An Update from Dr. Antonio Abbate
the Associate Chair for Research

Another year has passed, and so much has been achieved!!! Congratulations to all of you. The number and breadth of publications by our faculty and staff continues to be outstanding. Many investigators have received new grants, while many others have renewed old grants continuing their work. I am truly excited about 2017. I look forward to new discoveries and inventions. And I am particularly excited about the new DOIM Research Conference Series. Starting January 12, we will meet every Thursday at 5pm in the Molecular Medicine Research Building room 1009/1011. The conference will be hosted by different divisions on an alternating basis. I look forward to meeting you all there, learning about your ongoing research, and discussing potential new projects.

This Issue’s Contents:

Please join me in congratulating the faculty members, coordinators, residents and students, featured in this issue. Read about the exciting new research in mast cell biology research performed by Brant Ward, M.D., Ph.D., in Immunology (page 2). Learn about Trey Wickham, M.D., in Endocrinology, and Salvatore Carbone, M.S., in Cardiology, as well as the treatment of obesity and diabetes across the lifespan (pages 2-3). Discover the potential of adult bone marrow transplant and other new treatment options in sickle cell disease with Wally Smith, M.D., in General Internal Medicine (page 4). Share our pride in our M.D.-Ph.D. students Bridget Quinn and Timothy Kegelman and resident Clinton Thurber, M.D. (pages 5-9). Caryn Weir-Wiggins, R.N., M.P.H., greatly represents the dedication and the excellence of clinical coordinators in the DOIM (pages 10-11). Find out about the plans that Rashmi Pershad, M.Phil., has for DOIM Research Administration for 2017 (pages 12-13).

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Brant Ward, M.D., Ph.D., assistant professor in the Division of Rheumatology, Allergy and Immunology has been engaged with research on Mast Cells and T Cells this past year. Mast cells (MCs) are rather infamous for their role in allergic reactions: They release histamine (and other chemicals) upon activation by pollen particles or other allergens, leading to the itching and sneezing that is all-too-familiar for many. However, MCs are also immune cells and participate in a variety of complex immune reactions. For example, we know that MCs are found at increased numbers in the skin lesions of persons with psoriasis, an autoimmune disease of the skin. In animal models, absence of MCs has been associated with increased risk for certain bacterial and parasitic infections. Dr. Ward’s lab is actively studying the ways in which MCs modulate these types of immune reactions, separate from allergies. They currently have two key areas of interest:

Direct modulation of T cell responses by MCs. T cells are essential for coordinating the immune system’s effort to fight off infections and can be culprits in autoimmune disease by unleashing the immune response against one’s body. Normally, T cells are only activated by specialized cells called antigen presenting cells (APCs). However, Dr. Ward’s team has found that MCs can function as APCs in certain circumstances. Moreover, their initial evidence suggests that MCs may preferentially activate a subtype of T cell – T regulatory (Treg) cells – that act to prohibit autoimmune reactions. These studies will help scientists understand how MCs might serve to regulate the activity of T cells within the sites of inflammation, perhaps helping to control excessive T cell activation.

Mast cell production of ferritin. Ferritin is a protein with a complex and incompletely understood biology. Within individual cells in the body, ferritin proteins form storage depots for elemental iron. Additionally, the level of ferritin in the serum correlates with the total-body iron stores. However, ferritin is produced at very high levels in certain immune diseases, and the ferritin protein itself can promote the activation of Treg cells. Dr. Ward and his team have found that MCs produce and store very high levels of ferritin, and this ferritin can be released along with histamine when the MCs are activated. He is working to determine whether ferritin released by MCs could function to help prevent the spread of infection (by soaking up iron in the environment that bacterial would otherwise use to grow) or directly affect the activation state of other immune cells in the area.

Edmond Trey Wickham, M.D. is an associate professor and the program director for the Fellowship Program in Endocrinology and Metabolism. He is also the director of research at the Healthy Lifestyles Center. Dr. Wickham’s research expertise builds on his dual training in Internal Medicine and Pediatrics and focuses on the pathophysiology and treatment of obesity across the lifespan. He has a particular interest in the impact of childhood factors and how treatment approaches influence the risk of obesity and weight-related health conditions in adolescence and adulthood.

As was previously mentioned, Dr. Wickham serves as the director of research for the Healthy Lifestyles Center, a comprehensive pediatric obesity treatment program that integrates multidisciplinary clinical care and novel research initiatives for children, adolescents and young adults with obesity. He is an investigator on two clinical trials being conducted at the Center. The “Teaching, Encouragement, Exercise, Nutrition, and Support” (TEENS+) project is funded by the National Institutes of Health and is a randomized control trial investigating two distinct approaches to involving parents in the treatment of adolescent’s obesity. The Healthy Lifestyles Center is the region’s only program designated by the American College of Surgeons as a Center of Excellence for adolescent weight loss surgery. In addition to clinical bariatric surgery services, our multidisciplinary team is currently conducting a clinical trial regarding the safety and preliminary efficacy of a novel weight loss surgery technique – laposcopic gastric plication – in conjunction with lifestyle modification, in the treatment of adolescents with severe obesity. Based on the Center’s multiple research initiatives, Dr. Wickham recently established the Healthy Lifestyles Registry, an institutional review, board-approved research data and biospecimen repository that includes comprehensive information regarding anthropometric, metabolic, psychosocial, dietary and physical activity variables, as well as treatment responses in a cohort of over 700 adolescents with obesity. The Registry will serve as a rich resource for ongoing and future investigations.

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Dr. Wickham is currently leading efforts on two new research initiatives through the Center. In collaboration with investigators from the Center for the Study of Biological Complexity, his team is developing a project that will investigate how exposure to the maternal vaginal and gastrointestinal microbiome during pregnancy and at birth impacts microbiome development and subsequent obesity risk in offspring. A second project is being developed that will compare the impact of high-intensity interval training (HIIT) – a novel, time-efficient exercise training approach that involves short bursts of intense physical activity with intervening periods of rest – versus more traditional, continuous aerobic training on clinical and metabolic outcomes in adolescents with severe obesity, a population that frequently reports very low levels of physical activity.

**Salvatore Carbone, M.S.** is an instructor of medicine in the Department of Internal Medicine and the VCU Pauley Heart Center. He is a nutritionist by training, and the bulk of his clinical experience is in diabetes, obesity and metabolic disorders. Salvatore joined the VCU Pauley Heart Center in December 2013, aiming to improve the understanding of the mechanisms through which metabolic diseases and diet affect the cardiovascular system, focusing heavily on obesity, type 2 diabetes mellitus and heart failure. His goal is to ultimately develop pharmacologic and non-pharmacologic (e.g., dietary intervention and lifestyle modification) strategies to improve metabolic control and heart failure prognosis.

Salvatore has been recently awarded with a 2-year American Heart Association grant to investigate the mechanisms of action and the efficacy of a type 2 diabetes FDA-approved class of drugs (Sodium-glucose co-transporter 2 [SGLT-2] inhibitors) in patients with systolic heart failure. SGLT-2 inhibitors is the first anti-diabetic class of drugs with beneficial cardiovascular effects, especially in heart failure, having the potential to become the drug of choice in patients that have both heart failure and diabetes.

He is also investigating whether obesity mediates cardiac dysfunction, or whether it is an indirect contributor of exercise intolerance, by measuring not just body weight but also body composition compartments (e.g., fat mass and lean mass). Body composition may indeed explain why obesity increases the risk of developing heart failure but also exerts some protective effects once heart failure is diagnosed, showing what is described in the literature as ‘the obesity paradox.’

In regard to diet-related studies, in pre-clinical models his team has shown how a diet rich in calories, saturated fat and sugars – resembling a typical American diet (i.e., Western diet) – negatively affects the cardiac function. However, among calories, sugars and saturated fat, it is unknown which is the most responsible for cardiac dysfunction. He is therefore currently running experiments with mice fed on a high-calorie diet but with different quality of nutrients (e.g., diet with high sugar and low in saturated fat vs. diet with low sugar and high in saturated fat). The results will allow Salvatore to develop clinical trials with targeted nutritional interventions in patients with heart failure. He is also investigating the molecular mechanisms involved in the Western diet-induced cardiac dysfunction to identify and develop potential pharmacologic therapeutic strategies, focusing on anti-inflammatory drugs.

Overall, Salvatore has found a new home within the VCU Pauley Heart Center where multidisciplinary clinical care and research is centered on the patient wellbeing. He feels VCU is, in fact, the ideal research environment, allowing him to work in pre-clinical animal studies, as well as in the clinical research setting, translating findings to patients.
Wally Smith, M.D. the Florence Neal Cooper Smith Professor and Vice Chair for Research in the Division of General Internal Medicine, was busy with several different projects in 2016.

With Starship Health Technologies he worked on two health services research and informatics projects. The first was Realizing Enhanced Patient Encounters through Aiding and Training (REPEAT) a project funded with Dr. Stephen Bishop as the principal investigator and Dr. Smith as the co-investigator. Recruitment for this project is underway. The second project is a “CPACE: Communications Processes for Accountable Care Enhancement,” a Phase II SBIR application project under negotiation with Dr. Smith as the Principal Investigator and Dr. Arline Bohannon as the co-principal investigator. CPACE is partly developed software funded by the National Institute on Ageing Small Business Innovation Research (NIA SBIR) for better communicating health information and better care coordination of patients. A new proposal was submitted to SBIR in September for two-year further development funding. If funded, approximately $375,000 of $1,000,000 would come to VCU.

Relating to Sickle Cell Disease, Dr. Smith has submitted a Patient-Centered Outcomes Research Institute (PCORI) grant for sickle cell transition with Carolinas Health System as the lead requestor and VCU as the sub-requestor. The letter of intent was accepted and the full grant was due in December 2016.

For active trials involving VCU’s Center for Clinical and Translational Research (CCTR), one positive trial recently received high honors. "SUSTAIN: A Multicenter, Randomized, Placebo-Controlled, Double-Blind, 12-Month Study to Assess Safety and Efficacy of SelG1 with or without Hydroxyurea Therapy in Sickle Cell Disease Patients with Sickle Cell-Related Pain Crises," was selected by the American Society of Hematology Program Committee for presentation in the Plenary Scientific Session at the 58th Annual Meeting of the American Society of Hematology, December 3–6, 2016, in San Diego, CA. The Plenary Scientific Session honored the top six papers, selected from among 6,635 abstract submissions. SUSTAIN was funded by Selexys Pharmaceuticals Corporation (recently acquired by Novartis). Positive results have been pre-published in the New England Journal of Medicine.

Dr. Smith is also involved with STRIDE, a Phase II bone marrow transplant trial which is supported both by the Bone Marrow Transplant Clinical Trials Network, funded by the National Cancer Institute (NCI), and funded by National Heart Lung and Blood Institute (NHLBI). STRIDE is the first ever randomized bone marrow transplant trial in adults with sickle cell disease. At VCU it involves the Departments of Medicine and Pediatrics, and Massey Cancer Center. Enrollment opened in fall 2016.

With respect to preventing unsafe opioid prescribing, Dr. Smith submitted a letter of intent to PCORI (Patient-Centered Outcomes Research Institute) with Dr. Thokozeni Lipato for a grant proposal to prevent unsafe opioid prescribing in general medicine patients as part of a multicenter proposed study. The Letter of intent was accepted and a full grant proposal was invited in December 2016.

“What we find changes who we become.”
— Peter Morville (pioneer of the fields of information architecture)
Spotlight: M.D.-Ph.D. Student  
Bridget Quinn

Originally from central New Jersey, Bridget Quinn began medical school at VCU in 2007 and is currently an M.D.-Ph.D. program student who will graduate in May 2017. Bridget received her bachelor’s degree in 2005 from Loyola University in Maryland, and then she spent two years doing ovarian cancer research at Fox Chase Cancer Center in Philadelphia before coming to Richmond for medical school.

Bridget completed her Ph.D. work in Dr. Paul B. Fisher’s lab in the Department of Human and Molecular Genetics. Bridget had long been interested in oncology, mainly in the development of novel therapeutics and treatment delivery strategies. Her work at Fox Chase revolved around the development of mouse models of ovarian cancer, while her Ph.D. work focused on novel therapeutics for pancreatic cancer (PDAC). She is currently doing clinical research on gynecologic cancer in the Department of Radiation Oncology.

Bridget completed her Ph.D. work in late 2014 and for the past two years has been working on clinical research projects in the Department of Radiation Oncology while completing medical school. Her Ph.D. work focused on novel therapeutics and drug delivery strategies for pancreatic cancer. The bulk of her work was studying Sabutoclax, a small molecule antagonist of the anti-apoptotic Bcl-2 proteins, and Minocycline, a commonly available antibiotic, and their ability to display significant biological synergy against PDAC. Sabutoclax is a BH3 mimic that works at much lower concentrations (nanomolar range) than other small molecules targeting the Bcl-2 proteins, which can translate into achievable plasma concentrations in vivo, as well as lower toxicity profiles. Additionally, preliminary studies show that Sabutoclax has a low toxicity profile, a prerequisite for an effective therapeutic.

Previous studies with Minocycline in the context of cancer yielded marginal inhibitory effects, questioning its use as a cancer therapeutic. However, Bridget believed that one aspect of this multi-functional drug (i.e., an ability to protect against apoptosis via upregulation of Bcl-2) was masking its true efficacy against cancer. The ability of Sabutoclax to functionally suppress this effect now uncovers a new toxicity profile for this drug in PDAC. The use of these two treatments together challenges pancreatic cancer cells in novel ways, producing relevant cancer-selective inhibitory effects.

PDAC is a heterogeneous disease with distinct genetic profiles among patients. This complexity contributes to its inherent aggressiveness and resistance to conventional therapies. Multiple in vitro and in vivo PDAC models with varying genetic backgrounds, including immune-competent KPC transgenic mice, show susceptibility to this novel therapeutic combination. This effect is partly mediated through Stat3, a signaling pathway critical for PDAC development and progression.

Another significant aspect of Bridget’s work evaluated the novel strategy of taking a commonly used chemotherapeutic drug, Gemcitabine, and altering it in an attempt to increase efficacy. These studies were done in conjunction with the chemistry lab of Dr. Maurizio Pellechia, Ph.D., a professor at the Sanford-Burnham-Prebys Medical Discovery Institute in La Jolla, California, and with the VCU Institute of Molecular Medicine (VIMM) directed by Dr. Fisher. These studies have been highlighted in VIMM News & Views Issue No. 1, November, 2016.

Despite being used extensively in the treatment of pancreatic cancer, Gemcitabine delivers minimal survival results at best. This is partly due to intrinsic cellular resistance mechanisms that lead to either decreased uptake of the drug, improper metabolism and utilization or increased output of the drug. She showed in these studies that linking Gemcitabine to a peptide that specifically targets the EphrinA2 receptor, which binds ephrinA1 and is a highly-expressed biomarker on many cancer cells, leads to an increased uptake of the drug through an alternate delivery mechanism. She has shown that multiple peptide derivatives show clinical efficacy with the newest peptide, 123B9, demonstrating the same efficacy with increased plasma stability as compared to similar previous peptides. Specifically, she found that in vivo, these novel drug conjugates inhibit tumor growth and lead to a prolonged survival in mice.

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Importantly, the addition of the peptide does not confer any additional toxicity to the drug and holds significant clinical potential.

Bridget had been drawn to a career in clinical medicine since she was young, but it was the two years she spent in the lab after college that made her realize how much she enjoyed the intellectual challenge of research. This research experience was what helped drive her to pursue a dual degree. Since beginning her training, Bridget has been continually reminded why the dual degree is the right choice for her career goals. Being in the lab is stimulating and exciting but it also reinforces the value of a strong clinical foundation in advancing science and medicine. In addition to having the privilege to care for people in some of their toughest moments, Bridget’s medical training will give her the background knowledge to ask pertinent and meaningful clinical questions that may ultimately lead to novel discovery in her field. Holding an M.D. as well as a Ph.D. gives her a unique opportunity to stay involved in research, to continue asking questions, and to work on that translational border between science and medicine that she has always loved.

Throughout her time at VCU, Bridget has had a few people emerge as mentors in the clinical and the research aspects of her training. From a research perspective, her Ph.D. advisor, Dr. Fisher, has shaped her perspective on research and has consistently encouraged and pushed her to be her best. He has continued to be available for discussion and career support even after the completion of her dissertation. His advice and involvement have always been greatly appreciated. Dr. Emma C. Fields in the Department of Radiation Oncology has emerged in the last two years as an incredible clinical mentor for Bridget. They have spent a great deal of time discussing various aspects of career planning, and Dr. Fields has been a true advocate for Bridget throughout the process of applying to residency programs. Dr. Fields is genuinely invested and truly cares for Bridget, who feels lucky to have her mentorship. Dr. Fields and Dr. Fisher have positively affected Bridget’s career path and goals, and she feels fortunate to be at an institution with such great leadership.

Training for a dual degree is a long and rigorous process, requiring a great degree of positivity and perseverance. What Bridget most values about the M.D.-Ph.D. program at VCU is the support and comradery that she has found there. The faculty and other students continuously support each other throughout all points of the training process. There are study groups during M1/M2 year, stimulating and helpful research discussion, experiment advice and friendship during the Ph.D. years, the passing down of clinical books and resources for M3 year, and advice on residency applications and career planning during M4 year. The people Bridget has met through this program will be lifelong colleagues and friends.

As a child, Bridget’s parents were her greatest supporters, instilling in her the importance of hard work and the confidence that she could achieve her goals. Their support created the foundation Bridget needed to get to where she is today. As an adult, Bridget’s husband has been her greatest supporter and motivator. He has been with her throughout all her training and never fails to help get Bridget through the tough times and to celebrate the good ones.

Bridget is currently applying to residency in the field of Radiation Oncology and plans to do an internal medicine intern year. When she is not focused on her academic and research work, Bridget enjoys spending time at home with her husband, almost two-year-old twin boys, and her two dogs. She also enjoys cooking and yoga.
Tim Kegelman is a M.D.-Ph.D. candidate and graduate research assistant who grew up in Yorktown, Virginia. Before coming to VCU, Tim received his bachelor’s degree in chemical engineering from the University of Notre Dame in Indiana. He has been at VCU since June 2007 in the M.D.-Ph.D. program training as a physician and researcher through clinical and laboratory experiences.

Tim chose to pursue the dual M.D.-Ph.D. degree because he wanted to make discoveries in medical sciences while also becoming clinically trained, and to have significant and direct patient interactions. Tim performed his dissertation research with Dr. Paul B. Fisher in the Department of Human and Molecular Genetics in the area of cancer molecular biology and genetics. Tim was interested in the novel genetic research being done in Dr. Fisher’s lab and worked with a team during a rotation in 2008 before joining the lab in 2009. Tim’s research focuses on the implementation of a small molecule inhibitor of MDA-9/Syntenin in combination with radiation in Glioblastoma. Over the next year he hopes to continue helping the lab in elucidating the role of MDA-9/Syntenin in Glioblastoma stem-like cells, as well as further developing small molecules directed against MDA-9/Syntenin activity.

Tim also works with Dr. Emma C. Fields in Radiation Oncology and is currently applying for radiation oncology residencies with the aim of securing a position at an academic medical center after residency training.

Prior to beginning the M.D.-Ph.D. program, Tim worked as an undergraduate research assistant in the chemical engineering department at the University of Notre Dame. Tim was a swimmer at Notre Dame and has been able to apply the work ethic he developed through swimming training to various aspects of the M.D.-Ph.D. training. He also credits his time as a collegiate swimmer with helping him integrate well into new teams, which is something he does with regularity in clinical training.

Tim first knew he wanted to work in oncology research when he came into the M.D.-Ph.D. program. Much has yet to be discovered and plenty of room exists for treatment improvement. Tim did not know much about radiation oncology until he began collaborating with the Department of Radiation Oncology at VCU for its most recent projects combining a small molecule inhibitor with radiation.

The VCU M.D.-Ph.D. program has a close-knit group of students and excellent mentoring opportunities. Tim believes the training he has been receiving in the Internal Medicine department is outstanding, and he has had several mentors that have significantly influenced him. Dr. Fisher’s mentorship in the research phase of Tim’s training has been invaluable in shaping the broad science training in his lab. Dr. Fields has been an excellent mentor in Tim’s introduction to radiation oncology and by helping him through the residency application process. Dr. Andrew Poklepovic is a physician-scientist Tim admires for his clinical skill, interaction with patients and commitment to research as part of the Massey Cancer Center. Overall, Tim believes the friends and colleagues he has met through the program are excellent sources of support, and he is confident he will stay in touch with them well into the future.

Tim’s parents supported him throughout his life and in his pursuit of the M.D.-Ph.D. dual degree program. He feels as if he owes them a great deal of thanks for (Continued on page 8)
their support and influence. Tim’s mom, a nurse practitioner, and his dad, a NASA scientist, certainly influenced him to become a physician-scientist.

When he is not working, Tim enjoys spending time with family, exploring Richmond’s trails, restaurants and breweries. Recently, Tim’s family has grown, welcoming the addition of a baby. Now Tim is able to have his child accompany him in a jogging stroller when he takes his two dogs on runs. Tim recently certified his Siberian Husky, Lola, to be a Therapy Dog and part of VCU’s Dogs on Call program. One of Tim’s electives during his final year of medical school has been to work with VCU’s Center for Human – Animal Interaction (CHAI) and with the Dogs on Call teams.

Resident Profile: Clinton Thurber, M.D.

Clinton J. Thurber, M.D., is an internal medicine resident physician. Originally from Houston, Texas, Dr. Thurber has been at VCU since July 2014. Prior to his residency at VCU, Dr. Thurber studied biology and business at Brigham Young University in Provo, Utah, and attended medical school at the University of Texas Medical School in Houston, Texas. Dr. Thurber’s geographically diverse educational background from multiple institutions and regions is valuable in critically evaluating the practice culture of a health system. The breadth and depth of his research background has been unique among the trainees at his current level.

Dr. Thurber was initially drawn to the VCU Department of Internal Medicine because his in-laws live in the region, but his interview here solidified his hopes for a match. VCU met his desire for a training setting with intense patient pathology, volume and diversity. The strong cardiology program at VCU was also appealing to him because he knew he was interested in the field when he applied for his residency. Moreover, the collegial culture among the faculty and housestaff was attractive. As a bonus, Dr. Thurber fell in love with Richmond and all that central Virginia had to offer.

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Dr. Thurber’s research interests during residency have been centered around the idea that inflammation plays a significant role in various cardiovascular pathologies, from reducing exercise capacity in congestive heart failure to worsening outcomes and exacerbating reperfusion injury post-acute myocardial infarction. He has been part of a team that is blocking interleukin-1 in these patients and evaluating their clinical outcomes relative to placebo-controlled subjects.

As a former athlete and current marathon runner, Dr. Thurber has always been interested in cardiovascular health in a broad, general sense. When he expressed this interest early in his intern year to a cardiology fellow, Dr. Thurber was referred to Dr. Antonio Abbate, who had a well-established clinical and basic science research lab investigating novel therapies for inflammation in congestive heart failure and acute myocardial infarction. Dr. Abbate had some pre-clinical animal data demonstrating efficacy in blocking interleukin-1 in these models.

During residency at VCU, Dr. Thurber rotated through the Coronary ICU several times with inspiring, role-model EP attendings. Dr. Thurber realized that this was the subject matter he enjoyed thinking about the most and was attracted to the idea of achieving competence in such a challenging field.

Dr. Thurber’s program director is Dr. Stephanie Call, and Dr. Thurber works with various attending physicians associated with the Department of Internal Medicine and its subspecialties, as well as interns and medical students who rotate with him on these services. As part of the Internal Medicine housestaff, Dr. Thurber rotates on a variety of clinical inpatient, outpatient and consultative medical services, which has resulted in the opportunity to both learn and provide great clinical care to the patient population of central Virginia, while also gaining exposure to a broad range of subspecialties to enrich his career. On these rotations, Dr. Thurber typically takes a teaching and supervisory role to the interns and medical students.

Dr. Thurber’s experience as a resident at VCU has instilled in him a confidence in his ability to independently manage an extensive range of patients with chronic and acute issues. This has been his most valued acquisition from residency and has helped him enjoy his work day to day. From a research perspective, Dr. Thurber has learned randomized clinical trials from a structural point of view. Going forward with such a skillset as part of his tool belt in academic medicine will be invaluable. He has also learned how to get a complex review article done from start to finish. Having evaluated patient problems from both the clinical and research sides, Dr. Thurber feels more prepared to think outside the box when required and will ultimately be able to provide better care for his patients.

As Dr. Thurber transitions from Internal Medicine residency to a cardiology fellowship, he hopes to consolidate everything he has learned in preparation for the Internal Medicine board exam. He also hopes to review the basics of cardiovascular medicine so that he can hit the ground running in July. Along the way, Dr. Thurber would like to make time for a new research project. Looking ahead a few years, Dr. Thurber hopes to accept a position in a cardiac electrophysiology (EP) fellowship for further advanced training. Ultimately, Dr. Thurber would love to be an academic cardiac electrophysiologist (EP) and continue to use the research tools he has developed on the creation of new EP devices and procedural approaches.

Dr. Thurber looks gratefully to Dr. Abbate as a mentor. Dr. Abbate accepted Dr. Thurber as a resident researcher early in his intern year, despite having initial reservations about Dr. Thurber’s busy schedule and other core-program demands on his time and energy, for which Dr. Thurber will always be thankful. Dr. Abbate’s mentorship and guidance enabled Dr. Thurber’s exciting participation in real-life clinical trials. On top of this, Dr. Abbate also coached Dr. Thurber through writing a review paper that was just published by a JACC subsidiary. Both skills will be vital to Dr. Thurber’s future career, and he likely would not have experienced them if not for Dr. Abbate’s tireless commitment to resident education and research mentorship.

Dr. Thurber is impressed with the energetic leadership within the VCU residency program. He believes the program is constantly scrutinizing and reevaluating itself to improve. Dr. Thurber feels as though it is a breath of fresh air to be training under people who value the feedback of residents. When he is not working, Dr. Thurber enjoys spending time outdoors with his wife and 3-year-old son. He also enjoys surfing, rock climbing and traveling.
Research Coordinator Profile: Caryn Weir-Wiggins

Caryn Weir-Wiggins MT (ASCP), RN, MPH, is a clinical research nurse coordinator at Massey Cancer Center with the Division of Hematology, Oncology and Palliative Care’s investigator initiated studies. She works closely with principal investigators in charge of Phase I clinical trials and the clinical research team to provide support to patients, to guarantee that patients’ rights are protected, and to ensure that regulatory requirements are met.

Originally from New Jersey, Caryn has been in Richmond and with VCU for 22 years. She began her career in New Jersey as a medical technologist practicing in microbiology before returning to school for her nursing degree and RN license. She then went on to work in infection control before joining VCU in the Division of Infectious Diseases in the HIV/AIDS Center. She transferred to Massey Cancer Center and became a surgical oncology clinical research coordinator for several years working with patients with breast, colon, rectal and kidney cancer on clinical trials. She took a position as a clinical research coordinator in a palliative care study that lasted for four years, which led her to her current position as clinical research coordinator in investigator-initiated trials about five years ago.

In her current role, Caryn serves as a patient advocate, making sure patients are well informed and understand the risks, the investment of time and the involvement required of them to participate in a Phase I trial, prior to consenting. Caryn makes sure her patients understand their treatment schedule and the potential side effects of the investigational medications they will receive. Some clinical trial drugs are early in development and have not been approved by the FDA; other drugs may be approved for different types of cancer or for other indications but not specifically the patient’s cancer type. The focus of Phase I trials is on safety and finding the maximum tolerated dose of the investigational drug(s), so Caryn stays in close contact with her patients. She said: “If they wake up in the middle of the night, and they are not feeling well, and they don’t know what to do, my colleagues and I want them to call us. We all carry a shared pager 24/7 and also have a medical oncologist on a Phase I pager 24/7. Some patients don’t want to tell someone every little detail of what they experience in side effects. For clinical trials we need to know that the patient can commit to that.” For this reason, Caryn does not permit patients to sign the consent form the same day they receive it because they have not had sufficient time to understand and digest the information. Caryn explained: “It is my job to make sure [potential clinical trial participants] understand the benefits and the risks. We have no idea if this is going to help their cancer or not. And we want them to understand that overall we are really interested in their safety.”

People may think that a clinical trial is only for people who have had all other standard treatment options. However, it is better for a physician to refer someone for a clinical trial earlier, if they have had one or two regimens of treatment and their disease is showing resistance, or they have had a remission but their disease has come back, (i.e. it is refractory or relapsed). A clinical trial requires patients to have a good performance status, meaning that they can do their daily activities, that they are up, they are active, and they are taking care of themselves. After numerous lines of treatment, some people are not quite as strong in terms of their performance status and may not be eligible for a clinical trial. They do other types of testing to see if a patient meets eligibility requirements because some of the treatments can be rough on a patient’s body.

Patients in a clinical trial are admirable because they are fighting their cancer while also helping other people who in the future may benefit from new treatments that became available as a result of clinical trial research. One thing Caryn and other clinical research coordinators can do for patients on a clinical trial is give them “conierge medicine.” Caryn feels as though it is her responsibility to walk them through the healthcare system. If they are in a clinical trial with her and they need anything else, such as a consult service (Continued on page 11)
Research Coordinator Profile: Caryn Weir-Wiggins Continued

day, she ties to make it work for their schedule. If a patient needs assistance with a copay, she will get a social worker involved to help with that. Resources are available to help patients, and facilitating when she can is one way she can give back to them.

Normally, Caryn works mainly with hematology cancers but also works closely with the solid investigator-initiated team, as well. On her team, Caryn works with four nurses, two nurse practitioners and four clinical research associates who manage data for the clinical trials. Caryn is incredibly appreciative of the clinical research associates because they have the vital role of keeping study data accurate for when the time comes to analyze and publish the research. The safety objectives of Phase I trials require that the data collected and reported be pristine. Caryn’s team also has a data analyst who helps the investigators who are preparing to publish by extracting the data with the biostatisticians to ensure that what has been seen in the clinical trial is able to be reported in a manuscript that will be accepted by medical and scientific journals. Caryn is grateful that all of her patients are treated on North 8 Clinical Research Services Unit because the staff and nurses on that unit know the protocol details, medication specifics and adverse events patients with specific cancers taking part in clinical trials could have.

The fortunate thing is that cancer treatments are always evolving to have better outcomes with fewer adverse effects. Caryn believes VCU provides many opportunities to continue her education and stay on top of changing treatments. For instance, she can attend Grand Rounds or attend lectures presented by speakers who come from cancer centers across the nation. Online education is vastly available, too. Caryn also appreciates being able to work with a team of outstanding oncologists including investigators like Dr. Steven Grant, Dr. Beata Holkova, Dr. William McGuire, Dr. Mark Malkin, Dr. Andrew Poklepovic, Dr. Danielle Shafer and others to learn from them first-hand.

Dr. Poklepovic is an assistant professor in the Division of Hematology, Oncology and Palliative Care. He is also an associate member of the developmental therapeutics program and a Harrison Scholar. Dr. Poklepovic works frequently with Caryn in Phase I trials and said: “Caryn is one of the linchpins of cancer clinical research at VCU. Her commitment to patients and to the advancement of scientific research is fantastic. She is loved by her patients and invaluable to her research team.”

Caryn and her colleagues become deeply invested in their patients and the patients’ families. Caryn takes her commitment to her patients seriously. She said: “[We] are always thinking about our patients, even from years ago, and they want to stay in touch with us too for years after they leave treatment. The kind of care they get when they are with us is exemplary because of the staff here.”

When she is not at work, Caryn enjoys gardening, tennis and has recently taken up hunting. She is interested in sustainable agriculture and aspires to have her own greenhouse. She also enjoys spending time with her three daughters and her three grandchildren.

Caryn and her colleagues become deeply invested in their patients and the patients’ families. Caryn takes her commitment to her patients seriously.
Rashmi Pershad, M.Phil., C.R.A., C.C.R.P. joined the Department of Internal Medicine (DOIM) in June of 2015 as its associate administrator for research. Since then she has helped the research team grow from one member to seven members, through centralizing some of the divisions, which better serves the research needs of the department’s faculty. Plans are also in place to hire a few research coordinators centrally to provide much needed support for clinical trials.

The current research administration team includes Rashmi Pershad, the research administrator; Meagan Sok, the grant and fiscal manager; Elizabeth Demro, a pre-award grant specialist; Aston Charlton, Chanin Consoer and Sabris Harris, post-award grant specialists, and David Lett, a fiscal technician. The team is looking to hire an additional grant and fiscal manager, as well as a project manager.

Rashmi and her team help faculty with everything from identifying funding opportunities and partnerships, assisting faculty develop new proposals, reviewing grant proposal submissions and budgets for congruency on the pre award side to interpreting sponsor policies and guidelines and managing post award responsibilities. Rashmi and her team is also working to create systems of organization such as check lists, deadline lists and protocols for the faculty and fiscal administrators in the various divisions of the department. Rashmi’s ultimate goal is to have systems of organization that will make the complicated grant submission process easier and more transparent.

Rashmi and her team provide varying layers of support based on the needs of the faculty throughout the department’s 10 divisions. Some proposals require minimal assistance while other more complex submissions for example multicenter projects or collaborations with foreign institutions require much more detailed and time-intensive support. The research administration team helps submit NIH grants (e.g., P50s, U awards, R01s, R21s and R34s), as well as PCORI, Department of Defense and foundation grants.

This year Rashmi and Meagan have worked with Dr. Sarah Hartigan to produce the first quality improvement lecture series for our faculty that will conclude in February 2017 and relaunch next fall. Furthermore, Rashmi conducted a departmental survey to better understand the needs of the faculty. The data results of the survey are currently being reviewed and analyzed. Early in 2017, Rashmi will work with Dr. John Nestler and Dr. Antonio Abbate to identify the top three initiatives that the faculty have agreed are most important to them, which the research team will focus on in 2017.

When Rashmi came onboard a-year-and-a-half ago, she saw a lot of variability across the divisions for the processes of completing and submitting grant proposals. Rashmi developed a three-pronged approach to combat the discrepancies she observed. She wanted to target fiscal administrators, to improve faculty education on grant proposal submissions and to refine and reorganize the way each division offers services to its faculty. Her goal in regards to grant proposals is to standardize a higher level of quality that everyone in every division would receive.

(Continued on page 13)
Research Administrator Update: Rashmi Pershad Continued

To this end, Rashmi has started an education series for the fiscal administrators of the department’s 10 divisions. So far her team has done three presentations relating to account reconciliation. Her team is also developing tools so that checklists and deadlines are available and used. Furthermore, Rashmi’s team has worked on how to appropriately navigate handling contracts and has worked with the university’s Office of Sponsored Programs (OSP) team, as well as the Grands and Contracts team. Rashmi felt as if everyone was supportive of her team’s efforts to provide standardized, high-level support for the DOIM divisions.

In 2017 Rashmi and her team will focus on what they can do for the faculty through faculty education. She and her team will find ways to interact with faculty that work best for them, such as classroom presentations, which were recorded and put on Blackboard with presentation slides so faculty who could not attend the presentations live could still access the information. Rashmi coordinated this successfully for the Faculty QI Scholarship lecture series.

Rashmi also plans to spend the first six months of 2017 focusing on setting up responsibilities for all team members, including her team and those in the divisions. Her goal is to have responsibilities designated in written documents so nothing falls through the cracks during the reorganization process.

In addition in 2017 Rashmi will also continue working with the task force to develop curriculum for research coordinators. She is trying to develop a class that research coordinators can go through to ensure that from the time that they come onboard, they will do their job at the level that is required.

Rashmi believes it is vitally important to build trust with her colleagues so that when ideas for change develop, the colleagues support the change because they believe it is for the benefit of the department.

In the 18 months since Rashmi joined the DOIM, she is proud to have built relationships with many faculty and administrators that have led to fostered trust, and to many successful large grant submissions. She has helped faculty members submit last-minute requests, has fostered relationships with the School of Medicine and the Office of Sponsored Research, has done several presentations and has altered the culture around how fiscal administrators involve themselves in the grant submission and management process.

Rashmi is excited about faculty engagement and is ready to take what is done with their research to the next level. She is currently working on a faculty education series, and during the next few months she will be working on a series about clinical trials management for the fiscal administrators and faculty who are new to clinical trials.

I think history would say that medical research has, throughout many changes of parties, remained as one of the shining lights of bipartisan agreement, that people are concerned about health for themselves, for their families, for their constituents.

— Francis Collins (American physician-geneticist noted for his discoveries of disease genes and his leadership of the Human Genome Project)
Be On The Lookout

**Deadlines for Internal Grants**

- The CCTR Endowment Fund grant due on February 1, 2017 ([http://www.cctr.vcu.edu/resources/funding.html](http://www.cctr.vcu.edu/resources/funding.html))
- The VCU Presidential Research Quest Fund due on April 1, 2017 ([http://research.vcu.edu/vpr/research_fund/index.htm](http://research.vcu.edu/vpr/research_fund/index.htm))

**SAVE THE DATE**

April 28, 2017

2nd Annual Quality in Clinical Research

**Physicians Needed To Serve on the Internal Review Board (IRB)**

Serving on the IRB is a unique opportunity to learn about research conduct regulation while providing important service to your institution and your community. IRB service is considered highly during the P&T evaluation process. As a physician, you will receive a stipend for your service.

To learn more about the IRB and how to volunteer, please reach out to Meghan Wright at [wrightmk2@vcu.edu](mailto:wrightmk2@vcu.edu).

<table>
<thead>
<tr>
<th>Date</th>
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| 1/12/17| Allergy & Immunology Rheumatology | @5:00pm Meet the DOIM Research Team  
  @5:30pm - Regulation of T cell responses by mast cells  
  Brant Ward, MD, PhD  
  @6:00pm - Sarcoidosis: Potential Areas for Research  
  Huzaefah Syed, MD |
| 1/19/17| Endocrinology & Metabolism      | @4:30pm Keys to Successful Mentorship  
  Patrick Nana-Sinkam, MD  
  @5:00PM - The use of the metabolic chamber in clinical research  
  Francesco Celi, MD, MHSc  
  Shanshan Chen, PhD |
| 1/26/17| Cardiology                     | @4:00pm - Navigating RAMS-IRB  
  Meghan Wright, M.Ed  
  @5:00pm - Heart failure with preserved ejection: a disease in need of a cure  
  Antonio Abbate, MD, PhD  
  @5:30pm - Diet, Obesity and Impaired Cardiopulmonary Fitness  
  Salvatore Carbone, MS  
  @6:00pm - Meet the Cardiac Research Team |
VCU DOIM Rising Scholar Program: Apply now – Deadline March 31, 2017

The VCU DOIM Rising Scholar Program is a unique opportunity to obtain dedicated training in Clinical and Translational Research, while progressing in your academic career in Internal Medicine and Subspecialties and improving clinical skills.

The program is designed for individuals who are BC or BE in Internal Medicine, and will last 24 months with a start date of July 1, 2017. The program will combine formal training within the VCU Master of Science Program in Clinical and Translational Research with hands-on research experience under the tutelage of a dedicated mentor. The Scholars will be appointed as Clinical Instructors of Medicine within the DOIM, and will work 14-16 hours per week (averaged over 4 weeks) within the Hospitalist Night Medicine Program. As part of the program and as DOIM faculty, the scholars will receive an excellent benefits package, a competitive salary commensurate to the clinical load, a $5,000 stipend for CME and other scholarly activities and a $20,000 grant to support an approved research project.

At the end of the program, trainees are expected to be competitive for appointment to an Assistant Professor faculty position and for a KL2 or K23 NIH training grant. Alternatively, the program can be preparatory to a clinical fellowship in an Internal Medicine specialty. Participation in the DOIM Junior Scholar Program at VCU, however, provides no guarantee for acceptance to a clinical fellowship or to a faculty position.

To apply, send a letter of interest to Leslie Bobb at leslie.bobb@vcuhealth.org, referencing the DOIM Rising Scholar Program. The letter should describe the interest in the program, the area of research interest (within the ones indicated in the Table), prior research experience (if any), and future career plans. Please attach also a short Biosketch or full length Curriculum Vitae. Deadline for submissions is March 31, 2017. Any inquiries can be addressed to the Program Directors: Antonio Abbate, M.D., Ph.D. (Associate Chair for Research in the DOIM – antonio.abbate@vcuhealth.org) and Rehan Qayyum, M.D., M.H.S. (Hospital Medicine Section Chief – rehan.qayyum@vcuhealth.org).

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<tr>
<th>Area</th>
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<tbody>
<tr>
<td>Allergy/Immunology</td>
<td>Lawrence Schwartz, MD</td>
<td>Mast Cell Biology</td>
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<td>Cardiology</td>
<td>Antonio Abbate, MD</td>
<td>Inflammation and Heart Failure</td>
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<td>Endocrinology</td>
<td>Francesco Celi, MD</td>
<td>Thyroid Function and Fat Metabolism</td>
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<td>Hepatology</td>
<td>Jasmohan Bajaj, MD</td>
<td>Neurocognition in Cirrhosis</td>
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<td>Arun Sanyal, MD</td>
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<td>Richard Sterling, MD</td>
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<td>Hospital Medicine</td>
<td>Rehan Qayyum, MD</td>
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<td>Oncology</td>
<td>Gordon Ginder, MD</td>
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<td>Steven Grossman, MD</td>
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<td>Pulmonary/Critical Care</td>
<td>Patrick Nana-Sinkam, MD</td>
<td>Lung Cancer/Exosomes</td>
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<td>Alpha (Berry) Fowler, MD</td>
<td>Acute Lung Injury</td>
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eRA Reminder: Use of Final RPPR Starts Jan. 1, 2017
Related Changes to IMS —Tuesday, December 20, 2016

This is a reminder that the Final Research Performance Progress Report is replacing the Final Progress Report (FPR) in eRA Commons effective Jan. 1, 2017. For more details on Final RPPR, please see the November 23rd Notification at: https://era.nih.gov/news_and_events/news_eRA.cfm#112320161.

NOTE: For small businesses, the new Final RPPR (or F-RPPR) will be in effect at least 2 months later, due to the unique final reporting requirements that they face under the SBIR/STTR policy directive.

TRAIN-2016-111-2016
Continuous Mandatory Sponsored Project and Effort Reporting Training

All Principal Investigators (PIs) are required to complete this training program. Training is available through BLACKBOARD. If you have trouble finding this class on Blackboard please contact Cathy Short at cfshort@vcu.edu

Why? The Office of Research and Innovation and the Office of Finance and Administration, with the support of VCU’s senior administration, have updated mandatory training programs in sponsored project compliance and effort certification to increase awareness and accountability and to reduce risk to the University.

Updates to the Final Rule

Updates to the Final Rule were published in September of 2016. The Department of Health and Human Services has issued a new regulation and the National Institutes of Health (NIH) has issued a new policy to increase the availability of information about clinical trials via Clinical Trials.gov, a publicly accessible database operated by the National Library of Medicine (NLM), part of the NIH. The Final Rule will be codified at 42CFR part 11. Link to the summary of HHS/NIH Initiatives to Enhance Availability of Clinical Trial Information: https://www.nih.gov/news-events/summary-hhs-nih-initiatives-enhance-availability-clinical-trial-information
If you have questions or would like to share information to be included in future issues of the VCU Department of Internal Medicine’s Research Newsletter please contact someone from the DOIM Research Team:

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Grant and Fiscal Manager  
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Thank you for reading.  
For more information about the Department of Internal Medicine, please visit us online at:  
www.intmed.vcu.edu