Focus on Faculty
Christopher Alvarez-Breckenridge

Dr. E. Antonio (“Nino”) Chiocca, MD, PhD, serves as the first Chairman of OSU’s Department of Neurological Surgery where he holds the Dardinger Family Endowed Chair in Oncological Neurosurgery. His training as a physician scientist began at the University of Texas Medical School at Houston where he graduated with his MD/PhD in 1988. He then pursued his residency training in Neurological Surgery at Massachusetts General Hospital (MGH). During residency and his subsequent time on the faculty at MGH, he made pioneering discoveries in the field of gene transfer and oncolytic viral therapy for CNS disease and glioma.

In 2004, Dr. Chiocca joined the faculty of OSU where he assumed the position of Chair of the Department of Neurological Surgery. In this position he has exemplified the trajectory of a physician-scientist as he actively balances clinical, research, and administrative responsibilities. As an educator, Dr. Chiocca has also been an exemplary educator in his training of numerous undergraduate, graduate, and MD/Ph students.

His research currently focuses on barriers to viral oncolysis in the treatment of glioma; the involvement of CMV in gliomagenesis; and the role of microRNAs in glioma migration and invasion. Additionally, Dr. Chiocca is currently principal investigator on a NIH U01 grant focusing on translating preclinical findings with an oncolytic herpes simplex type-1 virus for the treatment of glioma into clinical trial.

In addition to Dr. Chiocca’s extensive publication and funding record, he has received numerous accolades. These include his membership in the American Society of Clinical Investigation and election to the Board of Directors of the Society for Neuro-oncology. Additionally, Dr. Chiocca is a fellow of the American Association for the Advancement of Science (AAAS) and serves on numerous editorial boards.

Research Day
Katherine Hartmann

OSUMC’s 10th annual research day was held this past Thursday April 7th. This year it occurred in conjunction with activities hosted by Nationwide Children’s Hospital and the Center for Clinical and Translational Science. The entire collaborative event, Research Celebration, occurred over 2½ days and in addition to spotlighting trainee research, focused on mentoring and faculty collaboration.

The theme of research day this year was basic developmental biology and translational cardiovascular research. These topics were highlighted by the keynote speaker, Dr. Jonathan A. Epstein, MD from University of Pennsylvania whose research focuses on the molecular mechanisms of cardiovascular development.

MSP students were well-represented on Research Day, with the organizing committee being led by our very own Richard Price. In total, there were twelve MSP students who presented their work during the poster session, with both Joseph Ostler and Patrick Grierson receiving travel awards in recognition of their exemplary poster presentations. Additionally, Edward Briercheck was selected by the Research Day Organizing Committee based on his abstract “Natural Killer (NK) Cell Degranulation is Regulated by The Tumor Suppressor Phosphatase and Tensin Homolog Deleted on Chromosome Ten (PTEN): Implications for Immune Surveillance in Cowden’s Syndrome” to give a short presentation as part of the Allan Yates Memorial Speaker Series.

Research Day was truly a celebration of the exciting work being done here at OSU and in the end was a very successful and productive day for MSP trainees.

2011 Research Day Travel Award Winners
Joseph Ostler and Patrick Grierson

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Ohio State University Medical Center
Volume 1, Issue 2
April 2011

MSP News
Medical Scientist Program - www.biomed.osu.edu/mdphd
Alumni Spotlight: Na Tosha Gatson
Tom Hirschauer

For our first alumni spotlight article, I was fortunate enough to interview Na Tosha Gatson, an MSP alumna who is currently a second-year neurology resident here at the Ohio State University. It has been invaluable to hear first-hand the wisdom of someone who was once where I am now.

Na Tosha has recently completed her preliminary year in internal medicine; and she admits that although her first year was a great experience, it is nice to now focus on neurology. It is a great time to be at OSU since a new neurointensive care unit has just opened, which will provide a rare opportunity to practice a significant amount of critical care medicine. As one of four residents in her year, Na Tosha is able to be involved in a large number of cases. Although this amount of work can be tiring, it is especially rewarding when you are able to improve your patient’s life even if all you are able do is provide them with the answers to their questions.

Na Tosha reassured me that even though the hours might not be as long as they were for the residents who went before us, there is still plenty of work to be done and plenty of nights on call to do it. For her, the most unexpected difference between medical school and residency has been the various approaches she witnesses to balancing professional and personal lives. As a mother, she loves to spend time with her children and do home improvement. Also, it is always interesting when someone with whom you entered medical school is now one of your attendings.

When I asked what advice she had for our current students, Na Tosha urged us “to find the right circle of supporters and mentors and use them at every turn. Never struggle or fight alone.” In fact, the one thing she would have done differently would be to have pressed her mentors for more input, direction, and advice, instead of working on her own when things were difficult and suffering unnecessarily. Na Tosha remains happy to have chosen the MD/PhD path, as she believes that her research has improved her ability to practice medicine. When navigating the literature, determining the quality of a study, or communicating what has been found to a patient, the skills learned in the lab help at the bedside.

After residency, Na Tosha plans to complete a neuro-oncology fellowship. She is well on her way, having just been awarded an NIH NiNDS Research Education Grant (R25), which offers a PGY-2 resident or higher the opportunity to complete one or two years of basic science research. Her long-term goals include returning to academic medicine at a teaching medical institute and establishing a neurology institute geared toward neuro-oncological clinical trials.

MSP Bids Farewell

Five students are graduating from the MD/PhD Program this year. We hope the best for them and their upcoming residencies!

Edward Chang, PhD
Began program: 2004, IBGP
PhD Advisor: Jeffrey Kuret, PhD
Dissertation: Tau aggregation: role of neurodegeneration and inhibition with small molecules
Residency: UCLA, Neurology

Corey Clay, PhD
Began program: 2003, IBGP
PhD Advisors - John Gunn, PhD; Larry Schlesinger, MD
Dissertation: Francisella tularensis lipopolysaccharide O-antigen dictates the outcome of human complement activation
Residency: University of Cincinnati, Internal Medicine (clinical scientist track)

Aaron Kithcart, PhD
Began program: 2004, IBGP
PhD Advisor: Caroline Whitacre, PhD
Dissertation: Macrophage migration inhibitory factor: a key mediator of inflammatory disease
Residency: University of Washington, Internal Medicine

James Pauff, PhD
Began program: 2004, IBGP
PhD Advisor: Russ Hille, PhD
Dissertation: Structure-function studies of xanthium oxidoreductase
Residency: Vanderbilt University, Internal Medicine

Keith Vogt, PhD
Began program: 2004, BME
PhD Advisor: Petra Schmalbrock, PhD
Dissertation: Optimization of physiologic noise correction in functional magnetic resonance imaging
Residency: University of Pittsburgh, Anesthesia
Recruitment Recap
Dylan Nielson

This year’s recruitment season has drawn to a close. Ashley Bertran, the program manager, did an excellent job coordinating the recruitment process. We really cannot thank her enough for the work she does. We’d also like to thank all of the current students who volunteered their time to interview applicants, show them around campus, and share their experiences in the program. Applicants notice the commitment our students have to the program, and this is one area in which we stand out.

Each interview weekend lasts from Thursday to Saturday. On Thursday night, applicants meet in a group with Dr. Schlesinger and Dr. Kirschner to go over the details of OSU’s MSP. Then several current students take the applicants out for dinner. Friday, applicants have three faculty interviews and two student interviews, as well as a short individual meeting with Dr. Schlesinger and Dr. Kirschner. After their interviews, we give them a tour of the medical campus, including the ISP library, the clinical skills lab, and lab space in the Biomedical Research Tower. Friday night, Dr. Schlesinger graciously hosts dinner at his house. This gives applicants a chance to interact with current students and faculty in a less formal environment. After dinner, current students take the applicants out to unwind in a much less formal setting, either bowling or socializing at a popular medical student bar. Saturday morning, applicants have one more chance to connect with current students and faculty and get a broad overview of projects from labs they could join and speak directly with students from those labs. It also overlaps with The Ohio State University College of Medicine’s second look weekend so that applicants can connect with future classmates on the MD-only track and learn more about the College of Medicine.

We are always working to improve our recruitment program and this year was no exception. We added a third interview weekend in December, so that we could see more applicants and present our program earlier on their interview trail. The event at Dr. Schlesinger’s house is earlier and we have a full dinner instead of just hor d’oeuvres, which left applicants a little hungry in past years.

Keith Vogt and Kate Hartmann revamped the tour, focusing on sites of interest to applicants and producing a great color handout with information and photos for applicants to look back at. Breakfast on Saturday is now at Sloopy’s Diner so that we can show off our new Ohio Union.

Accepted applicants are invited back for Second Look weekend, a great opportunity for applicants to see OSU again. It is purposefully scheduled to coincide with OSU Medical Center’s research celebration so that applicants can get a broad overview of projects from labs they could join and speak directly with students from those labs. It also overlaps with The Ohio State University College of Medicine’s second look weekend so that applicants can connect with future classmates on the MD-only track and learn more about the College of Medicine.

In May, we will find out which of our accepted applicants choose OSU. We recognize that choosing a medical scientist program is a significant commitment of time and energy and strive to give applicants an accurate picture of Ohio State. We hope that future students can say that after their interview they knew OSU would be a good fit for them.

MSP Director Honored

Larry Schlesinger, MD, the director of the Medical Scientist Program, has been named a 2011 University Distinguished Scholar, an award that recognizes exceptional scholarly accomplishments by senior professors. A committee of senior faculty, including previous recipients, makes the selection from a pool of professors nominated by their departments. Distinguished Scholars receive a $3,000 honorarium and a research grant of $20,000 over the next three years. We would like to congratulate Dr. Schlesinger on his most recent recognition.

2011 MSP Leadership and Academic Achievement Award Winners

Eight MD/PhD students were awarded the MD/PhD Leadership and Academic Achievement Scholarships for 2011. These awards are given yearly to MSP students who have performed exceptionally well academically as well as providing leadership and service to the Medical Scientist Program.

Congratulations to:
Edward Chang, Corey Clay, Ene Raig Fairchild, Katherine Hartmann, Thomas Hirschauer, Dylan Nielson, Steven Scoville, and Keith Vogt!

Faculty Forum – December 2010

MSP Faculty Forum: Spotlight on our Graduate Programs

Faculty presenters included:
Richard Hart, PhD, Biomedical Engineering
Virginia Sanders, PhD, Integrated Biomedical Science Graduate Program
John Oberdick, PhD, Neuroscience Graduate Studies Program
MSP Student Publications

Adam K. Bevan
Early heart failure in the SMND7 model of spinal muscular atrophy and correction by postnatal scAAV9-SMN delivery

Edward Briercheck
The PP2A inhibitor SET regulates granzyme B expression in human natural killer cells.

Edward Chang
Pseudophosphorylation of tau protein directly modulates its aggregation kinetics.

Hui Zi Chen
Cell proliferation in the absence of E2F1-3.

Patrick Grierson
Chromosome Breakage Is Regulated by the Interaction of the BLM Helicase and Topoisomerase II{alpha}.

Adam Hinzey
Respiratory syncytial virus represses glucocorticoid receptor-mediated gene activation.

Thomas Hirschauer
Cortical and subcortical contributions to absence seizure onset examined with EEG/fMRI.

Aaron Kithcart
A small-molecule inhibitor of macrophage migration inhibitory factor for the treatment of inflammatory disease.
FASEB J. 2010 Nov. vol. 24 no. 11.

Susan McClory
Immature NK cells, capable of producing IL-22, are present in human uterine mucosa.

James Pauff
Substrate orientation and catalytic specificity in the action of xanthine oxidase: the sequential hydroxylation of hypoxanthine to uric acid.

MSP Students Awarded Pelotonia Fellowships

Edward Briercheck
Project: The role of PTEN in human natural killer cell function

Huizi Chen
Project: Atypical mammalian repressors E2F7 & E2F8 link hepatocyte endocycle regulation with tumor suppression

MSP Students Awarded CCTS TL1 Awards

Christopher Alvarez-Breckenridge
Deciphering and circumventing the natural killer response to OV therapy

Alan Smith
Multiple Sclerosis (MS)

Upcoming Events

May 19, 2011: MSP Faculty Forum — Research Residencies by Dr. Gary Koretzky, University of Pennsylvania
June 2, 2011: College of Medicine Graduation — Class of 2011
June 20, 2011: MSP (NGSP/IBGP) Start Date #1
July 15-17, 2011: National MD/PhD Conference
July 22, 2011: IBGP Orientation
July 25, 2011: MSP (IBGP) Start Date #2

Look Ahead
Annual MSP OSCE
MSP Summer BBQ