Research Day 2014
Kelly Regan

The 13th annual OSUMC Research Day took place on Thursday, April 10, 2014. This year marked the first major effort by the Organizing Committee to promote Research Day as a platform for investigators and students to advocate for research funding to government representatives. Local and state government representatives in attendance included City Council Member Pricilla Tyson, Ohio Representatives Cheryl Grossman and Gerald Stebelton, and staff on behalf of U.S. Representative Pat Tiberi and U.S. Senator Rob Portman. To kick-off the event, Vice President for Research Dr. Caroline Whitacre and Jen Carlson from the College of Medicine Office of Government Relations gave talks to COM faculty and students on how researchers and trainees can get involved in advocating for research funding. The Keynote address was given by Dr. Jeffrey Whitsett, chief of the Section of Neonatology, Perinatal and Pulmonary Biology at Cincinnati Children’s Hospital Medical Center. The State of the Art Research Update Lecture Series talks were given by Dr. Carlo Croce and Dr. Steven Goodman.

Nineteen MSTP students presented posters at the event. Sixth-year MSTP student Bin Ni was selected by the Organizing Committee to represent the MD-PhD category at the Allan Yates Memorial Trainee Speaker Series. Sean DeGrande won a travel award for his poster presentation: “Phosphatase Dysregulation in Cardiovascular Disease”. In addition, several MSTP students were involved in organizing Research Day including Steven Scoville (Chair), Kelly Regan (Vice Chair) and Organizing Committee members: Katherine Hartmann, Amanda Harper, Sankalp Malhotra, Zach Hing, Alecia Blaszscak and Michael Koenig. Congratulations to all MSTP students who participated this year!

Dr. Jeffrey Whitsett (Left) and Research Day Chair Steven Scoville (Right)

Sean DeGrande, PhD
MD/PhD Travel Award Winner
Winter Retreat
Alecia Blaszscak

On Saturday March 1st, the MSTP program held its first annual Winter Retreat as part of an effort to expand opportunities for students to give presentations and facilitate programmatic review. The retreat was a daylong event that brought together individuals from all years of the program. The day began with a potluck lunch followed by ten student talks that covered a wide array of topics from cancer biology to clinical case presentations. MSTP directors Drs. Schlesinger and Kirschner judged the student talks and awarded three prizes donated from local businesses to Amanda Harper, Patrick Grierson and Dylan Nielson. Following the student presentations, Aaron Freud MD, PhD, a new faculty member at Ohio State and program alum, joined us for dinner and gave a talk about residency and career choices for MD PhD students.

Concluding the evening was our first ever MSTP talent show! The event included a wide breadth of talents, from musical instruments to jump rope to Drs. Schlesinger and Kirschner singing an MSTP version of Bruce Springsteen’s “Born to Run”. The winner of the talent show was duo musical act Giancarlo Valiente and Adam Hinzey playing guitars and singing “Ho Hey” by The Lumineers. Awards were given out during the closing awards ceremony including the awards for the best student talks, best talent show performance and the highest MSSO attendance award to Stephen Bergin.

Student Achievements

Patrick Grierson inducted into the Alpha Omega Alpha Honor Medical Society
Thomas Hirschauer is awarded an Albert Schweitzer Fellowship and a CGS Career Development Grant
Michael Sharpnakc received the Choose Ohio First Bioinformatics Scholarship
Adam Hinzey received American Psychosomatic Society Medical Student Travel Scholarship
Bin Ni spoke at the Keystone Symposia on Molecular Cell Biology of Macrophages in Human Disease
Kelly Regan appointed to the NIH National Library of Medicine training fellowship
MSTP Faculty Forum presenters: Nima Milani-Nejad, Kyle Beckwith, Sean DeGrande
2014 University’s Presidential Fellowship: Travis Sharkey-Toppen
2014 University Fellowship Awardees: Jae-Hoon Chung, Zachary Hing, Samantha Ohmer
2014 PhD graduates of the Biomedical Sciences Graduate Program: Rebekah Browning, Nima Milani-Nejad, Bin Ni, and Obada Shamaa
Alumni Spotlight
William Dupps, MD, PhD
Kelly Regan

William J. Dupps Jr., MD, PhD completed his master’s and doctoral degrees in Biomedical Engineering (1998) and earned his medical degree with honors in the MD-PhD Program (2000) at The Ohio State University. Dr. Dupps began his undergraduate training in Chemical Engineering at Purdue University where he took a biomedical engineering course that sparked his interest in human physiology and ultimately influenced his career path in medicine. Following his training at OSU, he completed an Ophthalmology residency at the University of Iowa Department of Ophthalmology and Visual Sciences, a research fellowship in ocular gene therapy at the National Eye Institute, and a two-year Cornea and Refractive Surgery Fellowship at the Cole Eye Institute. Dr. Dupps joined the Cleveland Clinic in 2006 and has appointments in Ophthalmology, Biomedical Engineering and Transplantation and specializes in refractive surgery, corneal transplantation, and cataract surgery. He also holds an adjunct appointment as Associate Professor in the Department of Biomedical Engineering at Case Western Reserve University. We are catching up with Dr. Dupps at an exciting time in his career where he is witnessing the translational impact of a line of inquiry in corneal surgery that he initiated in the lab at Ohio State over 15 years ago.

Dr. Dupps became interested in pursuing a dual-degree MD-PhD program when he realized he wanted an engineering career with “humanistic” applications and was able to foster a passion for medical research when he came to Ohio State for the MEDPATH program and further doctoral training. He worked with OSU’s Dr. Cynthia Roberts on a thesis project studying biomechanical properties of the eye and the corneal response to laser surgery, which he has further developed throughout his career. “The project began with clinical observation of patients receiving laser treatment whose corneas became flattened. Something that started with ‘why does this happen?’ has turned into learning a lot about what happens to the eye during surgery and also how we can manipulate these properties to our advantage."

Dr. Dupps currently leads an interdisciplinary research team in the Ocular Biomechanics and Imaging Laboratory at the Cleveland Clinic focused on the biomechanics of keratoconus and methods for improving refractive surgery outcomes with patient-specific computational modeling. Several funding agencies currently support his work including the National Keratoconus Foundation, the National Institutes of Health, and a Research to Prevent Blindness Career Development Award. He has also taken on a new industry initiative developing a startup company based on his research.

Alumni Updates:

**Na Tosha Gatson, Class of 2009** accepted a Neurooncology Fellowship at MD Anderson Cancer Center. She welcomed her son Donté-Damon into the world on March 5th, 2013. Congratulations, Dr. Gatson!

**Dustin Donnelly, Class of 2013** will be transferring to Harvard Brigham and Women’s Hospital for a Neurosurgery residency position. Congratulations, Dr. Donnelly!
SACNAS Conference
Anisley Valenciaga

Last October, I had the pleasure to attend the SACNAS conference in San Antonio, Texas to represent our MSTP community and show future applicants what Ohio State has to offer. The goal of SACNAS is to encourage more Hispanic/Chicano and Native American students and professionals to pursue careers in science. Last year’s conference was dedicated to “Strengthening the Nation through Diversity, Innovation & Leadership in STEM”. While at SACNAS, I met numerous students from all over the country and Puerto Rico. Some of them were interested in our MD/PhD program, while others were hearing about such a training route for the first time. At the poster sessions, I was able to interact with the presenters, who displayed high quality research projects in a variety of subjects. On a personal side, I was delighted to speak with people who have visited my hometown and with whom I share similar backgrounds. It was also great to speak Spanish with some of the participants and hear their stories. SACNAS was a wonderful opportunity to recruit potential applicants and hear from accomplished scientists.

APSA Update
Theresa Relation

On Saturday, November 9th 2013, the American Physician Scientist Association held a regional meeting hosted by the local chapter at The Ohio State University College of Medicine. APSA is a national organization that strives to promote the development of physician scientists at all stages in their training. The meeting was attended by 98 MD-PhD students and faculty from ten midwestern universities. The event focused on public-private partnerships in biomedical research and featured speakers such as Dr. Wolfgang Sadee of OSU, Dr. Michael Caligiuri of OSU and Dr. David Markovitz of the University of Michigan. This event could not have happened without the contributions of many OSU MSTP students, including Dylan Nielson (Meeting Chair), Jason Siu and Kelly Relation (Partnerships), Ayo Adesanya and Michael Koenig (Logistics) and Katherine Hartmann (Maverick).

APSA will hold its tenth annual meeting during the weekend of April 25-27 in Chicago, IL. Each year, the annual meeting is held jointly with the American Society of Clinical Investigators (ASCI) and the American Academy of Physicians (AAP), offering the attendees the opportunity to interact with leading national and international physician scientists. The 2014 Annual Meeting will offer trainees the opportunity to attend lectures by innovative scientists in a wide variety of fields, to participate in mentoring workshops, and to attend panel discussions with faculty from institutions across the country. This year’s conference will feature a strong presence from Ohio State’s MSTP program. Eight students plan to attend, with many students participating as leaders. Kate Hartmann serves as Events Committee Chair, Dylan Nielson serves as Organizing Committee Chair, Anisley Valenciaga serves as a member of the Annual Meeting Committee, and Theresa Relation serves as University representative and a member of the Policy Committee.

Publications

Daniel Fenn
Local regulation of neurofilament transport by myelinating cells. Journal of Neuroscience, in press. 19 February 2014.

Travis Sharkey-Toppen


Katherine Hartmann

Genetic variants affecting alternative splicing of human cholesterol ester transfer protein. Biochemical and Biophysical Research Communications, 24 January 2014

Jason Siu
Analysis of MII1-deficiency identifies neurogenic transcriptional modules and Brn4 as a factor for direct astrocyte-to-neuron reprogramming. Manuscript submitted, Neurosurgery.

Zachary Hing
Single-nucleotide variations defining previously unreported ADAMTS13 haplotypes are associated with differential expression and activity of the VWF-cleaving protease in a salvadoran congenital thrombotic thrombocytopenic purpura family. British Journal of Haematology, in press. 16 January 2014

Kyle Beckwith

The CD37-targeting antibody-drug conjugate IMGN529 is highly active against human CLL and in a novel CD37 transgenic murine leukemia model. Leukemia. Accepted for publication on January 8th 2014.

Nima Milani-Nejad

Henry Chang

Nicole Zalles

Joseph Ostler
MSTP Graduates Reflect

Adam Bevan
I am so happy to have been in the MD/PhD program for the last 8 years. I know that I'm better for all the training I've received here at OSU. I grew up in northern California before moving to Utah and attending Brigham Young University. While there I studied Neuroscience, wisely married a nursing student, and my plan was to go to medical school. However, I found an amazing research mentor that made me so excited about research that I started to question which pathway of graduate education I should pursue. At the peak of my turmoil I discovered that combined MD/PhD programs existed, and I immediately knew that was supposed to be my path. Thankfully I matriculated to the OSU MSP in 2006, and I moved here with my wife and 6-month-old daughter. I joined Brian Kaspar's lab at Nationwide Children's where I studied gene delivery to the central nervous system. It's been immensely satisfying to see the clinical impact of my research develop during my time here, especially during my last years in medical school. Now I am ready to graduate, and I just matched into the Neurosurgery program at Washington University in St. Louis. My wife and three daughters (Abigail, Molly and Nora) will be moving with me, but unfortunately my 3 hens (Aurora, Snow White and Jasmine) did not survive to see Match day. All my girls ask for in our new home is stairs and more than 1 bathroom. I hope I can oblige. My one piece of advice would be that there is never a perfect time for anything, so you might as well just start enjoying everything now.

Sean DeGrande
I joined an MSTP program because I had a desire to not only practice medicine, but to improve it. I really wanted to acquire the skills to not only treat patients, but to critically analyze the way we treat patients in order to identify areas where we could do better as healthcare providers. I did my research thesis in cardiac electrophysiology in Dr. Peter Mohler's lab. I joined the lab at the University of Iowa and followed the lab to Ohio State during my fourth year of training. My project originally focused on characterizing the triggering mechanisms for an inheritable arrhythmia syndrome caused by a deficiency of a cytoskeletal protein called Ankyrin-B. The initial results of the study were very exciting and the project eventually grew into understanding the role of phosphatases in human cardiovascular pathology. It was very exciting to see a very narrow set of initial experiments explode into a much broader study. The best piece of advice I can offer is to always keep an open mind as you progress through your training. Whether it be in the interpretation of your research data (turns out negative results can be just as interesting as positive ones) or in planning your career path. I will be continuing my training with an anesthesiology residency at Cleveland Clinic. I'm very interested in cardiothoracic anesthesia and in the CVICU so my long term goals include improving current treatments for severe cardiopulmonary dysfunction.

Patrick Grierson
I joined the OSU MD/PhD program partially because of OSU's reputation for strong clinical training as well as OSU's research strength in oncology. I also wanted to go to a University that felt similar to where I'd been (University of Wisconsin). My dissertation research was done on a cancer predisposition syndrome with Dr. Joanna Groden. While outside of the lab, I participated in the first three Pelotonia events. As I'm being asked for any advice that I would give to current students, I'd say the most critical thing is in choosing a lab: you need one that works on something you can become passionate about, but also a lab where you will enjoy spending time with everyone in the lab. Other than that, keep an open mind and invest yourself fully in whatever you're doing at that particular time (pre-clinical, lab, or clinical years). Moving forward, I will be going to Washington University in St. Louis to join their PSTP.
Susan McClory
I began the OSU Medical Scientist Program in 2005. I had known for much of my adolescence and young adulthood that I wanted to pursue a medical career. Then, as I progressed through my undergraduate training, I began to realize how much I also enjoyed the challenges of scientific research. Since that time, OSU has provided excellent foundational training for my career as a physician scientist. I completed my graduate thesis in the laboratory of Michael Caligiuri, where I studied the development of human T and natural killer cells. I then progressed through my third year and fourth years of medical school, where I quickly realized that I felt most at home in the field of pediatrics. As such, I will be starting my residency at the Children’s Hospital of Philadelphia this June. From here, I hope to build a career which balances my love for clinical medicine with my research interests in the field of human immunology.

Richard Price
Wow! It just seems like yesterday that I started the program. Thinking back on my time in the MSTP brings back many great memories. Meeting with the late Dr. Yates at a pivotal point convinced me to pursue an MD/PhD at Ohio State. A large draw to joining the program for me was my eventual PhD mentor, Nino Chiocca. I knew I wanted to work with him from the first time I met him. During my research time I was fortunate to work on a great project. I was able to show that cytomegalovirus promotes glioblastoma, a deadly brain cancer. As a student I quickly became involved in research education activities such as Research Day and the Landacre Honor Society. I also became involved in several national organizations such as the American Medical Association and the American Physician Scientist’s Association. Throughout my time in the MSTP I have received great mentorship and support. I recently matched into neurological surgery at Washington University. I am excited to move to St. Louis and start the next chapter of my career as a physician scientist.

Alan Smith
I joined the MD/PhD program in the third year of the new integrated program pioneered by Dr. Allan Yates. When I was on the interview trail, I was very impressed with OSU and the city of Columbus. Since I have been here, I have continued to be impressed with OSU, the medical school and the MD/PhD program. I have made some great friends, and the administration has been very supportive throughout my time here. As happens to a number of students, I have faced a number of challenges in my MD/PhD training. Sometimes in our journey to fame and fortune, life happens. I think the accomplishment I am most proud of in my training is simply the fact that I have completed it all. Earning both of these degrees is no small feat. If I could give any advice to upcoming students is simply work hard, do your best, and be happy with it.

Upcoming Dates

Jun 19-20, 2014 – Summer Retreat
May 31-Aug 2, 2014 – SUCCESS Program
Oct 23-25, 2014 – MSTP Recruitment Session
Nov 20-22, 2014 – MSTP Recruitment Session
Jan 12-14, 2015 – MSTP Recruitment Session
Feb 12-14, 2015 – MSTP Recruitment Session