

Message from the Chief:

Dear Colleagues and Friends,

Welcome to the Division of Gastroenterology & Hepatology December 2020 newsletter. We are proud to share our clinical research, educational successes, and feature faculty spotlights as well as news and achievements. Reflecting on this year, the resilience and perseverance of our GI Division, as well as the entire San Diego community, is astonishing.

In the midst of this pandemic, our Division has continued to not only push forward but thrive. I am beyond proud to share the news our Division was ranked by US News and World Report as number one in the world, out of 1748 universities, as the Best Global University for Gastroenterology and Hepatology! This comes on the heels of being ranked in July as number 32 in the United States, out of 1568 hospitals, as the Best Hospitals for Gastroenterology & GI Surgery. This is a remarkable accomplishment and is truly a team effort. It is a direct result of the tireless efforts of our faculty, fellows, nurse practitioners, and research staff.

In this issue of the newsletter, we will be spotlighting two exceptional faculty, Dr. Siddharth Singh and Dr. Denise Kalmaz as well as recognizing many recent accomplishments of our Division. I will also introduce you to our July 2021 incoming fellows. The education and training of future leaders in our specialty is an integral part of our mission by producing graduates who have moved on to become leaders in the field.

You will also read about our UCSD Liver Transplant Program, which had an unbelievable acceleration in the middle of the pandemic, as well as updates from (SDDRC) San Diego Digestive Disease Research Center and (NAFLD) Nonalcoholic Fatty Liver Disease Research Center. I additionally have the pleasure of announcing the UCSD GI Foregut & Motility Group, which is a new program in the division. It aims to provide comprehensive state-of-the-art healthcare for patients with foregut and motility conditions.

I am grateful to you all for the continued contributions. It is such an honor to be a part of this amazing Division. If you are looking to give this year, please know we welcome all tax-deductible donations to help our division which continuously works to improve patient care, research, and education. You can make a difference directly in the progress we are able to achieve. Your gift will help ensure continued excellence, innovation, and quality care in Gastroenterology & Hepatology.

I hope you enjoy reading what we have been doing as a Division. We welcome your feedback, ideas, and news for future issues — please connect with us at legea@health.ucsd.edu. We also encourage you to learn more about our Division through our website. *We wish you and your family a happy and healthy holiday season!*

With warm regards,



William J. Sandborn, MD
 Distinguished Professor of Medicine
 Chief, Division of Gastroenterology
 Director, UCSD IBD Center, UC San Diego Health System



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WELCOME SHAILJA SHAH

We are excited to extend the warmest welcome to our newest faculty member, Shailja Shah, MD MPH. Shailja is a gastroenterologist and clinical investigator whose research is focused on *Helicobacter pylori* and inflammation-associated GI carcinogenesis, as well as implementation of gastric cancer prevention and early detection programs in the United States. Shailja received her medical degree from Drexel University College of Medicine as part of an accelerated BS/MD program. She subsequently completed Internal Medicine residency at the University of California, San Francisco (UCSF), followed by gastroenterology fellowship and chief year at at the Mount Sinai Hospital in New York City. Shailja then joined the Division of Gastroenterology at Vanderbilt University Medical Center as a physician-scientist. While on faculty, she also completed her Masters of Public Health (MPH) degree in Epidemiology and Global Health. Shailja is the recipient of an American Gastroenterological Association (AGA) Research Scholar Award and is currently funded by a VA Clinical Science Research and Development Career Development Award. Outside of work, Shailja enjoys long-distance running, hiking, climbing and searching for the best late-night tacos. Shailja is excited to move to San Diego with her husband, Shreyans, and join the group at UCSD, VA San Diego, and Moores Cancer Center!



WELCOME DAVID BYRON, MARGARET ANNE IMAYER & AMY SCHULTZ

David Byron, MSN, RN

Director, UC San Diego Health, Medicine Specialties

David Byron is the current Director of Medicine Specialties and the Interim Director of GI/Hep. He started at UCSD in October 2019, after leaving Sharp Healthcare after 25 years. He is a registered nurse and has a master's degree in Nursing. On his off-duty time, David enjoys playing tennis and wine tasting.

Margaret Anne Mayer

Practice Manager – Adult & Medicine Specialties

Margaret Mayer is the new Practice Manager for the 2nd floor MOS Medicine Specialties clinics, including the MOS Hepatology Clinic. Margaret's oversight includes both the Medicine Specialties Clinics and the Adult Specialties Clinics, which are located on the 1st floor. Over the past 30+ years, Margaret has worked in healthcare management in academic, non-profit and for-profit organizations.

Amy Schultz, MSN, RN, NE-BC

Director of Patient and Guest Services

Amy Schultz has been a nurse for 15 years (ED, Ambulatory, and PCU) and at UCSD for the last 4 as the Director of Patient and Guest Services. She is a true believer in the Big "E" experience and knows that to give patients a great experience, we must first focus on team member experiences. Her goal is to help develop and implement processes that make a positive impact on the work we do while continuing to provide the highest quality of care. Amy feels truly honored to get to work with such a high caliber team and looks forward to getting to know everyone.

Faculty Spotlight: Siddharth (Sid) Singh MD



Siddharth (Sid) Singh is an Assistant Professor of Medicine at UC San Diego, with a primary appointment in the Division of Gastroenterology and adjunct appointments in the Division of Biomedical Informatics and the Division of Geriatrics and Gerontology. He completed his medical school at the All India Institute of Medical Sciences in New Delhi, India, where his decision to pursue medicine and gastroenterology was largely shaped by his mentor and role model, Dr. Pramod Garg a very thoughtful, inquisitive and enthusiastic medical pancreatologist. Once the decision to pursue academic gastroenterology was settled, he sought to see whether research focused on basic science would excite him. He pursued a research externship with Dr. Mark Donowitz at Johns Hopkins on proteomics of the murine jejunal brush border, and subsequently post-doctoral research at UCLA in the Membrane Biology Lab of Dr. George Sachs, working on acid acclimation in *Helicobacter pylori* – while the science and mentorship was stimulating, the lack of direct and immediate

applicability of findings to clinical practice was disappointing. That helped his decision to pursue clinical research with the intent to focus on research that will directly inform clinical practice. He moved to University of Iowa for Internal Medicine residency, where he worked with Dr. Satish Rao on management of dyssynergic defecation, and then to Mayo Clinic, Rochester for gastroenterology fellowship.

During fellowship, with exciting and challenging patient encounters, he quickly developed an interest in inflammatory bowel diseases (IBD) and decided to pursue advanced fellowship in IBD. One theme that constantly emerged was that despite several emerging therapies, there was a complete lack of guidance on comparative efficacy and positioning of different agents, with virtually no head-to-head trials. While this was frustrating for most, he saw this as an outstanding opportunity, identifying a niche in patient-centered comparative effectiveness research. He sought mentorship from Dr. Mohammad Hassan Murad, Director of Mayo Clinic's Evidence-based practice center, and Dr. Nilay Shah, an accomplished health services researcher with a focus on using large databases for CER in diabetes. Through formal coursework, close mentorship, and support through an ACG Clinical Research Award, he conceptualized, designed and led numerous systematic reviews on outcomes in IBD, utilized novel meta-analytic techniques such as network meta-analyses for indirect treatment comparisons to inform comparative efficacy of IBD therapies, and observational CER studies evaluating real-world comparative effectiveness and safety of various anti-TNF agents for IBD using a large US administrative claims database and the Danish National Patient Register. During a productive fellowship, he published >60 papers, was invited to participate as a trainee GRADE methodologist on AGA guidelines focusing on IBD, invited to serve as an Associate Editor (Systematic Review and Meta-analysis) for *Clinical Gastroenterology and Hepatology* and awarded the ACG's Governor's Award for Excellence in Research, as well as several institutional accolades.

After completion of fellowship, he was excited to join UCSD, and develop a program focusing on T3 translational research, i.e., how to move apply findings from clinical trials to clinical practice in IBD. To take a deep dive in the field of CER and to explore ways to better leverage the wealth of information in electronic health records, he pursued an NIH-funded fellowship in clinical informatics and is working towards creating a California-based multi-center EHR-based cohort of patients with IBD. His research program has expanded to cover important aspects of outcomes research in IBD which can directly inform clinical practice, and is supported by grants from the NIH, the Crohn's and Colitis Foundation, the AGA and the International Organization for the Study of IBD. His primary focus remains on informing comparative effectiveness and safety of different therapies and management strategies in patients with IBD, and understanding risk and risk factors of treatment-related adverse events in patients with IBD, through robust statistical techniques of propensity score methods, marginal structural models, etc. using large administrative claims databases, collaborative EHR-based cohorts and secondary analyses of clinical trials available on open science platforms. He has specifically opted to focus on understanding treatment approach for older patients with IBD, who are rapidly increasing in prevalence, underrepresented in clinical trials, and where a very nuanced understanding of disease- and treatment-related risks is warranted. He is applying established techniques of comparative effectiveness research, and novel approaches of machine learning-based prediction modeling and privacy-preserving record linkage to address these issues. Second, his lab is developing a population health management model for patients with IBD, focusing on identifying patients at high risk of unplanned healthcare utilization, racioethnic disparities and implementing chronic care disease models for risk-congruent care management, including remote monitoring, proactive follow-up of high-risk patients. He serves on the leadership team and as site PI for IBD Qorus, the Crohn's & Colitis Foundation's national quality of care initiative. This learning health system addresses evidence gaps in IBD health care delivery, to accelerate improvement of care provided to adults with IBD. He continues to be actively involved with the AGA in developing clinical guidelines for IBD using GRADE methodology. He is enthusiastically involved in mentoring residents and fellows and takes great pride in their success ☺.



Updates from the San Diego Digestive Diseases Research Center (SDDRC)

The San Diego Diseases Research Center has grown bigger, adding three new members for a current total of 54 members. The Center would like to welcome the following new members:

- **Omar Mesarwi, MD**
- **Jeffrey Schwimmer, MD**
- **D. Brent Polk, MD, AGAF**

In addition, the Center would like to welcome D. Brent Polk, MD, to the SDDRC Internal Advisory Board. Dr. Polk is the newly appointed Chief of Pediatric Gastroenterology, Hepatology and Nutrition, and Executive Vice Chair, Department of Pediatrics, Rady Children's Hospital San Diego, University of California San Diego. Dr. Polk was the founding Director of Vanderbilt Digestive Disease Research Center, at Vanderbilt University Medical Center.

Recent Publications of SDDRC Members

The Center would like to highlight some of the studies that have been supported by SDDRC and we would like to thank members for citing the grant on their publications:

Duan Y, **Llorente C**, Lang S, et.al..., Bataller R, Tu XM, **Eckmann L**, Van der Donk WA, Young R, Lawley TD, Stärkel P, **Pride D**, Fouts DE, **Schnabl B**. Bacteriophage targeting of gut bacterium attenuates alcoholic liver disease. *Nature*. 2019;575:505-511. PMID: PMC6872939

Quinn RA, Melnik AV, Vrbanac A, et.al..., Arthur TD, Komor AC, Poulsen O, **Boland BS**, **Chang JT**, **Sandborn WJ**, Lim M, Garg N, Lumeng JC, Xavier RJ, Kazmierczak BI, Jain R, Egan M, Rhee KE, Ferguson D, **Raffatellu M**, Vlamakis H, Haddad GG, Siegel D, Huttenhower C, Mazmanian SK, **Evans RM**, Nizet V, **Knight R**, Dorrestein PC. Global chemical effects of the microbiome include new bile-acid conjugations. *Nature*. 2020;579:123-129. PMID: PMC7252668

Zhao P, Sun X, Chagga C, Liao Z, Wong K, He F, Singh S, **Lomba R**, **Karin M**, Witztum J, Saltiel AR. An AMPK–caspase-6 axis controls liver damage in nonalcoholic steatohepatitis. *Science*. 2020;367 652-660. PMID: 32029622

Martino C, Shenhav L, Marotz CA, Armstrong G, McDonald D, Vázquez-Baeza Y, Morton JT, Jiang L, Dominguez-Bello MG, Swafford AD, Halperin E, **Knight R**. Context-aware dimensionality reduction deconvolutes gut microbial community dynamics. *Nat Biotechnol*. 2020; e-published Aug 31. PMID: 32868914

Boland BS, He Z, Tsai MS, Olvera JG, Omilusik KD, Duong HG, Kim ES, Limary AE, Jin W, Milner JJ, Yu B, Patel SA, Louis TL, Tysl T, Kurd NS, Bortnick A, Quezada LK, Kanbar JN, Miralles A, Huylebroeck D, Valasek MA, **Dulai PS**, **Singh S**, Lu LF, Bui JD, Murre C, **Sandborn WJ**, Goldrath AW, Yeo GW, Chang JT. Heterogeneity and clonal relationships of adaptive immune cells in ulcerative colitis revealed by single-cell analyses. *Sci Immunol*. 2020;5:eabb4432. PMID: 32826341

Updates from the SDDRC Continued

SDDRC Seminars

Upcoming SDDRC seminar:

January 25, 2021

“Determinants of bacterial biofilm formation at the intestinal mucosal interface and their roles in pathogen exclusion”

Josephine Ni, MD

University of Pennsylvania, Philadelphia, PA

SDDRC Symposium

The Center is hosting its 2nd symposium on Friday 2/5/2021. Due to challenges associated with COVID19, the symposium will be conducted exclusively online. Exciting topics will be presented by distinguished internal and external speakers. Please see the attached flyer highlighting some of the speakers and their presentations.

Please visit our website <http://sddrc.ucsd.edu> for up-to-date information about the Center and its upcoming events. Direct all questions to sddrc@health.ucsd.edu. Follow us on Twitter: <https://twitter.com/SDDRC>.

UC San Diego Liver Transplant Program

The UCSD liver transplant program is undergoing a period of unprecedented growth. In 2017 we performed 35 liver transplants and in 2020 we are projected to perform over 90. In parallel with the increase in volume our outcomes have improved and are now better than expected both pre- and post-transplant. Patients on our waiting list have significantly better survival than expected based on their medical acuity. In addition, our one year post-transplant outcomes are better than national averages.

The program continues to innovate to improve access to transplantation. We utilize HCV+ organs in HCV negative recipients, HIV+ organs in HIV+ recipients through an NIH-funded clinical trial. Our transplant surgeons are also participating in a clinical trial of a **normothermic perfusion** pump to assess allograft function and utilize marginal grafts that often would have otherwise been discarded.

Awards & Recognitions



2020 Highly Cited Researchers

Congratulations to Drs. William Sandborn and Rohit Loomba, who were recognized among the world's most influential in their fields. The Web of Science Group recognizes researchers who "demonstrated significant influence in their chosen field or fields through the publication of multiple highly cited papers during the last decade."

<https://ucsdnews.ucsd.edu/pressrelease/52-uc-san-diego-highly-cited-2020-listing>

Congrats Dr. Bridget Boland



Congratulations to Dr. Bridget Boland on receiving AGA Future Leader and San Diego Crohn's and Colitis Physician of the Year 2020.



Congrats Dr. Kim Barrett



Congratulations to Dr. Kim Barrett on being the recipient of the 2021 AGA Distinguished Achievement Award in Basic Science!

UC San Diego

#1 in Best Universities for Gastroenterology and Hepatology

<https://www.usnews.com/education/best-global-universities/gastroenterology-hepatology>



Top Doctors in GI 2020

Congratulations to Drs. Syed M A Fehmi, Denise Kalmaz, Rohit Loomba, Ravinder K. Mittal, William J. Sandborn, and Thomas Savides, in making San Diego Magazine's Top Doctors for 2020 list.



https://www.sandiegomagazine.com/guides/san-diego-s-top-doctors-2020-the-list/article_c748e42e-18a5-11eb-8c78-9b1e0069154b.html

Faculty Spotlight: DENISE KALMAZ, MD, AGAF

Denise Kalmaz, MD is a graduate of the UC San Diego GI fellowship program and is currently a Clinical Professor of Medicine. Her interest has been in general gastroenterology with a focus on small bowel endoscopy. As a junior faculty member, she developed the small bowel endoscopy program by performing single and double balloon enteroscopy and interpretation of capsule endoscopy. As Director of Small Bowel Endoscopy, she expanded this program with referrals from across Southern California and has given courses with hands-on training for capsule endoscopy across the region. She has **previously** published on use of esophageal capsules in screening pre-bariatric surgery patients, capsule endoscopy in patients with chronic abdominal pain, and safety of balloon assisted enteroscopy in Crohn's disease. Denise also helped develop the E-consult practice for GI in 2015 and has twice been awarded the Exemplary E-consult Acknowledgement. Currently, she serves as the Treasurer/Secretary for the San Diego GI Society and was elected to serve as a member of the Board of Governors. In addition, she was recently named Top Doctor in 2020.



Denise has been involved in the GI Fellowship Program since graduating from fellowship in 2008, initially as Associate Program Director and then Program Director since 2013. She has been instrumental in expanding the fellowship by recruiting top fellows from across the country. She is also an active member of the Graduate Medical Education Committee. On a national level, Denise participated in studies validating tools for assessment and benchmarks for gastroenterology fellows for performance of colonoscopy and esophagogastroduodenoscopy. The results were published in *Gastrointestinal Endoscopy* and the tools are currently used nationwide at training programs. She has given talks regarding fellowship related topics nationally at DDW as well as the Training Director's Workshop.

Denise enjoys working in an academic setting and is actively involved in teaching fellows, residents and medical students both in clinics and when serving as inpatient consult attending at Hillcrest and Jacobs. Over the years, she has received Clinical Teaching Awards from both the GI Fellowship and Internal Medicine Residency Programs. Denise has also been involved in the Health Sciences International Program serving as a mentor to scholars from all over the world and was recently awarded the HSI International Mentorship Award.

Denise has been actively involved in the American Gastroenterological Society including as a member of the Academy of Educators. Over the years, she has served on several committees including the AGA Education and Training Committee and AGA Graduate Training Exam Committee. More recently, she served on the AGA Technical Review Committee and recently published the technical review on the gastrointestinal evaluation of iron deficiency anemia in *Gastroenterology*.

More recently, Denise has been very interested in innovation in medicine. Her interest began as a member of the Galvanizing Engineering in Medicine Faculty Review Panel. Subsequently, she worked as a faculty mentor for the Engineering School at UCSD and developed her idea for a novel colonoscopy device. Denise received an Accelerating Innovations to Market grant from UCSD to further develop the device and is now a US National Patent recipient. She is currently working on getting the device marketed for everyday use.

Above all, Denise is very proud of her two daughters: Alaina age 10 and Bryn age 8.

Fellowship Interviews

by Roslyn Lara, Program Coordinator

COVID-19 required training programs across the U.S. to figure out how will they conduct their interviews and how to do it successfully.

This created challenges and stress to program directors and coordinators everywhere. How do we spotlight our program, how

will applicants get a feel of our program and UCSD, how will they get to know our amazing faculty and fellows? Most programs at UCSD

created a Recruitment Video. We are quite proud of ours and if you would like to see it, go to

<https://medschool.ucsd.edu/som/medicine/divisions/gastro/fellowship/Pages/default.aspx>. All the credit

for the success of this video goes to our Chief Fellows, Nghia Nguyen and Ed Yang. They contacted and communicated with our video department, came up with the script and organized the video shoot day.

They also put in countless hours in brainstorming and figuring out the best format to conduct our virtual interview days, conducting video practice Zooms with faculty, fellows and staff to determine what worked and what didn't, managed the breakout rooms for each interview day, and hosted our three Virtual Happy Hours with applicants the evening before their interview day. They also worked to pre-recording key presentations from Drs. Sandborn, Kalmaz, Vodkin, Ghosh, and Loomba to show at the start of our interview day. At the end, applicants were treated to a personalized video to show the camaraderie of our fellows, highlighting key faculty, and what it's like to live in San Diego. It is all these personal touches from Nghia and Ed and their genuine wonderful personalities throughout the interview day that I believe made our interviews a success. It was also fun watching the interactions of faculty and fellows during the break showing how we all are a family.

Normally we have two in-person interview days but with COVID we added a third interview day. We went from having 300+ applicants applying to the program to 452. Typically we interview 40 applicants over two days but this year we interviewed 58 applicants over three days virtually.

Thank you to all of our fellows for your participation in attending our virtual Happy Hours and during our interview days showing the applicants what a great program we have. **Thank you** to my administrative co-workers Alyssa, Kelly, Erin, Leticia, and Matt for their participation and support on all three interview days.



Interview days Crew at ECOB.

Match Day – Dec 2, 2020

Fellows
Update



Laurel Branch
Univ. of South Carolina
CLINICAL



Selena Kuo
Columbia
CLINICAL



Amanda Krause
Northwestern
CLINICAL



Nabil Nouredin
University of Las Vegas
RESEARCH

We are excited to announce our incoming 2021 GI Fellows!

Donations to the UC San Diego,
Department of Gastroenterology and Hepatology GI Fellowship Training Program

The Division is campaigning to raise funds for its Gastroenterology Fellowship Program. We encourage you, as esteemed faculty and alumni, to join us in this effort! Your donations would ensure the Division can continue to provide a high level of specialty training for its fellows and support essential professional development costs that it may not otherwise cover.

Faculty and alumni donations are an impactful way of showing a commitment to the future success of our division while supporting current fellows who are taking part in some of the most formative years of their education. You can support the education of current fellows by allowing them to participate in specific training (i.e., CREST, travel to scientific conferences, and interact with medical professionals in the specialties of gastroenterology, hepatology, endoscopy, and gastrointestinal surgery).

We are proud to recognize the many UC San Diego Gastroenterology trainees who have gone on to become Deans and Department Chairs at Universities around the country. With your support, we can continue to train the future leaders in GI who will help solve the most complicated diseases in this field.

To pledge a gift visit our [GIVE NOW](#) page, or to learn about other ways to contribute to the Division, you can contact Teri McIntyre at timcintyre@ucsd.edu.

Thank you for your consideration!

T32 SPOTLIGHT

The UC San Diego Training Grant in Gastroenterology is designed to offer a comprehensive, and yet individualized training curriculum to: (a) achieve research excellence in advanced systems and approaches, (b) provide foundation knowledge, keep pace with advancements and develop translational insights, and (c) foster a collaborative community through a vibrant interdisciplinary training. This program, which is in its historic 44th year, has launched many leaders in gastroenterology and successful scientists leading independent programs GI-focused basic and translational research all around the globe. With immense pride, here we shine spotlight on three current and recent fellows who truly embody the success of the program.



Nghia Nguyen, M.D
Training Period: 2019-2020

Nghia is a third-year gastroenterology fellow currently in a combined clinical informatics and advanced inflammatory bowel disease fellowship through the Department of Biomedical Informatics and the Division of Gastroenterology, respectively.

His research interest and desire to become an academic physician scientist is based on the exceptional mentorship he received from Dr. Mindie Nguyen, a transplant hepatologist at Stanford University, during his undergraduate work. Currently, he is under the mentorship of Dr. Siddharth Singh, an inflammatory bowel disease expert at UC San Diego, who he met during his internal medicine residency training.

Under Dr. Singh's mentorship, Nghia has acquired skills in conducting outcomes research using large datasets, synthesizing evidence through traditional and network meta-analyses, critical appraisal of evidence using GRADE methodology and learning new concepts in clinical informatics. He has a keen interest in population health management of patients with inflammatory bowel diseases, with a specific focus on understanding the complex and multi-dimensional causes and factors associated with unplanned healthcare utilization and developing and implementing interventions to minimize those.

Nghia's current research focus is on the application of artificial intelligence technologies, specifically machine learning algorithms, to better understand and characterize the causes and factors associated with unplanned healthcare utilization. To achieve his goals, he has set up a mentorship team which includes: Dr. Siddharth Singh (primary mentor), Dr. William Sandborn from the Division of Gastroenterology and Dr. Lucila Ohno-Machado from the Division of Biomedical Informatics.



Matt Tsai, M.D, Ph.D
Training Period: 2018-2020

Dr. Tsai joined the faculty of the Division of Gastroenterology and Hepatology at UC San Diego in July 2019 after having graduated from the Division's Gastroenterology Fellowship Program. Dr. Tsai developed his research focus while working in the research laboratory of his T32 research mentor Dr. John Chang.

His research focuses on investigating the adaptive immune responses in inflammatory bowel disease and animal models of enterocolitis to further appreciate the heterogeneity that exists between the mucosa and the circulation. The scientific approach utilizes single-cell RNA sequencing and mass cytometry to identify dysregulated subtypes in humans with subsequent mechanistic studies in murine models of immune-mediated enterocolitis. Other faculty that have contributed to Dr. Tsai's research career path are Dr. William Sandborn, Dr. Ananda Goldrath, and Dr. Gene Yeo.

Dr. Tsai started his research career at the University of Pennsylvania, developing models of methylmalonic acidemia, which he continued at the NIH/NHGRI after graduation. He completed his MD/PhD degree at the University of Miami Miller School of Medicine, studying TNF super family signaling in regulatory T cells, and subsequently came to UC San Diego for clinical and research training in internal medicine and gastroenterology.

His next steps are to continue to apply for career development awards and investigating adaptive immune responses at gastrointestinal mucosal sites.

T32 SPOTLIGHT CONTINUED

Blast from the 'Recent' Past

**Brigid Boland, M.D****Training Period: 2012-2014**

Dr. Boland joined the faculty of the Division of Gastroenterology and Hepatology at UC San Diego in July 2014 as an Assistant Professor. Dr. Boland's research focus is translational research in inflammatory bowel diseases (IBD). She is interested in understanding molecular determinants of IBD as well as potential markers of response to therapy, and she is currently using novel single cell mRNA sequencing and protein identification methods on human blood and intestinal samples from patients with inflammatory bowel diseases.

Dr. Boland trained in the immunology laboratory of Dr. John Chang. She learned about clinical care of patients with IBD as well as clinical research. She worked with Dr. Sandborn to create a biorepository from patients with inflammatory bowel disease to improve the ability to conduct translational gastrointestinal research at UC San Diego. She loves being able to collaborate with investigators at UC San Diego from other disciplines and looks forward to her path ahead. Dr. Boland's T32 mentorship team included John Chang, MD, her primary mentor, and William Sandborn, MD in the Division of Gastroenterology.

Awards, Grants

Dr. Boland received the following awards: AGA Future Leader and San Diego Crohn's and Colitis Physician of the Year 2020. Dr. Boland is Principal Investigator on the following funding:

- Crohn's and Colitis Foundation of America Career Development Award, 2015.
- UCSD KL2 grant where she was Principal Investigator, 2017-2019.
- NIH K23, "Using single-cell RNA and protein approaches to elucidate molecular determinants and predictors of inflammatory bowel diseases," January 2020-present.
- Crohn's and Colitis Foundation of America Research Initiative Award, Co-Investigator, "Machine learning for precision diet and well-being in IBD."

Publications

- **Boland BS**, He Z, Tsai MS, Olvera JG, Omilusik KD, Duong HG, Kim ES, Limary AE, Jin W, Milner JJ, Yu B, Patel SA, Louis TL, Tysl T, Kurd NS, Bortnick A, Quezada LK, Kanbar JN, Miralles A, Huylebroeck D, Valasek MA, Dulai PS, Singh S, Lu LF, Bui JD, Murre C, Sandborn WJ, Goldrath AW, Yeo GW, **Chang JT**. Heterogeneity and clonal relationships of adaptive immune cells in ulcerative colitis revealed by single-cell analyses. *Sci Immunol* 2020 Aug 21; 5(50): eabb4432. Doi: 10.1126/sciimmunol.abb4432.
- Wong J, Garcia-Carbonell R, Zelic M, Ho SB, **Boland BS**, Yao SJ, Desai SA, Das S, Planell N, Harris PA, Font-Burgada J, Taniguchi K, Bertin J, Salas A, Pasparakis M, Gough PJ, Kelliher M, Karin M, Guma M. RIPK1 mediates TNF-induced intestinal crypt apoptosis during chronic NF- κ B activation. *Cell Mol Gastroenterol Hepatol* 2020; 9(2): 295-312. [PMCID: PMC6957844]
- Dulai PS, Amiot A, Peyrin-Biroulet L, Jairath V, Serrero M, Filippi J, Singh S, Pariente B, Loftus EV Jr, Roblin X, Kane S, Buisson A, Siegel CA, Bouhnik Y, **Sandborn WJ**, Lasch K, Rosario M, Feagan BG, Bojic D, Trang-Poisson C, Shen B, Altwegg R, Sands BE, Colombel JF, Carbonnel F, GETAID OBSERV-IBD, VICTORY Cohorts Collaboration. A clinical decision support tool may help to optimize vedolizumab therapy in Crohn's disease. *Aliment Pharmacol Ther* 2020 Mar; 51(5): 553-564. [PMCID: PMC7028036]
- D'Haens G, Kelly O, Battat R, Silverberg MS, Laharie D, Louis E, Savarino E, Bodini G, Yarur A, **Boland BS**, Afif W, Li XJ, Hale M, Ho J, Kondragunta V, Huang B, Kuy C, Okada L, Hester KD, Bray KR, Mimms L, Jain A, Singh S, Collins A, Valasek MA, **Sandborn WJ**, Vermeire S, Dulai PS. Development and validation of a test to monitor endoscopic activity in patients with Crohn's disease based on serum levels of proteins. *Gastroenterology* 2020 Feb; 158(3): 515-526.e10. doi: 10.1053/j.gastro.2019.10.034.
- Yang E, Panaccione N, Whitmire N, Dulai PS, Vande Casteele N, Singh S, **Boland BS**, Collins A, **Sandborn WJ**, Panaccione R, Battat R. Efficacy and safety of simultaneous treatment with two biologic medications in refractory Crohn's disease. *Aliment Pharmacol Ther* 2020 Jun; 51(11): 1031-1038.
- Yoon H, Jangi S, Dulai PS, **Boland BS**, Prokop LJ, Jairath V, Feagan BG, **Sandborn WJ**, Singh S. Incremental benefit of achieving endoscopic and histologic remission in patients with ulcerative colitis: A systematic review and meta-analysis. *Gastroenterology* 2020 Oct; 159(4): 1262-1275. [PMCID: PMC7658293]
- Dulai PS, Battat R, Barsky M, Nguyen NH, Ma C, Narula N, Mosli M, Vande Casteele N, **Boland BS**, Prokop L, Murad MH, D'Haens G, Feagan BG, **Sandborn WJ**, Jairath V, Singh S. Incorporating fecal calprotectin into clinical practice for patients with moderate-to-severely active ulcerative colitis treated with biologics or small-molecule inhibitors. *Am J Gastroenterol* 2020 Jun; 115(6): 885-894. [PMCID: PMC7274901]

Publication Highlights

Denise Kalmaz

- Involved in the AGA iron deficiency anemia guidelines which were recently published in Gastroenterology.

AGA Technical Review on Gastrointestinal Evaluation of Iron Deficiency Anemia

Don C. Rockey,^{1,*} Osama Altayar,^{2,*} Yngve Falck-Ytter, MD^{3,4,5} and Denise Kalmaz^{5,8}

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[https://www.gastrojournal.org/article/S0016-5085\(20\)34846-0/pdf](https://www.gastrojournal.org/article/S0016-5085(20)34846-0/pdf)

Rena Yadlapati

- Co-Author on two recently published ACG Clinical Guidelines

ACG Clinical Guidelines: Clinical Use of Esophageal Physiologic Testing

C. Prakash Gyawali, MD, MRCP, FACP¹, Dustin A. Carlson, MD², Joan W. Chen, MD³, Amit Patel, MD⁴, Robert J. Wong, MD, MS, FACP (GRADE Methodologist)⁵ and Rena H. Yadlapati, MD, MSHS⁶

https://journals.lww.com/ajg/Fulltext/2020/09000/ACG_Clinical_Guidelines_Clinical_Use_of.19.aspx?context=FeaturedArticles&collectionId=2

ACG Clinical Guidelines: Diagnosis and Management of Achalasia

Michael F. Vaezi, MD, PhD, MSc, FACP¹, John E. Pandolfino, MD, MS, FACP², Rena H. Yadlapati, MD, MHS (GRADE Methodologist)³, Katarina B. Greer, MD, MS⁴ and Robert T. Kavitt, MD, MPH⁵

https://journals.lww.com/ajg/fulltext/2020/09000/acg_clinical_guidelines_diagnosis_and_management.18.aspx

Rohit Loomba

- Published over 40 Peer Review Articles in 2020

PubMed Link: <https://pubmed.ncbi.nlm.nih.gov/?term=Loomba+R&sort=pubdate>

- Zhao P, Sun X, Chaggaan C, Liao Z, In Wong K, He F, Singh S, **Loomba R**, Karin M, Witztum JL, Saltiel AR. An AMPK-caspase-6 axis controls liver damage in nonalcoholic steatohepatitis. *Science*. 2020 Feb 7;367(6478):652-660
- Loomba R**, Morgan E, Watts L, Xia S, Hannan LA, Geary RS, Baker BF, Bhanot S. Novel Antisense Inhibition of Diacylglycerol O-acyltransferase 2 for Treatment of Non-Alcoholic Fatty Liver Disease: A Multicentre, Double-Blind, Randomised, Placebo-Controlled Phase 2 Trial. *Lancet Gastroenterol Hepatol*. 2020 Sep;5(9):829-838
- Oh TG, Kim SM, Caussy C, Fu T, Guo J, Bassirian S, Singh S, Madamba EV, Bettencourt R, Richards L, Raffatellu M, Dorrestein PC, Yu RT, Atkins AR, Huan T, Brenner DA, Sirlin CB, Knight R, Downes M, Evans RM, **Loomba R**. A Universal Gut-Microbiome-Derived Signature Predicts Cirrhosis. *Cell Metab*. 2020 Jun 24 [Epub ahead of print]

NAFLD RESEARCH CENTER UPDATES

Director Rohit Loomba

NEW FUNDED STUDIES AT THE NAFLD RESEARCH CENTER:

Loomba, PI: R01DK124318, Non-invasive screening of diabetics for advanced fibrosis due to NAFLD, Start Date: 05/20/2020, 3-year study, \$1,635,019. Major Goals: To use advanced magnetic resonance imaging to study and monitor NAFLD and fibrosis in a prospective cohort of T2DM patients. Our overarching goal is to collect the necessary evidence to make an informed decision on whether screening the T2DM population for advanced fibrosis due to NAFLD is advisable and cost-effective. We will also define the best screening approach, balancing diagnostic accuracy and availability with cost.

Loomba, PI: U01DK61734, Clinical Research Network in Non-Alcoholic Steatohepatitis (NASH CRN), Start Date: 4/2020, 4-year study period, \$5,695,860.00. Major goals: To understand the natural history of nonalcoholic fatty liver disease.

Loomba, PI: R01DK121378, Ancillary Studies of NAFLD and NASH in HIV infected Adults, Start Date: 03/21/2020, 5-year study. Major goals: To understand the natural history of NAFLD in HIV infected adults and perform a phase 2b trial across multiple sites in the United States as an ancillary study (R01) of NASH CRN in collaboration with some AIDS Clinical Trials Group sites

Loomba, PI: P01HL147835, A Cardiovascular-NASH Disease Nexus Common Mechanisms and Treatments, Start Date: 8/01/2020, 5-year study, \$7,575,000. Major Goals: To investigate pathogenic mechanisms by which known and unknown risk factors promote both NASH and CVD.

Loomba, PI: U01AA029019, Novel IL-23 inhibitor for the treatment of alcohol associated liver disease, Start Date: 09/20/2020, 5-year study, \$2,492,857. Major goals: To conduct a Phase I clinical trial to evaluate the safety and tolerability of guselkumab, an FDA-approved anti-IL-23 monoclonal antibody, in adult patients with alcohol-associated liver disease.

UC San Diego GI Foregut & Motility

UCSD GI Foregut & Motility, also known as UCSD GI FaM, is a new program in the division aiming to provide comprehensive state-of-the-art healthcare for patients with foregut and motility conditions. UCSD GI FaM will be led by Rena Yadlapati with a group of key expert faculty including Michael Chang, Abbas Fehmi, David Kunkel, Ravinder Mittal, Joshua Rubin, and Shailja Shah. Priority areas to begin with include achalasia, Barrett's esophagus, celiac disease, eosinophilic esophagitis, GERD, gastroparesis, and H. pylori. In the first 6 months UCSD GI FaM will work together to define and implement optimal clinical workflows, identify areas for quality improvement, engage multidisciplinary integrated services, and establish a system to monitor outcomes. Long-term goals will include regular meetings open to all faculty and fellows for continuing medical education on state-of-the-art guidelines/emerging literature, opportunities for research collaboration, preparation for DDW, among other areas.

Upcoming Events

Division of Gastroenterology and Hepatology

UCSD IBD City Wide Quarterly Conference

In light of the continuing pandemic, at this time we are moving to a virtual format for the 2021 year. The program will focus on all phases of IBD diagnosis and treatment. We will continue the format of a short didactic session and then case presentations by the attendees.

January 25, 2021

- **Ariela Holmer, MD**
 - **Topic: De-escalation strategies in IBD**

Gastroenterology and Hepatology Annual Research Symposium

The Gastroenterology Department at the University of California San Diego has rescheduled its 14th Annual GI Research Symposium for Friday, June 4, 2021 (12:30 – 5:30 PM Pacific Time). The program schedule is entitled, “*The Frontier of Esophageal Diseases & Motility*”, and will focus on cutting edge clinical practice and research findings in esophageal diseases. Drs. Yadlapati & Mittal are the co-chairs and have assembled a stellar line up of speakers for this year’s event. The Symposium will be virtual in its entirety. Our target audience includes physicians and scientists from UCSD and the San Diego community, UCSD students, residents, fellows and faculty.

SAVE THE DATE: June 4, 2021

Advances in Gastroenterology and Hepatology Conference

SAVE THE DATE: January 30, 2021

Website:

<https://cpd.ucsd.edu/gi/registration.html>

GI & Hep Division

HOLIDAY PARTY

Tuesday Dec. 22nd

6:00-6:30pm

via Zoom!

Please stay tuned for more virtual events next year!



SAN DIEGO DIGESTIVE DISEASES RESEARCH CENTER (SDDRC)

SYMPOSIUM

**Friday February 5, 2021
1:00pm to 5:00pm *Online Only**



"Improving anti-tumor therapy through microbiota"

Christian Jobin, PhD
Gatorade Trust Professor of Medicine,
Program Co-leader Cancer Therapeutics and Host Response,
Department of Medicine, Division of Gastroenterology, University of Florida



"Development, Injury and repair in the intestine: TNF receptors play key regulatory roles"

D. Brent Polk, MD, AGAF
Rady Professor and Chief of Pediatric Gastroenterology, Hepatology and
Nutrition, Executive Vice Chair, Department of Pediatrics,
Rady Children's Hospital San Diego, University of California San Diego



"Prom1+ cells in alcohol-associated liver injury and tumor"

Hidekazu Tsukamoto, DVM, PhD, FAASLD
Professor of Pathology,
Director, Southern California Research Center for ALPD and Cirrhosis
Department of Pathology, Keck School of Medicine of USC,
University of Southern California

UC San Diego School of Medicine

***Zoom Meeting:**

<https://uchealth.zoom.us/j/82705459786?pwd=dHlZeDdiMFE4NnBwdWg4NFdAwVitKQT09&from=addon>

Password: 503196

Detailed schedule will be posted on SDDRC Website: [SDDRC Symposium](#)

**Hosted by SDDRC Directors
Bernd Schnabl, MD & Lars Eckmann, MD
Questions? SDDRC@Health.ucsd.edu**



UC San Diego School of Medicine

Established in 1968, University of California San Diego School of Medicine is consistently ranked among the top medical school programs in the country for primary care and research by *U.S. News & World Report* and among the top 10 medical schools for National Institutes of Health total funding. The school is internationally recognized as a place where discoveries are delivered — bringing breakthroughs from the research lab to patients' bedsides. Faculty members care for patients at UC San Diego Health, where primary care is available at several convenient locations throughout San Diego County and our advanced specialty care consistently ranks among the nation's best. For more information, visit medschool.ucsd.edu.

Our Mission

The UC San Diego Gastroenterology & Hepatology Division will provide the best clinical care to those afflicted with gastrointestinal and liver diseases, investigate at the clinical and basic levels the best way to improve those diseases, and educate trainees on how to best approach the care of patients with those diseases. The UC San Diego GI Division will strive to be nationally recognized through its faculty as well as innovations that will improve the care of patients with gastrointestinal and liver diseases nationwide. The UC San Diego GI Division was founded in 1970 by Henry Wheeler, MD, who served as its first division chief. Later, Jon I. Isenberg, MD, led the division from 1979 to 1993, followed by C. Richard Boland, MD, from 1995 to 2003, John M. Carethers, MD, from 2004 - 2009 and William J. Sandborn from 2011-present. The GI Fellowship Training Program commenced in 1974 and the NIH Training Grant was initially funded in 1976. The division has trained several local gastroenterologists in San Diego, as well as developed several academicians at University based medical schools, including some with leadership and administrative positions.

Charitable Donations

You may contribute directly to UC San Diego GI by visiting our website at <https://giveto.ucsd.edu/> and select Fund#6984 after clicking on the **GIVE** tab on the right-hand side. Remember: if you itemize, you may be able to receive a charitable deduction for 2020 for your gifts received on or before December 31.