Stanford MEDICINE

Department of Internal Medicine

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Stanford Medicine Residency Research Interest Peer Group Newsletter – Fall Edition

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Dear Colleagues,

Welcome to the Fall edition of our medicine residency research newsletter! This initiative is an effort to both highlight exciting projects involving our current housestaff and recent graduates (to recognize you in the program for your achievements) but also inform trainees about the types of investigation being performed at Stanford. We define *research* comprehensively, as quality improvement, global health, outcomes research, medical education, clinical investigation, translational research, implementation science, qualitative studies, clinical trials, and device/service innovation all count. This newsletter will also announce courses or resources available to our residents on campus. Without further ado:

Resident Research Spotlight:

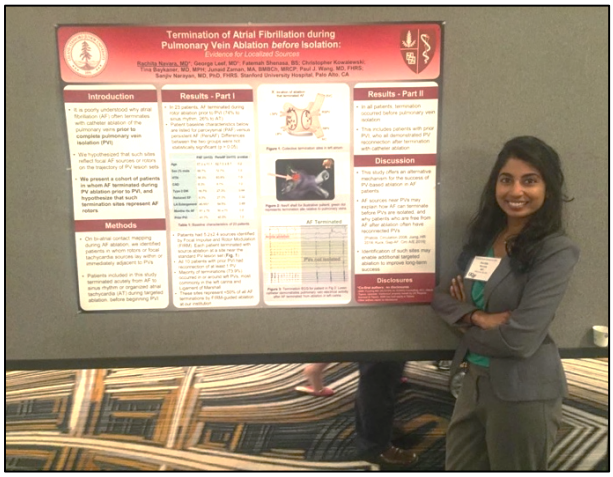
This quarter's research spotlight highlights R2 Rachita Navara!

Tell us a little about yourself

RN: I was born in England and lived in 16 different cities over the years. I knew I wanted to be a doctor from the ripe age of four, but I've also always loved making things with my hands. In high school, I was fascinated by electronic circuits and debugging them to fix things that stopped working. Little did I know that my future research would involve atrial fibrillation ablation, which is essentially debugging circuits inside the heart!

How did these interests lead to your work in biomedical engineering?

RN: I went to the F.W. Olin College in Massachusetts, which is a unique engineering program with just 300 students whose mission is to create the next generation of innovative engineers. I learned to design and market medical devices and partnered with Boston Scientific, working on things from cardiac stents to novel polymers. In medical school at UT Southwestern in Texas, I got the opportunity to lead a sub-study of the ACE-CTO prospective clinical trial over three years, investigating clinical and intravascular ultrasound outcomes of the latest drug-eluting stent.



Rachita Presenting at the 2016 Heart Rhythm Society Meeting

Tell us about your current research

RN: Since joining Stanford for residency, I've been fortunate to work with Dr. Sanjiv Narayan in the Division of Cardiovascular Medicine, researching atrial fibrillation (AF) and atrial tachycardia (AT), with the goal of improving catheter ablation for arrhythmias. It was an honor to receive the Stanford Society of Physician Scholar (SPSS) grant during my intern year for my research with Dr. Narayan, who pioneered FIRM ablation as a novel technique for AF treatment. Dr. Narayan was a perfect fit for my research interests given his engineering background, and it's inspiring to see the software he developed for rotor mapping in action in the EP lab. My specific project investigates patients with both AF and AT in an effort to understand the mechanisms and localization of these arrhythmias within the atria, in order to target ablation for improved patient outcomes.

Why Stanford?

RN: Stanford was my top choice for residency since medical school because it has such strong emphases in both clinical medicine and innovation, especially with device design. I'm in the Biodesign and Innovation Pathway of Distinction (POD), which helps connect residents to many of Stanford's tech-focused attendings and engineering professors. The Department supports trainee research through both mentoring and financial support, such as the SPSS grant. There are so many opportunities across campus, and I'm excited to be at the forefront of innovation that I could be using by the time I'm in clinical practice!

What advice do you have for interns and residents interested in research?

RN: I've been fortunate enough to have incredible mentors invest in me over the years, and program leadership can be a great resource for getting connected with a mentor. Also, don't be afraid to start early—even if you're not performing research or publishing right away, it's worth carving a niche with a mentor and research group and spending time in the field. That way, once you find a balance with your clinical duties and have more time for a project, you have the support and resources to hit the ground running!

Papers and Presentations:

Congratulations to the following authors for their recent publications and presentations in the past semester!

Third Year Residents:

1. **Jessica Hellyer**, Azarbal F, Than CT, Fan J, Schmitt SK, Yang F, Frayne SM, Phibbs CS, Yong C, Heidenreich PA, and Turakhia MP. Impact of Baseline Stroke Risk and Bleeding Risk on Warfarin International Normalized Ratio Control in Atrial Fibrillation. The American Journal of Cardiology. 2016.

2. **Jessica Hellyer**, Oliver-Allen H, Shafiq M, Tolani A, Druzin M, Jeng M, Rockson S, Lowsky R. Pregnancy Complicated by Gorham-Stout Disease and Refractory Chylothorax. AJP Rep. 2016.

3. **Justin Parizo**, **Ashish Sarraju**, Knowles JW. Novel Therapies for Familial Hypercholesterolemia. Current Treatment Options in Cardiovascular Medicine. 2016.

4. **Alina Kutsenko**, Ladenheim M, Kim N, Nguyen P, Chen V, Jayesekera C, Yang JD, Kumari R, Roberts L, Nguyen MH. Increased Prevalence of Metabolic Risk Factors in Asian Americans with Hepatocellular Carcinoma. Journal of Clinical Gastroenterology. 2016.

5. Liu X and Xiao J, **Han Zhu**, Spiegelman B, Rosenzweig A. miR-222 is Necessary for Exercise-Induced Cardiac Growth and Protects Against Pathological Cardiac Remodeling. Cell Metabolism. 2015.

6. Morrison-Nozik A, Anand P, **Han Zhu**, Haldar S. Glucocorticoids Enhance Muscle Endurance and Ameliorate Duchenne Muscular Dystrophy Through a Defined Metabolic Program. Proceedings of the National Academy of Sciences. 2015.

7. **Han Zhu**, Ashley E, Wheeler M. ACTN2 Mutations Are Associated with Cardiomyopathy and Cardiomyocyte Hypertrophy. American Heart Association Scientific Sessions. 2016. [Poster Presentation]

8. **Kathleen Jia**. Optimizing the Stanford Internal Medicine Discharge Follow-Up Appointment Process. 2016 Stanford Quality Improvement/Safety Symposium. 2016. [Poster Presentation]

Second Year Residents:

1. **Fahd Yunus**, Perino AC, **Leef GC**, **Cluckey A**, Turakhia MP. Inclusion of Women in Studies of Catheter Ablation for Atrial Fibrillation: Findings from the SMASH-AF Meta-Analysis Study Cohort. Stanford-Karolinska Cardiovascular Research and Medicine Symposium. 2016 [Oral Presentation]

2. Kotsia A, **Rachita Navara**, Michael TT, Sherbet DP, Roesle M, Christopoulos G, Rangan BV, Haagen D, Garcia S, Manju C, Pershad A, Abdullah SM, Hastings JL, Kumbhani DJ, Luna M, Addo T, Banerjee S, Brilakis ES. The "AngiographiC Evaluation of the Everolimus-eluting Stent in Chronic Total Occlusions" (ACE-CTO) Study. Journal of Invasive Cardiology. 2015.

3. **Rachita Navara**, **Leef G**, Shenasa F, Kowalewski C, Baykaner T, Zaman J, Wang PJ, Narayan S. Termination of Atrial Fibrillation during Pulmonary Vein Ablation before Isolation: Evidence for Localized Sources. American Heart Association Scientific Sessions. 2016. [Poster Presentation]

4. **Rachita Navara**, **Leef G**, Swan C, Brodt C, Baykaner T, Zaman J, Wang PJ, Narayan S. Therapeutic Transseptal Crossing: Learning by Puncturing, not Burning. International Heart Rhythm Society Annual Scientific Meeting. 2016. [Poster Presentation]

5. **Andrew Cluckey**, Perino AC, **Leef GC**, **Yunus FN**, Turakhia MP. Reported Success Rates by Ablation Lesion Set of Catheter Ablation for Paroxysmal Atrial Fibrillation. Stanford-Karolinska Cardiovascular Research and Medicine Symposium. 2016 [Poster Presentation]

6. **George Leef**, Perino AC, **Cluckey A**, **Yunus FN**, Turakhia MP. Geographic Representation and Reported Success Rates of Studies of Catheter Ablation for Atrial Fibrillation. American Heart Association Scientific Sessions. 2016. [Poster Presentation]

7. **Samantha Wang**, Zhang BM, Wakelee HA. Case Series of MET Exon 14 Skipping Mutation-Positive Non-Small Cell Lung Cancers and Response to Crizotinib. IASLC Chicago Multidisciplinary Symposium in Thoracic Oncology. Chicago, IL. 2016. [Poster Presentation]

Papers and Presentations (Continued):

First Year Residents (Interns):

1. **James Tooley**, Bohl, D. D., Kulkarni, S., Rodriguez-Davalos, M. I., Mangi, A., Mulligan, D. C., Yoo, P. S. Perioperative outcomes of coronary artery bypass graft in renal transplant recipients in the United States: results from the Nationwide Inpatient Sample. Clinical Transplantation. 2016.

2. **Patrick Sullivan**, Wallach JD, Ionnidis JPA. Meta-analysis Comparing Established Risk Prediction Models (EuroSCORE II, STS Score, and ACEF Score) for Perioperative Mortality During Cardiac Surgery. The American Journal of Cardiology. 2016.

3. Wallach JD, **Patrick Sullivan**, Trepanowski JF, Steyerberg EW, Ioannidis JPA. Sex-based Subgroup Differences in Randomized Controlled Trials: Empirical Evidence from Cochrane Meta-Analysis. BMJ. 2016.

Recent Graduates:

1. **Mala Mandyam (current chief resident)**, Soliman EZ, Alonso A, Dewland TA, Heckbert SR, Vittinghoff E, Cummings SR, Ellinor PT, Chaitman BR, Stocke K, Applegate WB, Arking DE, Bulter J, Loehr LR, Magnani JW, Murphy RA, Satterfield S, Newman AB, Marcus GM. The QT Interval and Risk of Incident Atrial Fibrillation. Heart Rhythm.

2. **Mala Mandyam (current chief resident)**, Krishnan G, Evans KH, Shieh L. Piloting a Physician-Centered Discharge Checklist in the Electronic Medical Record. Winner of 2015 ACP National Scientific Meeting. Boston, MA 2015. [Presentation]

3. **Alexander Perino (former chief resident, current cardiology fellow), Leef GC, Cluckey A, Yunus FN,** Askari M, Heidenreich, Turakhia MP. Secular Trends in Reported Success Rates of Catheter Ablation for Paroxysmal Atrial Fibrillation. American Heart Association Scientific Sessions. 2016. [Poster Presentation]

Methods, Materials, Mentors:

- Please see http://lane.stanford.edu/classes-consult/laneclasses.html for a list of upcoming Fall research courses offered by Lane Library. Many of these classes are incredibly helpful, including advanced PubMed use, Data Visualization, SQL, Systematic Review Methodology, MATLAB, Introduction to R, and EndNote/Zotero/Mendeley among many others. Highly recommended!

- Consider applying for the Presence-Biomedical Ontology Fellowship, a unique opportunity to work with Drs Abraham Verghese and Mark Musen to research and define a framework for the ontology of the psychosocial aspects of healthcare and disease prevention. Find out more at http://medicinecalendars.stanford.edu/event/12459/?instance_id=19411.

- Reminder: The deadline for the Paul Kalanithi Fiction Award is upcoming—The Palliative Care Section is soliciting short stories and poetry on the subject of chronic or life-limiting disease. Please see http://medicinecalendars.stanford.edu/event/12459/?instance_id=19411 for more information.

Speeches, Seminars, Sessions:

- 2017 Stanford Center for Innovation in Global Health Annual Research Convening: Please note the extended deadline for abstracts to the Stanford CIGH research meeting to October 28. Register at http://globalhealth.stanford.edu/research/ResearchConvening2017.html

- Biomedical Informatics Research Colloquium: "Patient Engagement and Outreach" by alumnus of the residency program and current BMIR professor, Lance Downing. October 27, 12-1pm at MSOB, 2nd Floor, Room X275, Stanford.

- Department of Medicine Seminar on Clinical Trials Compliance: Representatives from the Stanford Center for Clinical Research, Clinical Research Quality, and Cancer Clinical Trials Office invite you to a panel discussion and Q&A on reporting study results on Clinical Trials.gov on October 27, 10-11am in Alway Building, Room M114. Lead speaker will be Departmental Vice-Chair Dr. Ken Mahaffey.

2016 ACP Northern California Annual Meeting:

Congratulations to the following residents for their abstract acceptances for the 2016 ACP Northern California Annual Meeting! Please come to the event on November 19 to support your colleagues and watch our Nationals-qualifying jeopardy team (Ashish Sarraju, Samantha Wang, and Kai Swenson) compete for a shot at the crown!

- **Shreya Shah:** A Randomized Controlled Trial of a Patient-Centered Intervention to Reduce Unnecessary Dual-Energy X-Ray Absorptiometry (DEXA) Screening in Younger and Lower-Risk Patients.
- **Lijia Xie:** An Intervention to Reduce Telemetry Use at an Academic Center and Its Impact on Rapid Response Team and Code Events.
- **Jessica Langston:** A Case of Severe Disseminated Mycobacterium Avium Complex Infection Associated with Anti-Interferon-Gamma Autoantibodies.
- **Kathleen Jia:** Transforming Physician After Hours Call and Patient Follow-Up: Deployment of Clinical Advice Services at a Large Academic Healthcare System.
- **Viraj Raygor:** A Jarisch-Herxheimer Reaction Resulting from Treatment with Piperacillin-Tazobactam for Undiagnosed Tick-Borne Relapsing Fever.
- **Eric Mou:** Prevalence and Financial Impact of Inappropriate Thrombophilia Testing in the Inpatient Hospital Setting: A Retrospective Analysis.
- **Mike Wei:** ANCA-Associated Glomerulonephritis: A Case of Fatigue, a Rotator Cuff Injury, and Incidental Elevated Creatinine.
- **Jessica Ferguson:** Nocardia Brain Abscesses in Lung Transplant Patient without Evidence of Pulmonary Involvement.
- **Silvia McCandlish:** What Matters Most: Providers Learn from Patients' Letter Advance Directives.
- **Tony Cun:** The Gallbladder as a Source in Persistent Methicillin-Resistant Staphylococcus aureus Bacteremia.
- **Audra Horomanski:** An Unexpected Cause of Cushing's Syndrome: Neuroendocrine Carcinoma with Squamous Differentiation.
- **Matthew Stevenson:** Empathy is Associated with Greater Creativity and Lower Burnout Among Internal Medicine Residents.
- **Amrita Krishnamurthy:** Joint Pain in Rheumatologic Disease: Simply a Flare or Something More Sinister?
- **Christopher Barrett:** An Unheard-of Encephalopathy.
- **Kai Swenson:** Acute Renal Transplant Rejection Leading to Disseminated Intravascular Coagulation.
- **Jocelyn Chin:** Piloting Real Time Feedback for Quality Improvement in the Palo Alto VA Women's Health Center.

If you have academic or innovation activities that you'd like to have highlighted in the newsletter (or know of work other residents or recent graduates have taken part in) please e-mail us at chiefsmed@lists.stanford.edu. These include publications of any authorship status (first, second, third, etc.), presentations, QI projects, patents, etc. **If your research was not recognized this edition, please e-mail us, so we can include it next time.** Also, feel free to send us any interesting courses, lectures, or resources you find out about on campus. If you are interested in helping out with the research interest peer group or the newsletter, please contact us at the e-mail address listed above. Thanks for reading!

Best,
Stanford Internal Medicine Research Interest Peer Group Steering Committee

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If you have research you'd like to have highlighted in the newsletter (or know of work other residents or recent graduates have taken part in) please make sure to email us at chiefsmed@lists.stanford.edu. If you are interested in helping out with the research interest peer group or the newsletter, please contact us at the e-mail listed above.

"To have striven, to have made the effort, to have been true to certain ideals – this alone is worth the struggle."
– Sir William Osler