

Research and Development



Spring 2017 Newsletter

Dear Research Community, hope everyone is really for Spring. I would like to bring your attention to several items of note in this newsletter. Firstly, REDCap is online at Carilion Clinic. This is a very exciting milestone for our research community. The Health Analytics Research Team is already moving to bring i2b2 to Carilion Clinic this year. Secondly, the new RAP program was well

received by the research community and the quality of submissions was extremely high. Unfortunately we were not able to fund all worthy proposals but we are in hopes that funding of this program continues so that we can announce round 14 in the 4Q, 2017. Please congratulate your colleagues that were funded in this cycle. On another note, please read about an upcoming nationwide multi-center clinical trial originated by our featured researcher, Dr. Dario Sorrentino. Lastly, I would be remiss if I did not mention Carilion Clinic Research Day, April 11, 2017: 7:00 am-3:45 pm. Although the abstract submission window has closed and the first authors have been notified if they are either presenting an oral presentation or in one of three poster sessions, we still need for you to register for the meeting. All attendees must register even if you submitted an

Registration site: http://carilion.ca1.qualtrics.com/SE/?SID=SV_1TyizVNdYcfxMEJ

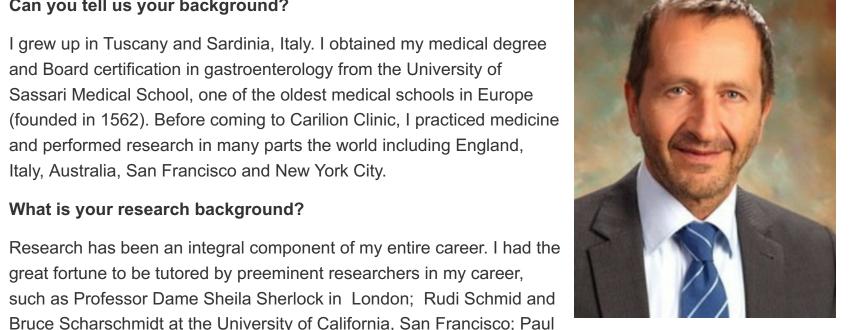
The full agenda, meeting information and abstract book will be sent out shortly so you can plan your day. Regards,

Francis Farrell, Senior Director Research and Development fxfarrell@carilionclinic.org Andrea Bidanset, Director Clinical Trials albidanset@carilionclinic.org

Featured Researcher: Dario R. Sorrentino, MD Can you tell us your background?

I grew up in Tuscany and Sardinia, Italy. I obtained my medical degree and Board certification in gastroenterology from the University of Sassari Medical School, one of the oldest medical schools in Europe (founded in 1562). Before coming to Carilion Clinic, I practiced medicine and performed research in many parts the world including England, Italy, Australia, San Francisco and New York City.

What is your research background? Research has been an integral component of my entire career. I had the great fortune to be tutored by preeminent researchers in my career,



Bruce Scharschmidt at the University of California, San Francisco; Paul Berk, Jerry Waye and David Sachar at Mount Sinai Hospital in New York City. Although my present research is focused on clinical/translational medicine, I have been for long time actively involved in basic science research projects delineating liver function, membrane transport and fatty acid metabolism. I have published approximately 130 peer reviewed papers, mostly as the first or senior author – including reviews, editorials and book chapters - in prestigious clinical and scientific medical journals. Eighteen of these papers have been published since I joined Carilion 3 years ago.

I am the Director of the Inflammatory Bowel Disease (IBD) Center at Carilion Clinic https://www.carilionclinic.org/inflammatory-bowel-disease and a Professor of Medicine at Virginia Tech Carilion School of Medicine. I also hold a faculty position at the University of Udine Medical School in Italy.

What made you want to come to Carilion?

What is your current role at Carilion Clinic?

I was recruited by Dr. Paul Yeaton, Chief of Gastroenterology.

Can you tell us a bit about your current and pending projects?

My current clinical and research interests are in IBD. I have pioneered clinical research leading to the use of anti-tumor necrosis factor (TNF) antibodies to prevent Crohn's disease relapse after surgery – a strategy which is now considered standard practice. I have also made novel observations related to complications and early diagnosis of this disease. As for my current research: I have attracted the first clinical trials in Gastroenterology (Crohn's disease and ulcerative colitis) to Carilion; I am actively working with a diagnostics company to develop and study tests to detect and monitor IBD non-invasively using a blood or stool sample and define the role of these and other markers in pregnant patients and during infection with C.difficile; we have recently concluded a study sponsored by a major company showing that IBD patients are diagnosed late in time, this leading to complications and early surgery; we have also secured major funding from the Broad Medical Foundation and Medtronic to coordinate a nationwide multicenter clinical trial (involving top institutions such as Harvard, Baylor, the University of Pennsylvania, Georgetown University), to screen by capsule endoscopy asymptomatic first degree relatives of Crohn's disease patients. This study will likely lead to a new paradigm in Crohn's disease diagnosis and might allow early therapeutic intervention to block

disease progression. It will also shed light on the etiology and pathogenesis of this disease. I have been also awarded several research acceleration program (RAP) grants – the last one to investigate the role of a specific inflammatory cascade in the therapeutic response to anti-TNF agents. This work will be in collaboration with Dr. Coy Allen of the Virginia-Maryland College of Veterinary Medicine, Virginia Tech. Finally, we are also conducting additional studies focused on risk factors of disease recurrence. All these projects, clinical activities and clinical trials involve many of my colleagues and trainees at Carilion Clinic including Drs. Rubio, Grider, Fogel, Nakat, Nguyen, Gazo, Desai, Kanth, and Amoh-Mensa. Jessica Mays and Sarah Henderson from the office of sponsored projects greatly help with trials and other studies. I

How do you see clinical research impacting public health?

am really thankful to all of them.

<u>programs</u>

I am a strong advocate of clinical research. I think it is important to maintain active collaborations with both academic and industry partners and promote research training at all levels. For example, as a member of the American Association for Gastroenterology International Committee I am leading a program (involving Carilion as well) that provides clinical and research opportunities in the US to young international doctors and trainees <a href="http://www.gastro.org/news_items/aga-core-program-connects-young-international-gis-with-us-connects-young-in-gis-with-us-connects-young-in-gis-with-us-connects-young-in-gis-with-us-co

This is the only way that effective therapeutics and treatment paradigms can be developed. As for my interests, the incidence of IBD is increasing throughout the world and it is imperative that we get a better understanding of these diseases and eventually find the cause and a proper cure. Although the discovery and development of TNF inhibitors has revolutionized their treatment, they remain chronic, debilitating affections that severely impact on young lives.



Carilion Clinic REDCap Carilion Clinic is a member of the REDCAP consortium Health Analytics Research Team and the Privacy and

Information Security Department, RedCap is now reviewing studies for REDCap incorporation. To date, four internal studies are underway. Please contact Min Wang, mmwang@carilionclinic.org or Mattie Tenzer, mmtenzer@carilionclinic.org to discuss your REDCap needs. Both will be at Research Day to answer any questions. Training and information sessions will be conducted over the next several months.

Research Acceleration Program (RAP13) Awardees

The Carilion Clinic Research Acceleration Program (RAP) solicited research applications for Carilion employees interested in pursuing clinical, biomedical or behavioral research projects. This is the thirteenth round of funding. Since the program's inception in 2007, total expenditures have been over \$1,000,000 funding over 100 projects. This year, the grant funding was differentiated into three distinct tiers. Tier I grants (\$40,000) were targeted to support experienced researchers with the expectation that the work will lead to larger extramural funding. On the other hand, tier II grants (\$10,000) were targeted to new investigators. Lastly, tier III grants (\$2500) are meant for education and collaboration across functional areas. The program was competitive with high quality submissions in all three tiers. Ten, 11 and 2 proposals were submitted for tiers I, II and III, respectively. Listed below are the awardees for RAP13. Pending budgetary approval, we hope to launch the RAP14 cycle in the fourth quarter of this year. Tier I

PI: Andre Muelenaer, Co-PI: John Bird (Virginia Tech) Infrared imaging to non-invasively determine air flow and ETCO2 during sleep PI: Shawn Safford, Co-PI: Nathan Lau and Sarah Parker, (Virginia Tech) Application of eye-tracking to

support calibration of learning and expertise in laparoscopic surgery PI: Dario Sorrentino, Co-PI: Vu Nguyen (Carilion Clinic) and Irving Coy Allen (Virginia Tech) Role of the noncanonical NF-kB Inflammatory cascade in therapeutic response and pathogenesis of inflammatory bowel

Tier II PI: Melissa Foster, Co-PI: Sunayana Pydah, Kimberly Carter, Yaohua Lu, Carla Hart-Tyner, Robert McNamara (Carilion Clinic) Pain management through art and relaxation PI: Michael Hart, Co-PI: Kristin Knight, Douglas Grider (Carilion Clinic), Airi Katoh (Virginia Tech Carilion School of Medicine), Mark Tenzer (University of Virginia) and Irving Coy Allen (Virginia Tech) Evaluation of

Eosinophilic Esophagitis PI: Mark Joseph and Scott Arnold, Co-PI: Shayna Amos and Cathy Jennings (Carilion Clinic) Regulation of the inflammatory effect in lung injury and sepsis and the use of ECMO PI: Cassandra Mierisch, Co-PI: Cesar Bravo, Peter Apel, Horatiu Dancea, Hugh Hagan and Cay Mierisch, (Carilion Clinic) A standardized patient education video program for improvement of post-operative pain

pro-inflammatory TH2 mediated biomarkers and NF-kB signaling pathways in the diagnosis and treatment of

PI: Tomer Pelleg, Co-PI: Susanti le, Edmundo Rubio, Victoria Edwards, Kristin Knight (Carilion Clinic), Exhaled adenosine triphosphate as a potential marker of airway response in positive pressure ventilation Tier III

PI; Michelle Clinton, Co-PI: Doris Duff, Janet Young, LeAnn Plott, Moiz Mohammed (Carilion Clinic) Evaluation of carotid peak flow in comparison to the Cheetah Startling SV system assessment of emergency department sepsis alert patients predicted volume responsiveness

PI: Sidney Mallenbaum, Co-PI: John Cook (Jefferson College of Health Sciences), Jeremiah Bell (Carilion Clinic) Developing a Curriculum to teach the region's EMS personnel the VAN stroke screening tool.

WELCOME TO THE Virginia Neuroscience Initiative ...STRENGTH THROUGH COLLABORATION

management after outpatient upper extremity surgery

Carilion Clinic joins the Virginia Neuroscience Initiative

The Virginia Biosciences Health Research Corporation (VBHRC) has recently instituted the Virginia Neuroscience Initiative (VNI), an innovative, statewide collaborative approach that will bring neuroscientists, medical providers and industry partners who share a common mission to accelerate research on treatments for various neurological and psychiatric disorders. I want to encourage all my colleagues at the Carilion Clinic to go to the VNI website: http://www.VirginiaNeuro.org to learn more about the VNI and join the Neuroscience Registry. Once you have added your name and information to the registry, you will have full access to the website and can search anytime for people in the registry who have also joined. The idea is to use the registry to find people from diverse backgrounds and locations in the state with whom to collaborate, organize a working group, or simply ask a question. You can search the registry using basic biographical information for each scientist/clinician, or to look for people with a specific research interest or expertise, or a medical specialty, or by biorepository or core facility they might direct. You may also find links to members' webpages and their complete CVs.

The registry is open to everyone, so please pass on this announcement on to medical providers, therapists, post-docs, grad students, research assistants, technicians, etc. The registry will be most effective if we get maximal participation by the folks here at Carilion, so please take a couple minutes to sign up. If you encounter any problems with the website, please let me know or contact Dr. Randall Merchant, remerchant@vbhrc.com

Regards, Dr Sidney Mallenbaum sxmallenbaum@carilionclinic.org

Upcoming Meetings

Business Intelligence & Healthcare Analytics Symposium, sponsored by Carilion Clinic and the Virginia Tech Pamplin College of Business Center for Business Intelligence and Analytics. This symposium will be held on April 1, 2017, from 9 a.m. to 7 p.m. We are fortunate to have many excellent speakers from Virginia Tech, Carilion Clinic, and several national organizations. Topics will include:

 Evaluating case / workflow management data and building strategies to improve care, improve patient outcomes, reduce risk and control cost. Creating innovative disease management and treatment protocols, drugs, behavioral health

Analyzing the macroeconomic forces affecting healthcare in the U.S.

methodologies. Assessing, Building and Capitalizing Healthcare IP Portfolios Reducing cost and improving outcomes of care by identifying, predicting and minimizing fraud by implementing advanced analytic systems.

 Using Natural Language Processing (NLP) techniques to extract important information from the vast amount of clinical data and analyze it for enhanced processing and analytics.

We hope you can attend. Please register free at the following website: http://www.cbia.pamplin.vt.edu/ Stephen A. Morgan, M.D. Senior Vice President and Chief Medical Information Officer Technology Services Group Carilion Clinic

10th Annual Life Science Forum of Southwest Virginia is being held Thursday, March 30, 2016 (5:30 – 8:30 p.m.) at VCOM II (VTCRC) in Blacksburg. Presented by the Roanoke-Blacksburg Technology Council and the Virginia Biotechnology Association, this event is a prime opportunity to meet other innovators from the region, get some new cutting-edge ideas and maybe even come up with a collaboration or two. Carilion Clinic Research and Development is a sponsor of the event. There will be appetizers and refreshments along with a poster session featuring representatives of academic, industry and nonprofit technology organizations.

Topics will include: Bio/life sciences Chemistry/materials sciences Nanotechnology and engineering

Networking is an essential skill to have in the professional world. The challenge for many is how to initiate the conversation. During this brief session we will: Share common conversation starters

Speed Networking: Small Talk to Big Conversations (4:30 PM-5:15 PM)

 Discuss what the elevator pitch is and how to introduce yourself Identify quick tips to use for future networking events

Prepare to perfect your technique and practice before the start of the event, by registering for this quick and interactive 30 minute session. Interested in presenting a poster? Space is limited, register early.

VCOM II (VTCRC) (2280 Kraft Drive, Blacksburg, VA) This event is free but registration is required. Please visit: https://rbtc.tech/2017/02/life-science-forum-march-

Notables:

New Employees and Transitions: James Matthew Gray: Translational Research Intern

Matthew will spend the year working on both basic science and clinical research in support of Carilion research projects. Matthew grew up in Botetourt County and is a recent graduate of Jefferson College of Health Sciences with a degree in Biomedical Sciences. He has significant research experience most recently working on microbial secretion systems under the direction of Dr. Jayasimha Rao. In addition, he has worked as a clinical associate at Carilion VelocityCare and CRMH.

Robin Dair: Clinical Trial Financial Specialist Robin Dair is our new Clinical Trial Financial Specialist. Robin has over 13 years of experience in corporate

finance ranging from credit analyst, accounting clerk and tax agent with Anthem and Norfolk Southern Corp. Robin holds Bachelor and Masters degrees from Bluefield College and Hollins University, respectively.

Sarah Henderson: Clinical Regulatory Affairs Specialist Sarah Henderson has transitioned into a new role within Research and Development. In this role, she will be responsible for the coordination of our regulatory processes and procedures as they relate to our sponsored clinical research efforts. In addition, she will act as our liaison to the institutional review board and mentor, train and oversee regulatory activities of research personnel. Sarah has a BS degree in Biological Sciences from Radford University and is presently pursuing a Masters of Science, Regulatory Affairs for Drugs, Biologic and Medical Devices from Northeastern University, Boston MA.

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