\$220,400
	Training in Emerging Multidisciplinary Approaches to Mental Health and Disease	\$263,466	\$18,517
Total PHS Research		\$1,394,043	\$623,825
STATE/ASSOCIATION/FOUNDATION GRANTS			
Grossman, Robert	Cohen Veterans Bioscience Data Commons Grant Agreement (CVB)	\$805,727	\$120,859
Total State/Association/ Foundation Grants		\$805,727	\$120,859
INDUSTRY GRANTS			
Grossman, Robert	Abbvie Partnership (AbbVie)	\$89,286	\$35,714
Total Industry Grants		\$89,286	\$35,714
			FY 17
Total Sponsored Research			
Public Health Service			\$2,017,868
State/Association/ Foundations			\$926,586
Industry Grants			\$125,000
TOTAL			\$3,069,454



2017 total sponsored research awards



SECTION OF DERMATOLOGY

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED			
PUBLIC HEALTH SERVICE						
He, Yu-Ying	Autophagy and GG-NER in UVB-Induced Skin Cancer Oxidative stress, Cr(VI) Carcinogenesis, and Prevention (Subcontract with the University of Kentucky)	\$225,000	\$130,500			
		\$50,000	\$29,000			
Lang, Deborah	PAX3 pathways in melanoma	\$228,750	\$127,580			
Total PHS Research		\$503,750	\$287,080			
STATE/ASSOCIATION/FOUNDATION GRANTS						
He, Yu-Ying	Natural Remedy Oral Supplement (GHMST)	\$60,000	\$24,000			
Total State/Association/ Foundation Grants		\$60,000	\$24,000			
Total Sponsored Research			FY13 FY 14 FY15 FY16 FY17			
Public Health Service		\$665,474	\$371,039	\$361,949	\$711,830	\$790,830
State/Association/ Foundations		\$305,000	\$310,850	\$305,000	\$190,000	\$84,000
Industry Grants		\$0	\$0	\$0	\$0	\$0
TOTAL		\$970,474	\$681,889	\$666,949	\$901,830	\$874,830

SECTION OF EMERGENCY MEDICINE

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED			
PUBLIC HEALTH SERVICE						
Beiser, David	Mechanical Circulatory Support: Measures of Adjustment and Quality of Life	\$24,615	\$14,277			
Prabhakar, Nanduri	Integrative Consequences of Hypoxia	\$1,440,360	\$607,332			
	Therapeutic Targeting of Carotid Body Chemoreflex for Sleep Disordered Breathing	\$1,392,573	\$299,698			
Sharp, Willard	Pharmacological Induced Torpor/Hypothermia as a Novel Therapy for Improving Post Cardiac Arrest Resuscitation Outcomes	\$500,000	\$290,000			
Total PHS Research		\$3,357,548	\$1,211,307			
STATE/ASSOCIATION/FOUNDATION GRANTS						
Hogan, Teresita	Developing a National Collaborative to Improve Emergency Department Care of Older Adults (Hartford/ Geriatrics)	\$43,200	\$4,320			
Jurkiewicz, Carrie	Altitude Sickness Prevention with Ibuprofen Relative to Acetazolamide Trial for Efficacy (WMS)	\$5,000	\$0			
Padela, Aasim	Developing a Tailored Mammography Intervention for American Muslims (American Cancer Society)	\$134,954	\$10,796			
	Domesticating Genomics in the Gulf Region: The Missing Islamic Bioethical Discourse (QNRF/HBKU)	\$25,000	\$5,000			
	Beyond Preservation: The Higher Objectives of Islamic Law and the Enhancement of Life (John Templeton Foundation)	\$25,000	\$0			
Total State/Association/ Foundation Grants		\$233,154	\$20,116			
Total Sponsored Research			FY 13 FY 14 FY 15 FY 16 FY17			
Public Health Service		\$2,848,670	\$2,191,789	\$3,797,030	\$3,096,644	\$4,568,855
State/Association/ Foundations		\$131,092	\$285,934	\$234,682	\$261,822	\$253,270
Industry Grants		\$40,000	\$182,173	\$142,173	\$0	\$0
TOTAL		\$3,019,762	\$2,659,896	\$4,173,885	\$3,958,466	\$4,822,125



2017 total sponsored research awards

SECTION OF ENDOCRINOLOGY, SECTION OF ENDOCRINOLOGY,

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED			
PUBLIC HEALTH SERVICE						
Bell, Graeme	Diabetes Research and Training Center	\$765,734	\$447,008			
	Integrated Clinical and Basic Endocrinology Research	\$207,615	\$16,609			
Brady, Matthew	Sleep, Aging, and Circadian Rhythm Disorders (Subcontract with Brigham & Women's Hospital)	\$60,530	\$35,108			
	Circadian Genes and Adipose Function: Impact of Chronotype, Obesity and Race	\$293,400	\$144,403			
	Meal Time Effects on Metabolic Health (Subcontract with Brigham & Women's Hospital)	\$25,000	\$14,500			
Dumitrescu, Alexandra	Mouse Sbp2 Deficiency Models the Multi-System Syndrome of Human SBP2 Defects	\$450,000	\$250,978			
Ehrmann, David	B-cell Function and Cognition in the Restoring Insulin Secretion (RISE) Study (Subcontract with Wake Forest University)	\$33,290	\$19,308			
	Diabetes Prevention Program Outcomes Study - Phase 2	\$246,781	\$143,132			
Favus, Murray	Hypercalciuria and Bone Quality in the Geneti Hypercalciuric Stone-Forming Rats (Subcontract with Rochester University)	\$28,582	\$16,578			
Littlejohn, Elizabeth	Fault-Tolerant Control Systems for Artificial Pancreas (Subcontract with Illinois Institute of Technology)	\$70,835	\$30,184			
	Control System for Artificial Pancreas Use During and After Exercise	\$86,865	\$33,895			
Phillipson, Louis	Chicagoland Diabetes TrialNet Clinical Center	\$103,733	\$52,388			
	Monogenic Diabetes: Next Generation Diagnosis, Treatment and Complications	\$296,106	\$171,741			
	Pediatric Endocrinology Research Training	\$121,940	\$9,755			
Rhodes, Christopher	Central Control of Pancreatic Islet Function	\$302,523	\$160,259			
Van Cauter, Eve	Training Grant in Circadian and Sleep Research (Subcontract with Northwestern University)	\$89,152	\$4,572			
Total PHS Research		\$3,182,086	\$1,550,418			
STATE/ASSOCIATION/FOUNDATION GRANTS						
Greeley, Siri	The Impact of Diabetes in Infancy: Clinical, Qualitative, and Neurodevelopmental Outcome (Juvenile Diabetes Foundation)	\$125,455	\$12,545			
Naylor, Rochelle	Personalized Genetic Medicine for MODY in a Multi-Ethnic US Population (CSCTR)	\$10,000	\$0			
Total State/Association/Foundation Grants		\$135,455	\$12,545			
INDUSTRY GRANTS						
Bakris, George	Hypertension Fellowship Program (RELYPSA)	\$70,000	\$0			
Total Clinical Trial Earnings		\$387,168	\$96,792			
Total Industry Grants		\$457,168	\$96,792			
Total Sponsored Research						
		FY 13	FY 14	FY15	FY 16	FY 17
Public Health Service		\$9,166,194	\$7,031,818	\$6,241,384	\$6,431,372	\$4,732,504
State/Association/Foundations		\$841,979	\$282,750	\$366,566	\$146,499	\$148,000
Industry Grants		\$1,345,983	\$994,932	\$1,022,397	\$1,222,825	\$553,960
TOTAL		\$11,354,156	\$8,309,500	\$7,630,347	\$7,800,696	\$5,434,464

SECTION OF GASTROENTEROLOGY, HEPATOLOGY & NUTRITION

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED
PUBLIC HEALTH SERVICE			
Bobe, Alexandria	Autoimmune Diabetes: Gut Microbial Regulation in the IL 10KO Mouse Model	\$43,576	\$0
Chang, Eugene	Research Training in Digestive Health, Diseases, and Nutrition	\$384,133	\$27,810
	IBD and Mucosal Inflammation, Immunology, and Microbiology of the G.I. Tract	\$750,000	\$435,000
	Short Term Training: Health Professional Students	\$165,437	\$13,234
	Dietary Fat Effects of Gut Microbes, Host Immune State and Experimental Colitis	\$275,614	\$145,732
	Exploring Paneth Cell Peptide YY (OYY), a Unique Anti-Microbial Peptide that Maintains Fungal Commensalism, in the Pathogenesis of Ileal Crohn's Disease	\$420,323	\$164,546
	Impact of Gut Microbes and Heat Shock Proteins on Mucosal Homeostasis and IBD	\$247,500	\$143,550
Eren, Murat	Microbial Community Profiles Identify New Indicators of Waterborne Pathogens (Subcontract with the University of Wisconsin)	\$24,554	\$14,241
Jabri, Bana	Innate and Adaptive Immunity in Celiac Disease	\$336,380	\$195,100
	Pharmacological Validation of Transglutaminase 2 as a Novel Target for Celiac Disease	\$118,040	\$68,463
	Viral Infections and Celiac Disease Pathogenesis	\$536,041	\$119,204
Kim, Karen	Cook County Colon Cancer Alliance to Reignite and Enhance Screening (Cook County CARES)	\$633,506	\$183,085
Leone, Vanessa	Diurnal Oscillations in Gut Microbes and Host Immunity in Health and Obesity	\$117,812	\$8,603
Li, Yanchun	(PQA1) Mechanism of Vitamin D Chemoprevention Against Colon Cancer	\$272,428	\$158,008
Pekow, Joel	IBD Gene Mapping by Population and Clinical Subsets (Subcontract with Johns Hopkins University)	\$3,000	\$1,740
	New Model to Dissect Molecular Pathways in IBD-neoplasia Using Human Colonoids	\$50,000	\$30,688
Pillai, Anjana	Extracellular Non-Coding RNA Biomarkers of Hepatocellular Cancer (Subcontract with Mayo Clinic)	\$18,692	\$11,308
Rubin, David	Fecal Microbiome Transplant National Registry (Subcontract)	\$2,855	\$1,727
Total PHS Research		\$4,399,891	\$1,722,039
STATE/ASSOCIATION/FOUNDATION GRANTS			
Chang, Eugene	Role of Gut Microbiota in determining Drug Efficacy and Toxicity (SFCCT)	\$50,000	\$0
Meisel, Marlies	Impact of Interleukin 15 on Immune Homeostasis and the Intestinal Microbiota in the Development of Inflammatory Bowel Disease (Crohn's and Colitis Foundation)	\$58,250	\$0
Messer, Jeannette	The Impact of Crohn's Disease-Associated Genetic Polymorphisms on HMGB1-Mediated Inflammatory Responses in Intestinal Epithelial Cells (Crohn's and Colitis Foundation)	\$58,250	\$0
Sakuraba, Atushi	Collaborative Study to Evaluate the Role of Neutrophil FC Receptor 1 Index as a New Biomarker for Mucosal Healing and Histologic Remission in Inflammatory Bowel Disease Patients (SPARC)	\$64,748	\$12,950
Total State/Association/Foundation Grants		\$231,248	\$12,950

2017 total sponsored research awards



SECTION OF GASTROENTEROLOGY, HEPATOLOGY & NUTRITION

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED			
INDUSTRY GRANTS						
Dalal, Sushila	Host Predictors of Pouchitis Development (Pfizer)	\$117,188	\$32,812			
Jabri, Bana	Evaluating the Effect of BNZ-2 Peptide (Bioniz)	\$7,143	\$2,857			
Pekow, Joel	Pharmacodynamic Studies in Mouse Models for CeD (Intrexon)	\$257,741	\$103,096			
	Strategic Remodeling of the Academic Approach to Patient-Based Gastroenterology Research (AbbVie)	\$141,382	\$56,553			
Rubin, David	Tissue Expression of A4B7 and MAdCAM-1 as Predictor of Response to Therapy with Vedolizumab (Takeda Pharmaceuticals)	\$41,477	\$16,591			
	International Visiting Professorship in Inflammatory Bowel Disease 2017-18 (Janssen Biotech)	\$11,500	\$1,150			
	2016 IBD Visiting Professorship (Pfizer)	\$9,091	\$909			
	2017-2018 IBD Patient Education Program (AbbVie)	\$59,091	\$5,909			
	Advanced IBD Fellows Research Meeting - December 9, 2016, Orlando, FL (Janssen Biotech)	\$27,273	\$2,727			
	Advanced IBD Fellows Research Meeting - Gold Level DDW Meeting, May 2017 (Janssen Biotech)	\$27,273	\$2,727			
	Advanced IBD Fellowship (2016-2017) (Janssen Biotech)	\$84,325	\$8,433			
	Advanced Practice Nurse, IBD Nurse and Physcial Assistant IBD Immersion Program (Janssen Biotech)	\$81,182	\$8,118			
	Center of Excellence for Precison Medicine in IBD "Chicago Promise" (Takeda Pharmaceuticals)	\$465,029	\$186,012			
	Waxman, Irving	Cook Endoscopy Medical Devices (Cook Endoscopy)	\$6,268	\$2,507		
Total Clinical Trial Earnings		\$595,066	\$148,766			
Total Industry Grants		\$1,931,029	\$579,167			
Total Sponsored Research						
		FY 13	FY 14	FY 15	FY 16	FY 17
Public Health Service		\$6,005,423	\$5,846,837	\$5,857,444	\$6,373,843	\$6,121,930
State/Association/Foundations		\$2,205,235	\$2,451,084	\$2,318,729	\$1,775,491	\$244,198
Industry Grants		\$2,414,585	\$2,485,488	\$2,721,045	\$913,065	\$2,510,196
TOTAL		\$10,625,243	\$10,783,409	\$10,897,218	\$9,062,399	\$8,876,324

SECTION OF GENERAL INTERNAL MEDICINE

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED			
PUBLIC HEALTH SERVICE						
Arora, Vineet	Identifying Messages to Promote Value and Education (IMPROVE) of Generic Prescribing	\$158,228	\$91,772			
	SIESTA (Sleep for Inpatients: Educating Staff to Act)	\$228,649	\$18,292			
Burnet, Deborah	LUCENT: Leadership for Urban Primary Care Education and Transformation	\$324,074	\$25,926			
Chin, Marshall	Chicago Center for Diabetes Translation Research	\$380,788	\$174,000			
Huang, Elbert	Research and Mentorship in Medical Decision Making in Diabetes	\$165,196	\$13,216			
	HClA Evaluations-Community Resource Planning (Subcontract with NORC)	\$26,283	\$15,244			
	Preferences, Management and Outcomes of the Oldest Patients with Diabetes (Subcontract with Kaiser Permanente)	\$81,940	\$49,574			
Laiteerapong, Neda	Linking the Legacy Effect in Type 2 Diabetes to Clinical Decision Making	\$163,040	\$13,043			
Wan, Wen	Effectiveness of Shortened Interval to Postpartum Visit in Improving Attendance (Subcontract with Virginia Commonwealth University)	\$7,118	\$4,306			
Total PHS Research		\$1,535,316	\$405,373			
STATE/ASSOCIATION/FOUNDATION GRANTS						
Arora, Vineet	VISTA (Value, Improvement, Safety, and Team Advocates): Curriculum & Culture Change to Cultivate Physicians for the Future (American Medical Association)	\$25,000	\$0			
Chin, Marshall	Reducing Health Care Disparities Through Payment and Delivery System Reform: Evaluation and Dissemination (Robert Wood Johnson Foundation)	\$129,995	\$15,599			
	Rewarding Equity Through Payment and Delivery System Reform (Robert Wood Johnson Foundation)	\$300,838	\$36,101			
Huang, Elbert	Novel Education and Diabetes Pilot Program for Latinos at the Barbara Center for Pediatric Diabetes (Helmsley/ U Denver)	\$80,690	\$8,069			
	Innovative Clinical Care Approach for Young Adults with Type 1 Diabetes: The DTC (Diabetes Telehealth Care Beyond High School) Study (Helmsley/CU Denver)	\$118,947	\$11,895			
	Team Clinic: An Innovative Approach to Care of Adolescents with Type 1 Diabetes Helath Economics and Cost Effectiveness Analysis Proposal (Helmsley/ CU Denver)	\$178,314	\$17,831			
Peek , Monica	Shared Decision-Making Among Vulnerable Populations: The Confluence of Bioethics, Health Disparities and Medical Decision-Making (Greenwall Foundation)	\$125,364	\$12,036			
Pincavage, Amber	Teaching Resilience Skills to Students During Clinical Training (AAIM)	\$2,500	\$0			
Stern, Scott	I-Human Deployment (Manipal University)	\$66,853	\$13,371			
Sulmasy, Daniel	Your Health: A Sacred Matter (Templeton Foundation)	\$14,286	\$714			
Tanksley, Audrey	Opioid Prescribing & Prescription Monitoring Program Education for Graduate Medical Education (IDPH)	\$14,833	\$2,967			
Wan, Wen	RQ10 for Gastroparesis and Constipation in Parkinson's Disease (Subcontract Virginia Commonwealth University)	\$25,195	\$6,299			
Total State/Association/ Foundation Grants		\$1,082,815	\$124,882			
INDUSTRY GRANTS						
Peek, Monica	Bridging the Gap National Program Office (Merck Foundation)	\$660,260	\$99,039			
	Bridging the Gap: Reducing Disparities in Diabetes Care (Merck Foundation)	\$71,037	\$10,656			
Total Industry Grants		\$731,297	\$109,695			
Total Sponsored Research						
		FY 13	FY 14	FY 15	FY 16	FY 17
Public Health Service		\$2,889,542	\$3,635,696	\$3,245,309	\$3,189,214	\$1,940,689
State/Association/Foundations		\$2,466,988	\$2,723,046	\$1,934,873	\$1,374,443	\$1,207,697
Industry Grants		\$0	\$0	\$0	\$81,997	\$840,992
TOTAL		\$5,356,530	\$6,358,742	\$5,180,182	\$4,645,654	\$3,989,378

2017 total sponsored research awards



SECTION OF GENETIC MEDICINE

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED
PUBLIC HEALTH SERVICE			
Gilad, Yoav	A National iPSC Cell network with Deep Phenotyping for Translational Research	\$50,000	\$29,000
	eQTL Mapping in iPSC-Derived Differentiated Cardiomyocytes	\$424,944	\$177,816
	Methods for Analysis of Regulatory Variation in Cellular Differentiation	\$119,622	\$72,371
Hernandez, Wendy	Discovery of Genomic Copy Number Variants and Expression Quantitative Trait Loci that Affect Warfarin Dose Response in African Americans	\$59,970	\$0
Im, Hae Kyung	Genomic and Transcriptionomic Analysis of Emphysema and Subclinical ILD	\$15,194	\$8,813
	Predicted Gene Expression: High Power, Mechanism, and Direction of Effect	\$272,518	\$158,060
Stranger, Barbara	Genetics of Gene Expression in Human Left Ventricular Myocardium	\$33,429	\$19,389
Total PHS Research		\$975,677	\$465,449
STATE/ASSOCIATION/FOUNDATION GRANTS			
Total State/Association/Foundation Grants		\$0	\$0
INDUSTRY GRANTS			
Total Industry Grants		\$0	\$0

SECTION OF GENETIC MEDICINE*					
Total Sponsored Research	FY 13	FY 14	FY 15	FY 16	FY 17
Public Health Service	\$5,745,770	\$24,501,313	7,067,316	\$20,488,400	\$1,441,126
State/Association/Foundations	\$248,301	\$204,952	\$0	\$0	\$0
Industry Grants	\$0	\$0	\$125,000	\$0	\$0
TOTAL	\$5,994,071	\$24,706,265	\$7,067,316	\$20,613,400	\$1,441,126

* FY13-16 includes Grossman and Rzhetsky. FY 17 does not.

SECTION OF GERIATRICS & PALLIATIVE MEDICINE

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED
PUBLIC HEALTH SERVICE			
Dale, William	Reducing Chemotherapy Toxicity in Older Adults (University of Rochester)	\$36,584	\$21,219
Huisinigh-Scheetz, Megan	Early Frailty Biomarkers: Patterns of Activity and Energy Expenditure	\$144,875	\$10,059
Thompson, Katherine	South Side Healthy Aging Resource Experts (SHARE) Network	\$688,588	\$25,603
Total PHS Research		\$870,047	\$56,881
STATE/ASSOCIATION/FOUNDATION GRANTS			
Levine, Stacie	A Primary Palliative Care Education Program to Improve Access for Patients with Cancer-Phase II (Subcontract with Coleman Foundation/Rush University Medical Center)	\$97,721	\$0
	Hospice and Palliative Medicine Fellowship Program (Coleman Foundation)	\$76,500	\$0
Total State/Association/Foundation Grants		\$174,221	\$0

INDUSTRY GRANTS			
Total Industry Grants		\$0	\$0

Total Sponsored Research	FY 13	FY 14	FY 15	FY 16	FY 17
Public Health Service	\$175,418	\$324,844	\$177,767	\$965,755	\$926,928
State/Association/Foundations	\$228,046	\$364,472	\$418,360	\$371,767	\$174,221
Industry Grants	\$0	\$0	\$0	\$0	\$0
TOTAL	\$403,464	\$689,316	\$596,127	\$1,337,522	\$1,101,149



2017 total sponsored research awards

SECTION OF HEMATOLOGY/ONCOLOGY

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED
PUBLIC HEALTH SERVICE			
Catenacci, Daniel	PANGEA: Personalized Antibodies for GastroEsophageal Adenocarcinoma Pilot Trial	\$156,025	\$12,482
Churpek, Jane	Defining the Role of BRCA1 in Hematopoiesis	\$151,800	\$12,144
Dolan, Mary	Genetic Susceptibility and Biomarkers of Platinum-related Toxicities (Subcontract)	\$71,658	\$41,562
	Pharmacogenomics of Childhood Leukemia (Subcontract)	\$53,121	\$30,810
	Regulation of mRNA Splicing by Intronic Genetic Variants (Subcontract)	\$67,854	\$39,355
Fleming, Gini	Alliance NCCORP Research Base (Subcontract)	\$706,296	\$183,637
	Alliance for Clinical Trials in Oncology Operations Center (Subcontract)	\$2,774,255	\$636,586
	Preclinical Investigation of Chemical and Nanoparticle-Based GR Antagonism to Improve Chemotherapy Sensitivity in Ovarian Cancer(Subcontract)	\$14,050	\$8,149
Kindler, Hedy	U10 - NCTN (Lead)	\$401,522	\$232,882
Larson, Richard	Stopping Tyrosine Kinase Inhibitors in CMP Patients (Subcontract)	\$12,847	\$7,451
Le Beau, Michelle	Molecular Mechanisms of Myeloid Suppressor Genes on Chromosome 5	\$228,750	\$132,675
	UCCCC Cancer Center Support Grant	\$2,909,718	\$1,687,635
	A Rapid Spontaneous Murine Model of CN-AML (Subcontract)	\$41,500	\$24,070
Olopade, Olufunmilayo	Basic Medical Research Training in Oncology	\$372,254	\$27,620
	Conference and Workshop on New Frontiers in Diagnosis, Screening, and Management of Inherited Cancer Syndromes	\$10,000	\$0
	Developing an Oncology Workforce for the 21st Century	\$473,459	\$37,877
	Returning Genetic Research Panel Results for Breast Cancer Susceptibility(Subcontract)	\$104,289	\$60,488
	Cancer Genetics Professional Education in a Global Community of Practice (Subcontract)	\$25,000	\$2,000
Patnaik, Akash	Targeting the Metabolome and PI3K/AMPK/mTOR Signaling Pathways in Advanced Prostate Cancer	\$72,978	\$5,838
	"Perturbing DNA Repair Pathways to Enhance Immune-responsiveness in Prostate Cancer (Subcontract with Northwestern University)"	\$40,000	\$0
Ratain, Mark	Clinical Therapeutics	\$392,436	\$31,395
Sharma, Manish	Genomic Prediction Tools Developed Using Phenotypes from Disease Progression Models	\$176,867	\$14,149
Smith, Sonali	SWOG Network Group Operations Center of the NCTN(Subcontract)	\$11,603	\$6,730
Stadler, Walter	The Prostate Cancer Clinical Trials Consortium: Application for Coordinating Center with Clinical Research Site Option(Subcontract)	\$100,000	\$58,000
	SPORE in Prostate Cancer (Subcontract)	\$285,186	\$165,408
Stock, Wendy	Center for Precision Medicine in Leukemia(Subcontract)	\$81,274	\$47,140
Thirman, Michael	Instructive Role of MLL Fusion Proteins in Lineage Determination and Leukemogenesis	\$502,591	\$106,587
	Ionizing Radiation-Induced Hematological Malignancies(Subcontract)	\$36,000	\$22,320
Wickrema, Amittha	Improving HbF Induction by Better Selection and Inhibition of Epigenetic Targets(Subcontract)	\$18,987	\$11,013
Total PHS Research		\$10,292,320	\$3,646,003
STATE/ASSOCIATION/FOUNDATION GRANTS			
Agyeman, Abena	Using Hsp90 Inhibitors to Treat Triple Negative Breast Cancer (Komen Foundation)	\$60,000	\$0
Conzen, Suzanne	Use of Selective GR Antagonists in Castration-Resistant Prostate Cancer (Prostate Cancer Foundation)	\$500,000	\$0
Curran, Emily	Investigating the Role of the STING Pathway in Hereditary Malignancies (Cancer Research Foundation)	\$37,500	\$0
	Targeting the STING Pathway as Immunotherapy for Acute Myeloid Leukemia (Conquer Cancer Foundation)	\$47,500	\$2,500
Dolan, Mary	Susan G. Komen Foundation Grant	\$135,000	\$0
Drazer, Michael	Defining Leukemogenic Mechanisms in Hereditary Hematologic Malignancies (Damon Runyon Cancer Foundation)	\$100,000	\$0
Fleming, Gini	DNA Repair Therapies for Ovarian Cancer (Subcontract)	\$143,608	\$15,956
Galanina, Natalie	A Combination of BTK and HSP90 Inhibition in Relapsed NHL (Leukemia Lymphoma Foundation)	\$5,000	\$0
Godley, Lucy	Identification of Germline Predisposition Syndromes in Young MDS Patients (Taub Foundation)	\$181,818	\$18,182
	Using Insights from Hypoxia-Induced Changes in 5-Hydroxymethylcytosine to Improve MDS Treatment (Edward P. Evans Foundation)	\$181,818	\$18,182

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED
STATE/ASSOCIATION/FOUNDATION GRANTS			
	CHEK2 Mutations as Predisposition Alleles for Inherited Hematopoietic Malignancies (Cancer Research Foundation)	\$50,000	\$0
	Modeling Myeloid Malignancies Mediated by Germline RUNX1, ETV6, and ANKRD26 Mutations (Leukemia Lymphoma Foundation)	\$180,018	\$19,982
	CBC Program Management at the University of Chicago (Subcontract)	\$30,000	\$0
Hahn, Olwen	Alliance Foundation Trials (Alliance Foundation Trials)	\$24,916	\$2,492
Han, Yoo-Jeong	Genetic and Epigenetic-Factors in Breast Cancer (Breast Cancer Foundation)	\$208,333	\$41,667
Huang, Rong	Whole Genome Expression Based Drug Repurposing in Metastatic Breast Cancer (Avon Foundation)	\$136,364	\$13,636
Jakubowiak, Andrzej	Multiple Myeloma Research Consortium Site Grant (Multiple Myeloma Research Consortium)	\$66,667	\$13,333
Kindler, Hedy	Precision Promise Clinical Trial Consortium Site Application (Pancreatic Cancer Action Network)	\$15,000	\$0
Le Beau, Michelle	ACS Institutional Research Grant -(American Cancer Society)	\$90,000	\$0
Lim-Seiwert, Tanguy	Synergy of Pembrolizumab Anti-PD-1 Immunotherapy with Chemotherapy for Poorly Chemo-Responsive Salivary Gland Tumors (Adenoid Cystic Carcinoma Research Foundation)	\$22,727	\$2,273
Luke, Jason	Determination of Tumor-Intrinsic Somatic Alterations Associated with the (Adenoid Cystic Carcinoma Research Foundation)	\$37,500	\$0
Nanda, Rita	Proposal for a Partnership Between the Breast Cancer Research Consortium "TBCRC" and the Komen Foundation (Subcontract)	\$20,833	\$4,167
	The Breast Cancer Clinical Trials Consortium (Breast Cancer Foundation)	\$10,417	\$2,083
Olopade, Olufunmilayo	Developing an Interdisciplinary Network for Sickle Cell Studies in Nigeria (Doris Duke Charitable Foundation)	\$92,592	\$7,408
	Functional Analysis of SNPs Associated with Estrogen Receptor Negative Breast Cancer Using CRISPR-Cas9 Technology (Doris Duke Charitable Foundation)	\$57,500	\$5,750
	Genomic Approaches for Primary Prevention of Breast Cancer (American Cancer Society)	\$80,000	\$0
	Genomics, Metabolomics and Epigenetic Regulation in Breast Cancer (Falk Foundation)	\$122,728	\$12,272
	Implementing Evidence Based Interventions to Reduce Breast Cancer Mortality in Low Resource Settings (Breast Cancer Foundation)	\$208,333	\$41,667
Olson, Brian	Targeting Resistance to Androgen Deprivation Therapy Using Ummunotherapies Targeting the Androgen Receptor (Prostate Cancer Foundation)	\$37,500	\$0
Patnaik, Akash	Combinatorial Immunotherapy Strategies to Reverse Immunosuppression within PTEN-Deficient Advanced Prostate Cancers (Prostate Cancer Foundation)	\$500,000	\$0
	PCF Young Investigator Award (Prostate Cancer Foundation)	\$53,126	\$0
	Perturbing DNA Repair Pathways to Enhance Immune-Responsiveness in Prostate Cancer (Cancer Research Foundation)	\$50,000	\$0
Pettit, Kristen	Identifying Pharmacogenomic Variants Associated with Response to Idelalisib (Conquer Cancer Foundation)	\$47,500	\$2,500
Polite, Blaise	Current State Assessment and Pilot of Supportive Cancer Care Processes (Distress, Palliative, Hospice Referral and Survivorship Care) at The University of Chicago Medicine (Coleman Foundation)	\$101,000	\$0
Riedell, Peter	ACP-196 + Immunochemotherapy and Autologous Stem-Cell Transplant in Mantle Cell Lymphoma (Leukemia Lymphoma Foundation)	\$5,984	\$0
Stock, Wendy	TOPK (T-LAK Cell-Originated Protein Kinase): A New Target for FLT3 Mutated AML (V Foundation)	\$181,818	\$18,182
Sweis, Randy	Facilitating Immunotherapy Responses in Non-T Cell-Inflamed Bladder Cancer (American Association for Cancer Research)	\$55,000	\$0
Wickrema, Amittha	Therapeutic Targeting of Anemia in MDS by Modulation of DOCK4 Pathway (Leukemia Lymphoma Foundation)	\$180,018	\$19,982
Total State/Association/Foundation Grants		\$4,058,118	\$262,214

2017 total sponsored research awards

SECTION OF HEMATOLOGY/ONCOLOGY

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED			
INDUSTRY GRANTS						
Curran, Emily	Immunologic Role of DDX41 in Development of Hereditary Hematologic Malignancies (Gilead Science)	\$59,091	\$5,909			
Jakubowiak, Andrzej	Investigation of the MCL-1 Inhibitor AMG 176 in Multiple Myeloma (Amgen)	\$35,714	\$14,286			
Kline, Justin	To Define and Overcome Immunoregulatory Mechanisms Activated in Leukemia-Bearing Mice Treated with STING Agonist Immunotherapy (Merck)	\$75,269	\$30,108			
Lim-Siewert, Tanguy	Evaluation of Synergistic Immunotherapy Combinations in (fresh) Patient-Derived Head-and-Neck Cancer Thin Sections (Immune Histoculture) (Bristol Myers Squibb)	\$136,756	\$54,702			
Luke, Jason	Development and Validation of Gene Expression Profiles Associated with Monocyte/Macrophage Infiltration and T Cell Immunosuppression in Cancer (Array Bio)	\$217,488	86,995			
	Gene Expression Analysis of Melanoma Biopsy from Clinical Trian CMP-001-001 (Checkmate)	\$108,572	\$43,429			
Nakamura, Yusuke	Development of New Targeted Cancer Therapies (Onco Therapeutics)	\$641,248	\$256,499			
Patnaik, Akash	Perturbing DNA Repair Pathways to Enhance Immune-Responsiveness in Prostate Cancer (Bristol Myers Squibb)	\$312,941	\$125,176			
Szmulewitz, Russell	Preclinical Investigation of ABT-075 in the Treatment of High Glucocorticoid-Receptor Expressing Enzalutamide-Resistant Castration-Resistant Prostate Cancer (AbbVie)	\$150,000	\$60,000			
Total Clinical Trial Earnings		\$15,394,170	\$3,848,543			
Total Industry Grants		\$17,131,249	\$4,525,647			
Total Sponsored Research						
		FY 13	FY 14	FY 15	FY 16	FY 17
Public Health Service		\$24,261,953	\$18,429,021	\$19,723,352	\$15,721,229	\$13,938,323
State/Association/Foundations		\$6,961,474	\$5,136,773	\$6,921,685	\$3,220,776	\$4,320,332
Industry Grants		\$10,426,362	\$15,648,868	\$16,364,357	\$17,059,908	\$21,656,896
TOTAL		\$41,649,789	\$39,214,662	\$43,009,394	\$36,001,913	\$39,915,551



SECTION OF HOSPITAL MEDICINE

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED			
PUBLIC HEALTH SERVICE						
Chattopadhyah, Ishanu	ZeD: Zero-Knowledge Discovery Using Data Smashing	\$126,583	\$73,417			
Edelson, Dana	13th International Conference on Medical Emergency Teams and Rapid Response Systems	\$9,000	\$0			
Gibbons, Robert	A New Statistical Paradigm for Measuring Psychopathology Dimensions in Youth Bipolar-Schizophrenia Network for Intermediate Phenotypes (Subcontract)	\$620,950	\$121,399			
	Optimizing Youth Suicide Risk Screening in the Emergency Department (Subcontract)	\$46,496	\$24,184			
	Peer-Led Suicide Prevention: Promoting Healthy Role Transitions for Military Personnel (Subcontract)	\$123,157	\$71,431			
		\$17,432	\$10,111			
Kass, Andrea	Analysis of Behavioral Interventions for Pediatric Obesity	\$60,394	\$0			
Meltzer, David	A Novel Big-Data Screening Tool to Identify and Reduce CRN	\$275,000	\$159,500			
	African American Cardiovascular Pharmacogenetic Consortium (Account): Discovery and Translation (Subcontract)	\$328,900	\$190,764			
	African American Cardiovascular Pharmacogenetic Consortium (Account): Discovery and Translation (Subcontract)	\$394,778	\$228,971			
	Changing Long-Term Care in America: Policies, Markets, Strategy & Outcomes (Subcontract)	\$24,165	\$14,015			
	CMS Practice Transformation Network (Subcontract)	\$465,574	\$153,639			
	Health Services Training Grant Subaward (Subcontract with Northwestern University)	\$236,658	\$15,093			
	MD/PhD Program in Medicine, the Social Sciences and Aging	\$197,304	\$9,064			
	Short Term Aging-Related Research Program	\$62,046	\$4,964			
	The University of Chicago Patient Centered Outcome Research K12 Training Program	\$598,738	\$47,899			
Press, Valerie	Video vs TTG Respiratory Inhaler Technique Assessment and Instruction (V-TRAIN)	\$176,800	\$14,144			
Saunders, Milda	Patient Referral and Education Program Prior to Renal Replacement Therapy (PREP RRT)	\$176,042	\$14,083			
Total PHS Research		\$3,940,017	\$1,152,678			
STATE/ASSOCIATION/FOUNDATION GRANTS						
Martin, Shannon	Consulting Wisely - Applying the Principle of High Value Care to the Practice of Requesting a Consult (AAIM)	\$2,500	\$0			
Meltzer, David	Capricorn - Phase II (PCORI/Chicago Community Trust)	\$172,193	\$68,877			
	Comprehensive Care, Community and Culture Program (Robert Wood Johnson Foundation)	\$447,299	\$53,676			
	Effects of Oral Health on Systemic Health, Oral Health & Healthcare Programs (GERF)	\$433,834	\$0			
	Longitudinal Effects of the Comprehensive Care Physicians Program (Donaghue Foundation)	\$176,462	\$17,646			
	PCORnet Observational Study Agreement Studies (PCORnet Antibiotic Study) (PCORI/Chicago Community Trust)	\$6,677	\$1,335			
	PCORnet Observational Study Agreement Study Order #1 (PCORnet Bariatric Study OBS-1505-30683) (PCORI/Chicago Community Trust)	\$4,975	\$995			
Press, Valerie	Coordinated Healthcare Interventions for Childhood Asthma Gaps in Outcomes (CHICAGO) Trial (PCORI/University of Illinois at Chicago)	\$31,523	\$12,609			
Ruhnke, Gregory	Measuring the Impact of Accreditation on Diagnostic Accuracy and Health Outcomes in Echocardiography (IAC)	\$86,303	\$34,521			
Total State/Association/Foundation Grants		\$1,361,766	\$189,659			
INDUSTRY GRANTS						
Total Clinical Trial Earnings		\$65,254	\$16,315			
Total Industry Grants		\$65,254	\$16,315			
Total Sponsored Research						
		FY 13	FY 14	FY 15	FY 16	FY 17
Public Health Service		\$4,637,017	\$4,207,548	\$4,519,439	\$3,666,163	\$5,092,695
State/Association/Foundations		\$163,955	\$405,711	\$1,444,109	\$1,177,457	\$1,551,425
Industry Grants		\$195,311	\$0	\$124,920	\$371,813	\$81,569
TOTAL		\$4,996,283	\$4,613,259	\$6,088,468	\$5,215,433	\$6,725,689

2017 total sponsored research awards

SECTION OF INFECTIOUS DISEASES AND GLOBAL HEALTH

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED			
PUBLIC HEALTH SERVICE						
Eavou, Rebecca	Comprehensive PrEP Retention in Care (PrEP-RC)(Subcontract)	\$162,652	\$16,265			
McNulty, Moira	Employing eSBI in a Community-Based HIV Testing Environment for At-Risk Youth(Subcontract)	\$55,716	\$32,315			
Pho, Mai Tuyet	Optimizing Patient-Oriented Outcomes for Chronic Hepatitis C	\$156,228	\$90,612			
Pittrak, David	Sustainable Health Center Implementation PrEP Pilot (SHIPP) Study(Subcontract)	\$2,273	\$227			
	University of Chicago Expanded HIV Testing and Linkage to Care for Disproportionately Affected Populations in Healthcare Settings on the South Side and West Side of Chicago(Subcontract)	\$1,006,695	\$93,305			
Ridgway, Jessica	Anti-Infective Stewardship Using the Wisca Tool in the Electronic Medical Record(Subcontract)	\$32,879	\$19,070			
	CDPH Data to Care(Subcontract)	\$63,864	\$6,386			
	Predictive Modeling for Retention in HIV Care(Subcontract)	\$44,242	\$26,766			
Schneider, John	Accelerating PrEP Diffusion Through Network Change Agents	\$390,291	\$102,396			
	Center for Prevention Implementation Methodology for Drug Use and HIV(Subcontract)	\$49,919	\$28,953			
	Comprehensive High Impact HIV Prevention Projects for Community-Based Organizations(Subcontract)	\$230,691	\$0			
	HIV Intervention Models for Criminal Justice Involved Substance-Using Black MSM	\$506,033	\$172,149			
	iMAN: Integrated Molecular & Affiliation Network Analysis of HIV Transmission - (Subcontract)	\$14,489	\$8,404			
	Impact of Neighborhoods and Networks on HIV Risk and Care	\$24,681	\$1,974			
	Insurance Coverage Expansion (ICE): A Collaboration to Increase and Strengthen Access to Care Among Men and their Networks	\$254,260	\$106,310			
	Next Generation Partner Notification and Intervention Services	\$150,000	\$87,000			
	PrEP Uptake and Adherence Among Young Black MSM:)	\$102,356	\$61,925			
	Neighborhood and Network Determinants(Subcontract)					
	Preventing HIV Transmission by Recently-Infected Drug Users(Subcontract)	\$73,231	\$40,247			
	Social and Cultural Influences on Cardiovascular Risk Factors in South Asians (Subcontract)	\$19,249	\$11,164			
	Third Coast Center for AIDS Research(Subcontract)	\$44,443	\$25,777			
	YMAP: Young Men's Affiliation Project of HIV Risk & Prevention Venue(Subcontract)	\$25,546	\$14,817			
Sherer, Renslow	AIDS Education and Training Centers Program(Subcontract)	\$18,519	\$1,481			
Total PHS Research		\$3,428,257	\$947,543			
STATE/ASSOCIATION/FOUNDATION GRANTS						
Eavou, Rebecca	South Side PrEP Project (S2P2) (Chicago Department of Public Health)	\$136,364	\$13,636			
	South Side Social Network Strategy (S4 Program) (Chicago Department of Public Health)	\$136,364	\$13,636			
Schneider, John	Paragon VI: Syndicate Ball (Chicago Department of Public Health)(Subcontract)	\$4,000	\$0			
Sherer, Renslow	WUMER Project (Sino American Medical School, Wuhan University)	\$1,065,719	\$0			
Total State/Association/Foundation Grants		\$1,342,447	\$27,272			
INDUSTRY GRANTS						
Ridgway, Jessica	Rapid Response Team and Algorithmic HIV Post-Test Counseling in High-Volume Settings (Gilead Sciences)	\$135,657	\$13,566			
Schneider, John	Young Men's Affiliation Project of HIV Risk and Prevention Venue (YMAP) (Gilead Sciences)(Subcontract)	\$30,574	\$12,230			
Total Clinical Trial Earnings		\$360,079	\$90,020			
Total Industry Grants		\$526,310	\$115,816			
Total Sponsored Research						
Public Health Service		\$2,621,169	\$1,185,772	\$2,006,111	\$4,839,253	\$4,375,800
State/Association/ Foundations		\$739,542	\$580,038	\$1,582,822	\$1,533,603	\$1,369,719
Industry Grants		\$2,270,925	\$1,362,267	\$1,476,058	\$950,764	\$642,126
TOTAL		\$5,631,636	\$3,128,077	\$5,064,991	\$7,423,620	\$6,387,645

SECTION OF NEPHROLOGY

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED			
PUBLIC HEALTH SERVICE						
Chapman, Arlene	A Metabolomic Approach to Discovering Markers for ADPKD Progression(Subcontract)	\$56,120	\$32,550			
	Kansas PDK Research and Translation Core Center(Subcontract)	\$29,703	\$13,464			
	Consortium for Radiologic Imaging Studies of Polycystic Kidney Disease (CRISP) IV: Prognosis for End-Stage Renal Disease and Biomarker Validation (Subcontract)	\$61,984	\$35,486			
Hassan, Hatim	Calcium Oxalate Kidney Stones: Pathogenesis of Obesity-Associated Hyperoxaluria	\$217,500	\$126,150			
Kohn, Orly	Longitudinal Changes in Intra-Renal Oxygenation by BOLD MRI in Patients with CKD(Subcontract)	\$45,629	\$23,673			
Koyner, Jay	Intrarenal Oxygenation: An Early Marker for Risk of Developing AKI(Subcontract)	\$6,238	\$3,775			
Total PHS Research		\$417,174	\$235,098			
INDUSTRY GRANTS						
Total Clinical Trial Earnings		\$198,843	\$49,711			
Total Industry Grants		\$198,843	\$49,711			
Total Sponsored Research						
Public Health Service		\$3,026,468	\$2,623,945	\$3,268,846	\$1,931,796	\$652,272
State/Association/ Foundations		\$290,800	\$6,900	\$404,067	\$687,377	\$0
Industry Grants		\$99,167	\$114,900	\$313,974	\$279,439	\$248,554
TOTAL		\$3,416,435	\$2,745,745	\$3,986,887	\$2,898,612	\$900,826



2017 total sponsored research awards

SECTION OF PULMONARY/ CRITICAL CARE

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED
PUBLIC HEALTH SERVICE			
Birukova, Anna	Differential Mechano-Signaling in Vacuslar Endothelium by Varying Degrees of Mechanical Stretch	\$250,000	\$145,000
Churpek, Matthew	Predicting In-Hospital Cardiac Arrest Using Electronic Health Record Data	\$151,800	\$12,144
	Sepsis Early Prediction and Subphenotype Illumination Study (SEPSIS)	\$272,481	\$144,964
Guzy, Robert	Mechanism of Fibroblast Growth Factor 2-Mediated Alveolar Epithelial Repair	\$151,800	\$12,144
Hamanaka, Robert	Metabolic Regulation of Epidermal Homeostasis	\$78,488	\$6,279
Howell, Michael	Quantifying a Vital Symptom: Large-Scale Inpatient Dyspnea Measurement (Subcontract)	\$11,375	\$6,598
Knutson, Kristen	Home Sleep and Circadian Phase: Mediators of Racial Disparities in Diabetes Risk	\$77,542	\$33,135
	Morning Light Treatment at Home to Improve Glucose Metabolism in Dyspnea Measurement (Subcontract)	\$168,600	\$81,886
Mokhtesi, Babak	TODAY2 Phase (T2P2): Long-Term Post-Intervention Follow-Up Study(Subcontract)	\$30,323	\$17,587
Mutlu, Gokhan	Macrophage Responses to Epithelial Dysfunction	\$56,018	\$32,490
	Promote Lung Fibrosis in Aging(Subcontract)		
	Particulate Matter-Induced Changes in DNA Methylation and Transcriptome	\$395,570	\$225,951
	The Role of Alveolar Macrophage Beta-2 Adrenergic Receptors in Acute Lung Injury	\$400,000	\$232,000
Noth, Imre	Architectural Structure and Regulation of TOLLIP in IPF	\$489,865	\$284,122
	Study of Co-Trimoxazole and Proton Pump Inhibition Using Pragmatic Design in Idiopathic Pulmonary Fibrosis - CleanUP - IPF(Subcontract)	\$20,246	\$11,743
Olopade, Christopher	Summer Program to Increase Diversity in Biomedical Research & Physician Workforce	\$129,700	\$10,376
Solway, Julian	Chicagoland Metropolitan Asthma Net Consortium	\$39,980	\$22,389
	Mendelian Disease - Asthma Comorbidity to Find Subgroup-Specific Asthma Genes	\$505,202	\$273,830
	Preclinical Development of Myosolvins, a New Class of Medicine for Asthma	\$1,498,987	\$209,143
	TET1-Mediated 5-Hydroxymethylcytosine Modification and Airway Hyperresponsiveness (Subcontract)	\$25,000	\$14,500
	Training of Junior Faculty for Careers in Omics of Lung Diseases	\$313,797	\$25,104
Sperling, Anne	Functional Genomics of IL-33 Expression and Asthma Risk	\$524,191	\$294,622
	Human Lung T Cell Subsets in Disease	\$125,000	\$72,500
	IRF4+ Respiratory Dendritic Cells in Type 2 Inflammatory Responses	\$250,000	\$147,245
	Research Training in Respiratory Biology	\$668,068	\$49,806
Tasali, Esra	Sleep Extension to Reduce Diabetes and Obesity Risk	\$388,022	\$175,090
Verhoef, Philip	Type 2 Immune Responses Protect Against the Morbidity and Mortality of Sepsis	\$151,800	\$12,144
White, Steven	Airway Inflammation and HLA-G in Asthma	\$112,493	\$37,507
Wu, David	Mechanical Regulation of Vascular Metabolism	\$64,146	\$0
Total PHS Research		\$7,350,494	\$2,590,299
STATE/ASSOCIATION/FOUNDATION GRANTS			
Guzy, Robert	Cell-Specific Functions of Fibroblast Growth Factor Signaling In Lung Injury and Pulmonary Fibrosis (American Heart Association)	\$120,000	\$12,000
Krishack, Paulette	Type 2 Inflammatory Response Protects Against Staphylococcus Aureus Induced Sepsis (American Heart Association-Midwest)	\$48,600	\$0
Naureckas, Edward	American Lung Association Asthma Clinical Research Network (American Lung Association/Northwestern University)	\$19,246	\$0
	Award for a Mental Health Coordinator (Cystic Fibrosis Foundation)	\$50,000	\$4,000
	Cystic Fibrosis Foundation Practice Guidelines Update (Cystic Fibrosis Foundation)	\$26,276	\$0
Nigdelioglu, Recep	Alveolar Macrophage Beta2-Adrenergic Receptors in Acute Lung Injury (American Heart Association-Midwest)	\$60,272	\$0
Noth, Imre	PFF Care Center Network Charter Agreement (Pulmonary Fibrosis Foundation)	\$5,652	\$848
Patel, Bhakti	Impact of Early Mobilization on Insulin Resistance and ICU-Acquired Weakness (Francis B. Parker Foundation)	\$50,000	\$0
Total State/Association/Foundation Grants		\$380,046	\$16,848

INDUSTRY GRANTS						
Hogarth, Douglas	Interventional Pulmonology Fellowship at the University of Chicago (Boston Scientific)	\$30,000	\$0			
	Interventional Pulmonology Fellowship at the University of Chicago (Covidien)	\$22,727	\$2,273			
	Interventional Pulmonology Fellowship at The University of Chicago (Pinnacle)	\$27,273	\$2,727			
Murgu, Septimiu	Interventional Pulmonology Fellowship at the University of Chicago (Cook Medical)	\$9,091	\$909			
Total Clinical Trial Earnings		\$468,900	\$117,225			
Total Industry Grants		\$557,991	\$123,134			
Total Sponsored Research		FY 13	FY 14	FY 15	FY 16	FY 17
Public Health Service		\$11,124,683	\$12,594,100	\$14,426,748	\$17,680,416	\$9,940,793
State/Association/Foundations		\$584,146	\$71,971	\$316,361	\$818,564	\$396,894
Industry Grants		\$323,429	\$874,585	\$756,872	\$855,821	\$681,125
TOTAL		\$12,032,258	\$13,540,656	\$15,499,981	\$19,354,801	\$11,018,812



2017 total sponsored research awards

SECTION OF RHEUMATOLOGY

PRINCIPAL INVESTIGATOR	TITLE OF FUNDED GRANT	ANNUAL DIRECT COSTS AWARDED	ANNUAL INDIRECT COSTS AWARDED			
PUBLIC HEALTH SERVICE						
Alegre, Maria-Luisa	Impact of Microbiota on Alloimmune Responses in Transplantation	\$250,000	\$139,432			
Clark, Marcus	Autoimmunity Center of Excellence Clinical Research Program - Collaborative Project (Subcontract)	\$261,364	\$146,023			
	BRWD1 in Adaptive Humoral Immunity	\$150,000	\$91,875			
	Immune Tolerance Network (Subcontract)	\$2,874	\$1,739			
	In Situ Adaptive Immunity in Human Lupus Tubulointerstitial Nephritis	\$220,000	\$127,600			
	Medical Scientist National Research Service Award	\$1,124,148	\$51,292			
	Regulation of Ig-Kappa Recombination During B Lymphopoiesis	\$297,607	\$164,244			
	University of Chicago Autoimmunity Center of Excellence	\$237,911	\$137,988			
Gounari, Fotini	How Beta-Catenin Expands Foxp3+ROrgamma+ Pro-Inflammatory T-Regulatory Cells	\$329,450	\$122,111			
Liarski, Vladimir	Characterizing In Situ T Cell: Dendritic Cell Networks Pro-Inflammatory T-Regulatory Cells	\$149,894	\$11,992			
Wilson, Patrick	Impact of Prior Influenza Exposures on Antibody Repertoires to New Viral Strains(Subcontract)	\$18,089	\$10,491			
	Mechanisms of Broadly Neutralizing Humoral Immunity Against Influenza Viruses(Subcontract)	\$344,519	\$199,821			
	NIAID Centers of Excellence in Influenza Research and Surveillance (Subcontract)	\$383,726	\$222,561			
	Studies of Human B Cell Tolerance, from a Humanized Mouse Model to Human Beings(Subcontract)	\$33,536	\$19,451			
	System Biological Analysis of Innate and Adaptive Responses to Vaccination (Subcontract)	\$86,585	\$50,219			
	Toward a Universal Influenza Virus Vaccine (Subcontract)	\$243,756	\$135,811			
	Vaccine Induced Immunity in the Young and Aged (Subcontract)	\$66,537	\$38,591			
Total Public Health Service Grants		\$4,199,996	\$1,671,241			
STATE/ASSOCIATION/FOUNDATION GRANTS						
Gounari, Fotini	Define the Properties of Pathogenic RORγ/Foxp3 Double Positive Regulatory T Cells in Colon Cancer (American Association of Immunologists)	\$45,444	\$0			
Lei, Yuk Man	The Role of Microbiota in Allograft Rejection (American Heart Association -Midwest)	\$25,950	\$0			
Total State/Association/Foundation Grants		\$71,394	\$0			
INDUSTRY GRANTS						
Total Clinical Trial Earnings		\$23,121	\$5,780			
Total Industry Grants		\$23,121	\$5,780			
Total Sponsored Research			FY 13 FY 14 FY 15 FY 16 FY 17			
Public Health Service		\$4,894,918	\$4,771,826	\$6,847,760	\$5,846,364	\$5,871,237
State/Association/Foundations		\$371,144	\$266,759	\$206,759	\$381,356	\$71,394
Industry Grants		\$338,446	\$262,105	\$179,652	\$28,901	\$28,901
TOTAL		\$5,604,508	\$5,300,690	\$7,234,171	\$6,256,621	\$5,971,532

TOTAL SPONSORED RESEARCH FOR THE DEPARTMENT OF MEDICINE

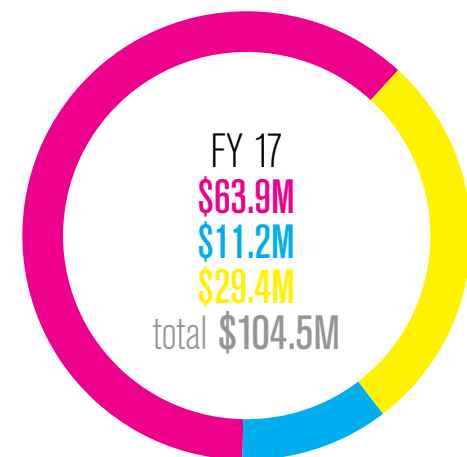
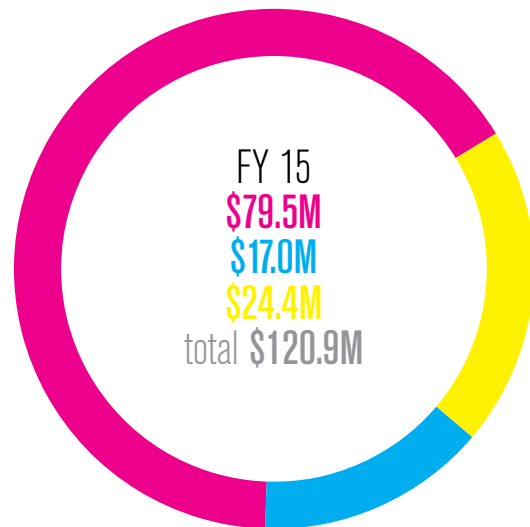
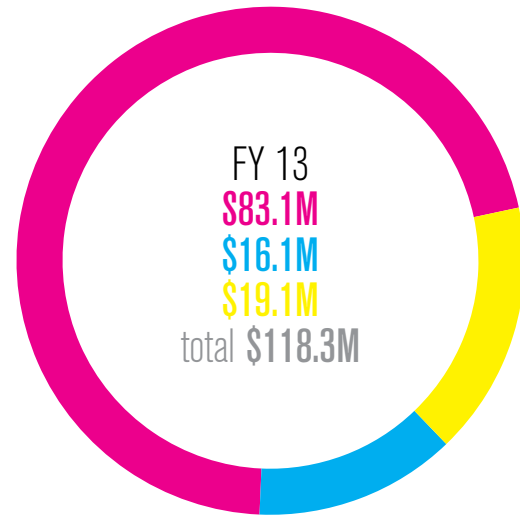
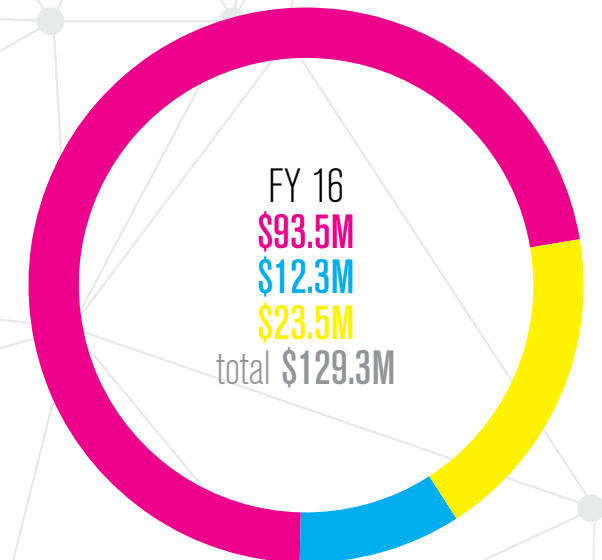
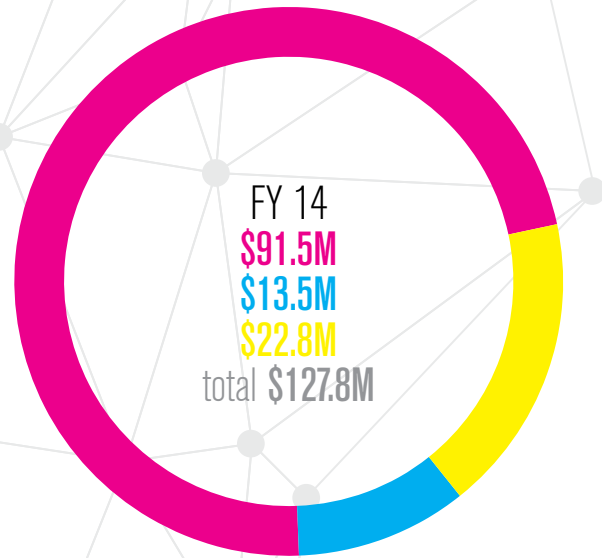
	FY 13	FY 14	FY 15	FY 16	FY 17
Grand Total					
Public Health Service	\$83,112,280	\$91,532,042	\$79,503,794	\$93,449,876	\$63,889,941
State/Association/Foundations	\$16,102,385	\$13,521,116	\$16,926,325	\$12,330,941	\$11,199,945
Industry Grants	\$19,068,843	\$22,810,425	\$24,457,913	\$23,558,456	\$29,369,759
Total	\$118,283,508	\$127,863,583	\$120,888,032	\$129,339,273	\$104,459,645



2017 research awards

2017 Sponsored Awards

- PHS
- State/Assoc./Found.
- Industry



2017 Sponsored Awards By Section

- PHS
- State/Assoc./Found.
- Industry

