UCLA Health

Beyond the Scope

A REPORT OF THE VATCHE AND TAMAR MANOUKIAN DIVISION OF DIGESTIVE DISEASES

Research Strengths at UCLA Digestive Diseases

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SPRING 2017

FROM THE DIVISION CHIEFS

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Going ***Beyond*** *the Scope*

Research has been a mainstay of our division since it was established in 1953, and over the course of our 64-year history we have grown to become a world leader in contributing new digestive diseases-related knowledge through scientific studies. Our faculty publish extensively and play prominent roles in national meetings, advancing the state of the science and ushering in cutting-edge treatments that improve and save lives. We also benefit from a strong infrastructure, which is supported by a significant endowment — most recently bolstered by the landmark philanthropic gift from Vatche and Tamar Manoukian.

With this strong underpinning and the vast potential for our division to conduct groundbreaking studies in the years ahead, we felt it was only appropriate to establish a mechanism for guiding our research effort, ensuring that we make strategic decisions on issues such as recruitment, training, utilization of space and investment of resources. And so we have established a Research Council to serve as our closest advisers in directing the future of our scientific efforts. Chaired by Dr. Emeran A. Mayer — internationally renowned for his research in brain-gut interactions in health and disease — the Research Council meets quarterly and includes a mix of senior and junior faculty.

Because we have such a large group of talented scientists, as well as ample space, we are uniquely positioned to foster internal as well as external collaborations. We can enhance our training programs to maximize our ability to train top new scientists. But we can only do this well if we undertake it in an organized fashion, and with significant input from the men and women closest to the work — the scientists on the front lines. We established the Research Council for that very purpose. This shared governance approach will allow us to receive regular input from our own internal scientific community as well as from external advisers so that we can continue to grow our research in ways that are best suited to our strengths and the needs of digestive disease patients.

This issue of *Beyond the Scope* showcases the extraordinary research activities that are ongoing in the six core areas of strength within our division. Through the guidance of our Research Council, we are setting a purposeful direction that ensures we will work in concert to make the most of the considerable opportunities before us.

Emeran A. Mayer, MD, PhD
Director, UCLA G. Oppenheimer Center for Neurobiology of Stress and Resilience
Co-director, CURE: Digestive Diseases Research Center
Professor, UCLA Vatche and Tamar Manoukian Division of Digestive Diseases

Showcasing Our Division's Research Strengths

As director of the UCLA Vatche and Tamar Manoukian Division of Digestive Diseases Research Council, I am proud to introduce a special issue of *Beyond the Scope* that highlights the progress and ongoing investigations within our division's six core research areas: inflammatory bowel disease (IBD) basic research program and clinics, cancer, metabolism and obesity, brain-gut microbiome interactions, liver disease and interventional endoscopy.

Notably, there is significant overlap between our division's research strengths and the six unified research themes of the David Geffen School of Medicine (DGSOM) at UCLA, as recently identified by Dr. Stephen Smale, DGSOM's vice dean for research. Our IBD research corresponds with the DGSOM theme of immunity/inflammation/infection/transplantation; our cancer research matches DGSOM's cancer theme; our metabolism and obesity work fits with DGSOM's metabolism theme; and our brain-gut microbiome research is an important part of DGSOM's neuroscience program. Moreover, our themes coincide with the gastroenterology research funding priorities of the National Institutes of Health (NIH).

By all measures, these research programs are thriving. We are funded with active NIH grants that total more than $50 million. This support, along with substantial funding from philanthropic individuals and foundations, provides fuel for robust basic, clinical, and translational activities leading to important discoveries that are contributing to a better understanding of the causes of digestive diseases and paving the way for new treatments and prevention strategies. Our leadership in digestive disease research will be on full display in Chicago May 6-9 at the 2017 Digestive Disease Week®, the world's largest gathering of physicians and researchers in the fields of gastroenterology, hepatology, endoscopy and gastrointestinal surgery (see page 16).

Part of what makes our core research areas so strong are the extensive interactions among investigators, both within the programs and outside of them. In an era when scientific complexity demands forgoing silos in favor of interdisciplinary approaches, our researchers benefit greatly from the ability to collaborate with colleagues both within the division and in other parts of DGSOM and the UCLA campus, enabling them to draw from the full spectrum of expertise needed to tackle a problem. These efforts are bolstered by a prestigious CURE: Digestive Disease Research Center grant from the NIH, which provides critical infrastructure through core services, along with a pilot feasibility program.

Of course, it is the investigators themselves who set these programs apart. All of our core research areas are anchored by senior faculty members who are internationally recognized leaders in their fields. Surrounding these renowned distinguished individuals are talented junior-level investigators, many of them produced by DGSOM's Specialty Training and Advanced Research (STAR) program, which prepares physician-scientists. The ability of these young investigators to work with established professors is among the reasons that the future of our division's research enterprise is so bright.

The pages that follow offer a glimpse of the ongoing research within our six core areas of strength. Even though each article highlights a senior-level and a junior-level faculty member within that research area. I hope that after reading these summaries, you will share my enthusiasm for the exciting prospects for advances that will lead to healthier and longer lives for the patients we see.

Using Systems Biology, Other Innovative Approaches to Understand and Treat Inflammatory Processes of the Gut

The UCLA Vatche and Tamar Manoukian Division of Digestive Disease's inflammatory bowel disease (IBD) basic research program and clinics are characterized by a systematic approach to understanding the mechanisms by which IBD develops, including a focus on systems biology and exploring the complex microbial ecosystems involved in Crohn's disease and ulcerative colitis, which affect approximately 1.5 million people in the United States.

The UCLA Inflammatory Bowel Disease Research Center, established in 2007, focuses on multiple aspects of the pathophysiology, therapy, and diagnosis of IBD with funding from the National Institutes of Health (NIH), the Broad Foundation for Medical Research and the Blinder Foundation. The center is directed by Dr. Charalabos "Harry" Pothoulakis, whose work targets aspects of the inflammatory process, including the role of neuropeptides and hormones in mediating inflammation and post-inflammation healing in IBD, as well as the role of fat signaling and obesity in IBD pathogenesis. "Because neuropeptides and hormones regulate appetite and metabolism during obesity, neuropeptide-adipose tissue interactions are important components of the inflammatory response in IBD, since in many instances obesity worsens IBD outcomes," Dr. Pothoulakis explains.

Most recently, the center has been a leader in an innovative research approach that looks at the role of neuropeptides in the epigenetic changes that occur in the IBD intestine. Dr. Pothoulakis and his colleagues are collaborating closely on this research with

Dr. Dimitrios Iliopoulos, an associate professor and director of the Center for Systems Biomedicine in the division.

Dr. Jonathan Jacobs, who joined the division faculty in 2015, is studying the impact on IBD of the intestinal microbiome — the bacteria that live in the digestive tract, particularly the colon and small intestine. His lab is interested in how these bacteria interact with the immune system, and how in certain cases the bacteria in patients who develop IBD might contribute to that inflammation. Using stool and tissue samples from IBD patients and healthy comparisons, Dr. Jacobs and his colleagues are determining what microbial features distinguish IBD, based on the premise that these microbes and some of the products they make play a role in driving inflammation.

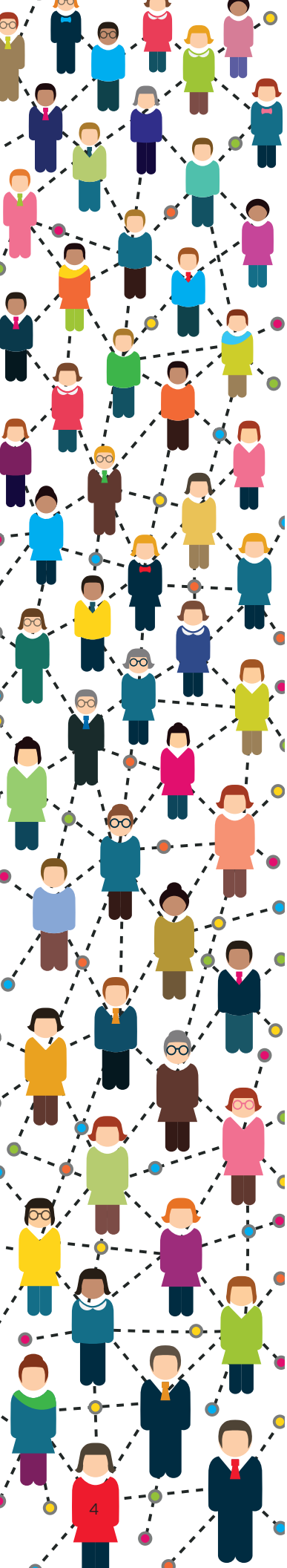
In addition, Dr. Jacobs' team is conducting translational studies in both mice and humans aiming to mechanistically define how genes interact with the bacteria to contribute to disease. "A healthy person can have the same bacteria as an IBD patient, but the person with IBD had genetic susceptibility that worked in combination with the bacteria to promote inflammation and allow the disease to develop," Dr. Jacobs explains. His group uses genetically manipulated mice to study how the process occurs in humans. "Ultimately, we want to identify people who are at risk for developing IBD based on their intestinal bacteria and genes," Dr. Jacobs says. A study he published last year showed that some healthy relatives of IBD patients have distinct microbial features that resemble those of IBD patients, despite the lack of any evidence of disease. "We are now introducing bacteria from these healthy relatives into mouse models to show that these bacteria promote disease. Once we've established this, we can then go back to humans to identify who is at risk and potentially find ways to reduce this risk by changing the bacteria," Dr. Jacobs explains.

Dr. Jacobs started much of this work in the laboratory of Dr. Jonathan Braun, chair of Pathology and Laboratory Medicine, where he was mentored as a UCLA GI fellow in conjunction with the Specialty Training and Advanced Research (STAR) program, which trains physician-scientists at the David Geffen School of Medicine at UCLA. Dr. Braun is part of large consortia using various "omics" technologies to conduct detailed phenotyping of microbiota in IBD patients. Dr. Braun is a leader of the proteomics component of the NIH's multicenter Human Microbiome Project 2 study of IBD.

On the clinical side, Dr. Christina Ha, an assistant clinical professor in the division and associate director of clinical affairs for the UCLA Center for Inflammatory Bowel Diseases, is working with Dr. Jacobs and two other division faculty members, Dr. David Padua and Dr. Jenny Sauk, to develop biobanking protocols that will facilitate studies of the microbiome and genetic signatures of the UCLA IBD patient population.

Meanwhile, Dr. Iliopoulos and researchers at the UCLA Center for Systems Biomedicine are leaders in applying the systems approach to IBD, which they are using to dramatically expedite the pace of IBD drug discovery. Current IBD therapies — the most effective of which are tumor necrosis factor (TNF)-alpha inhibitors — take aim at the inflammatory process, but Dr. Iliopoulos notes that after a certain period of time, 30-40 percent of patients no longer respond to the therapy. "There is a great need for new drugs," he says. The multidisciplinary team of experts at the Center for Systems Biomedicine employs innovative robotic and computational tools in an effort to identify key pathogenic processes and hasten the drug discovery process for IBD, as well as other multifactorial diseases. Drawing from large numbers of patient tissue samples, the center uses what Dr. Iliopoulos describes as an "unbiased strategy" to learn about the most important factors in the disease process, as opposed to the traditional hypothesis-driven method. Using this approach, he and his team have identified novel molecular mechanisms and developed new IBD drugs targeting the human epigenome.

One such discovery was an epigenetic factor called microRNA (miR) — a small RNA molecule capable of simultaneously regulating the function of multiple genes — that appears to play a central role in the initiation and progression of ulcerative colitis. Dr. Iliopoulos and his colleagues recently received a five-year, $1.7 million grant from the NIH to characterize this molecular mechanism in IBD pathogenesis, and to evaluate the therapeutic potential of a new drug for IBD patients targeting this process. "Early experimental evidence has shown us that this drug is very effective in suppressing colitis in animal models, without any toxicity," Dr. Iliopoulos says. "Because miR-24 is found in high levels in patients with inflammatory bowel diseases and in very low levels in healthy patients, we are hopeful that blocking this molecule will have great therapeutic value."



Program Spans from Laboratory Studies to Community Outreach

This year more than 300,000 new cancers of the gastrointestinal tract will be diagnosed, making the digestive system the most common cancer site. Pancreatic cancer has surpassed breast cancer as the third-leading cause of cancer death in the United States; colorectal cancer is second. Approximately 160,000 people will die from GI cancers. "This is one of the most challenging problems facing gastroenterologists," says Dr. Enrique Rozengurt, the Ronald S. Hirshberg Chair in Translational Pancreatic Cancer Research in the UCLA Vatche and Tamar Manoukian Division of Digestive Diseases. "There is an intense need for basic and clinical research to better understand the process and become more successful at prevention and therapy."

Cancer research within the division runs the gamut from basic and translational to clinical studies. The two major areas of focus, pancreatic and colorectal cancer, call for fundamentally different approaches. Because pancreatic cancer is typically not found until it has progressed, and treatment has been relatively ineffective, the focus is on basic science to learn more about the mechanisms involved. For colorectal cancer, effective screening tools allow for early diagnosis and curative treatment, but given that a significant portion of the population isn't taking advantage of them, much of the focus is on improving screening rates.

Dr. Rozengurt, a pioneer in the area of signal transduction and cell growth regulation, serves as the director of CURE: Digestive Diseases Research Center, a National Institutes of Health (NIH)-funded center that has consistently promoted studies on pancreatic inflammation and cancer. Epidemiological studies in recent years have linked obesity and longstanding type 2 diabetes with increased risk for developing clinically aggressive pancreatic cancer. In a series of studies that have opened up a new field of pancreatic cancer research, Dr. Rozengurt's group has shown that metformin, the most widely prescribed drug for the treatment of type 2 diabetes, inhibits pancreatic cancer growth in preclinical scientific models, and the proliferation of human pancreatic cancer cells in culture. The team has advanced these studies by using imaging of single human pancreatic cells and experiments in preclinical models of pancreatic cancers. "Because metformin is an FDA-approved drug widely used in the treatment of type 2 diabetes and other conditions, including pre-diabetic states, rapid translational research is a tangible possibility," Dr. Rozengurt says.

Dr. Rozengurt's group is also focusing on other pancreatic cancer pathways, including a pursuit of the hypothesis that the pro-oncogenic protein YAP could play a critical role in promoting pancreatic cancer and in mediating crosstalk signaling. Using high-throughput screens of compounds capable of altering the subcellular localization of YAP, Dr. Rozengurt identified statins as potential YAP inhibitors. He and his colleagues have found that the statins potently block YAP-regulated genes

in pancreatic cancer cells, and that various statins inhibit the multiplication of pancreatic ductal adenocarcinoma cells — as well as acting synergistically with metformin.

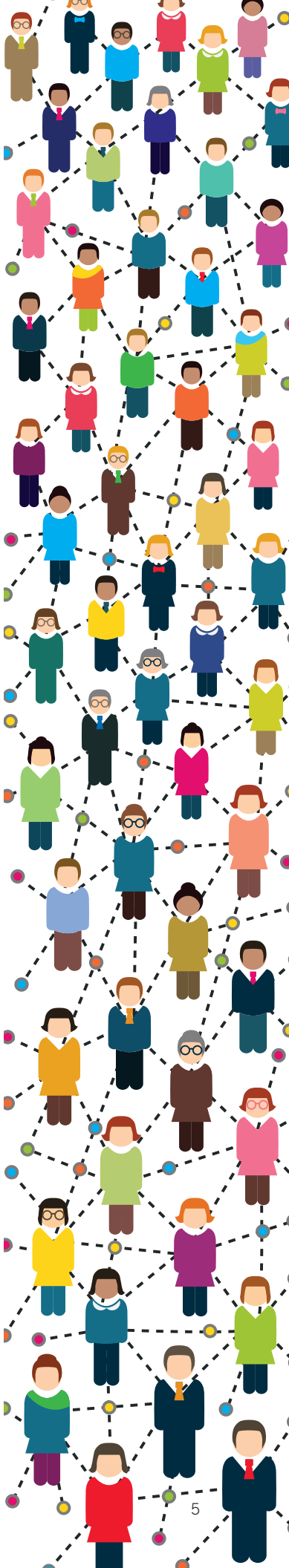
In colorectal cancer, the U.S. Centers for Disease Control and Prevention estimates that one-third of adults ages 50-75 are not screened. Dr. Folasade P. May, an assistant professor in the division, is helping to spearhead multiple efforts to increase screening — within the UCLA Health system, with the U.S. Department of Veterans Affairs (VA), and in a low-income, under-resourced community in Los Angeles.

As part of the National Colorectal Cancer Roundtable (NCCR) initiative "80% by 2018," more than 1,000 organizations have committed to substantially reducing colorectal cancer as a major public health problem by working toward the shared goal of 80 percent of adults 50 and older being regularly screened by next year — an increase of 2 million people over current levels. "Even at an advanced center like UCLA, the rates are in the mid-60s," Dr. May notes. Through the Department of Medicine and UCLA Health Quality Initiative team, Dr. May has worked with call centers to contact patients who haven't been screened, explain the benefits, and encourage them to make appointments to schedule screening. These patients are also being offered home-based screening tests as an alternative to colonoscopy. In addition, Dr. May has helped to develop UCLA Health's outreach to providers and patients, including presentations and professional-level videos on screening's value.

The VA has high colorectal cancer screening rates – recently recognized by the NCCR for achieving an 82 percent rate. But among the 8-10 percent of patients whose fecal immunochemical test (FIT) is positive, only about 50-60 percent obtain a colonoscopy within a year. Working with a team both at the VA Greater Los Angeles Healthcare System and nationally, Dr. May is investigating the causes of the poor follow-up and what can be done to move FIT-positive patients to colonoscopy screening more rapidly.

Dr. May also has a seed grant from the UCLA Jonsson Comprehensive Cancer Center to develop a partnership with T.H.E. (To Help Everyone) Health and Wellness Center to improve colorectal cancer screening. The T.H.E. clinic in Watts, which primarily cares for African-American and Latino patients, has screening rates of approximately 30 percent. Through patient and provider outreach, Dr. May and colleagues hope to improve access to care and screening rates. "Community health centers have the lowest screening rates in the nation," Dr. May says. "With very small interventions, we believe we can make a big impact."

The vast differences in the approaches of Drs. Rozengurt and May — from basic science in the laboratory to outreach in the community — are characteristic of the breadth of the division's cancer research effort as a whole. For example, the laboratory of Dr. Dimitrios Iliopoulos, an associate professor in the division, seeks to understand the epigenetic processes involved in inflammation, which plays an important role in pancreatic cancer. Dr. V. Raman Muthusamy, director of interventional endoscopy for the division, has been a leader in clinical studies to treat Barrett's esophagus, both to prevent the development of esophageal cancer and to treat early cancers and avoid the need for surgery. "What's so powerful about the cancer research in our division is that we have researchers who cover the entire spectrum of the disease, from the first cells that are predisposed to cancer all the way to treatment," Dr. May says. "It's very valuable to work in a division where we are covering that complete cancer care continuum."



Research on Genetic, Hormonal and Microbial Mechanisms Pave the Way Toward New Prevention and Treatment Strategies

How do genetics, hormones, and the microbes in the gut contribute to obesity and metabolic syndrome?

At a time when more than one-third of U.S. adults are obese and effective long-term therapies for obesity and fatty liver disease are lacking, cutting edge research being pursued in the UCLA Vatche and Tamar Manoukian Division of Digestive Diseases into the contributing mechanisms carries major public health implications.

A group headed by Drs. Joseph Pisegna and Yvette Taché, professors in the division, is funded by the U.S. Department of Veterans Affairs for research looking at the potential for diets high in protein to positively affect metabolism and therefore be used to treat obesity and fatty liver disease. Dr. Pisegna, an expert in how gastrointestinal hormones regulate physiologic function, currently heads industry-funded clinical trials on drugs for treating fatty liver; his group also conducts parallel studies in mouse models of obesity and fatty liver disease.

In the laboratory, Dr. Pisegna and colleagues have found that a high-protein diet regulates certain hormones involved in satiety, including vasoactive intestinal polypeptide and pituitary adenylate cyclase-activating polypeptide. "We think that the high-protein diet turns on hormones that lead to satiety, but that these hormones may also have a direct effect on adipose tissue and the liver," Dr. Pisegna explains. "They are operating through two different mechanisms — one through the brain and how it sends out signals for satiety, and the other more directly, either on the liver or adipose cells."

In addition to studying these questions at the hormone level in humans and mouse models, Dr. Pisegna is looking into the genetic signatures of obesity and fatty liver in collaboration with a member of UCLA's Department of Human Genetics faculty, Dr. Paivi Pajukanta. Their study utilizes the Million Veteran Program cohort, a U.S. Department of Veterans Affairs-funded population study that has thus far collected full-exome sequencing data on approximately 400,000 veterans.

Dr. Pisegna and other faculty in the division are part of the UCLA Center for Obesity and METabolic Health (COMET), a leader in clinical and basic research on obesity and metabolic syndrome. COMET's investigative efforts are directed by a member of the division faculty, Dr. Simon Beaven, who focuses on how alterations of lipid metabolism promote liver damage and diabetes. Dr. Beaven and his colleagues are examining the role of endogenous nutrient receptors, called nuclear receptors, in the development of the component conditions of the metabolic syndrome — fatty liver,

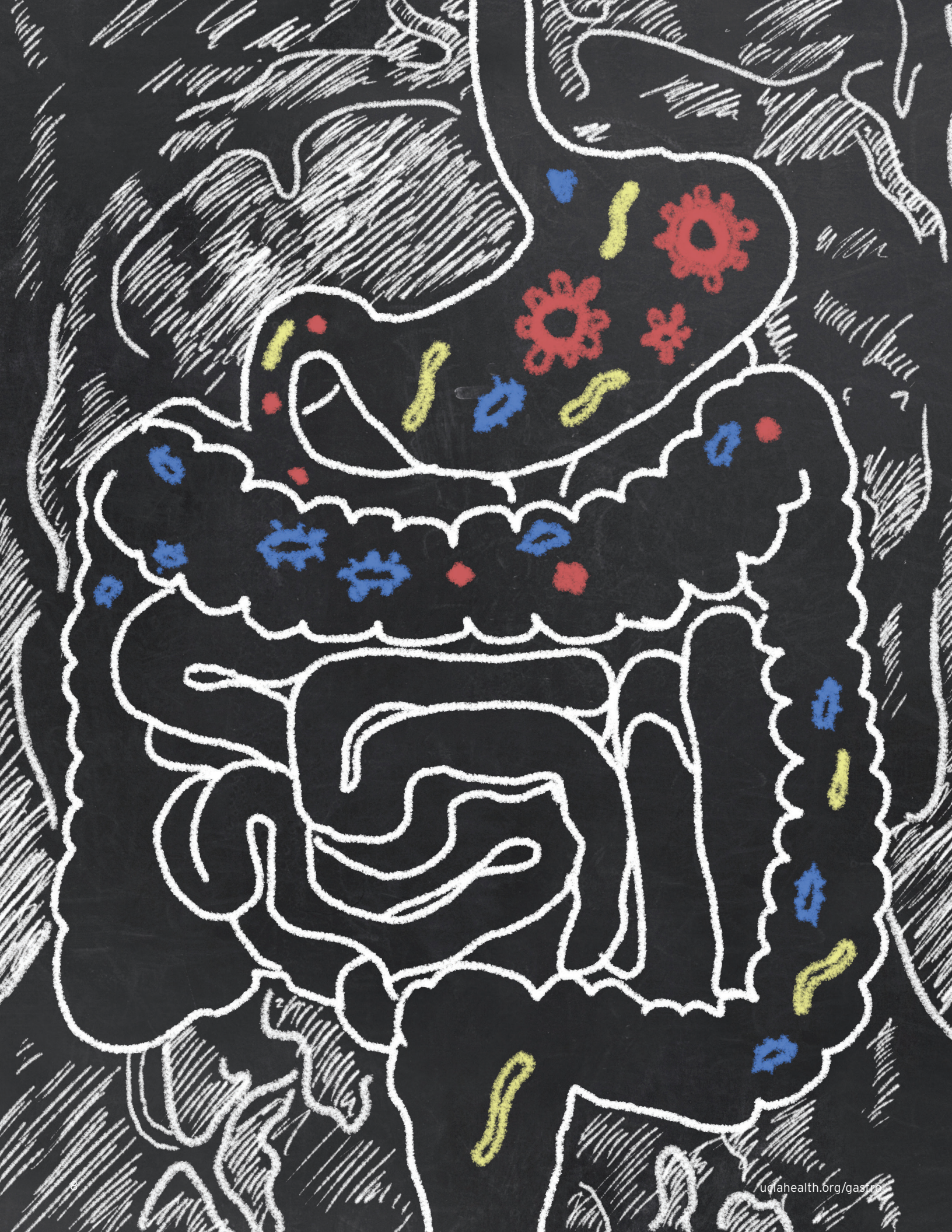
diabetes, high cholesterol, obesity, and atherosclerosis. They recently made a major discovery with the observation that lipid metabolism, through liver X receptor signaling, plays an important role in the activation of hepatic stellate cells and contributes to liver fibrosis susceptibility. Other division faculty members conducting obesity-related research through COMET include Dr. Rabindra Watson, a member of the division's interventional endoscopy team, also conducts studies with bariatric patients, including the impact of endoscopic suturing for patients who may need a revision after bariatric surgery and how reducing the size of the pouch created through gastric bypass may assist patients in losing weight after they have returned to unhealthy appetite levels.

Investigators in the Ingestive Behavior and Obesity Program of the G. Oppenheimer Center for Neurobiology of Stress and Resilience (CNSR) are focusing on identifying the role of brain gut interactions in obesity. Dr. Arpana Gupta is studying structural and functional brain changes associated with early adverse life events, socioeconomic status and obesity. She found that certain brain characteristics predispose individuals to obesity, and that traumatic early life events lead to brain changes that can lead to dysregulated eating behaviors ("food addiction"), increasing obesity risk. Based on these findings, she is now studying the effectiveness of cognitive behavioral therapy in reversing altered ingestive behavior and promoting weight loss.

Dr. Claudia Sanmiguel, the head of the CNSR Obesity Research Program, is investigating the connection between the brain and the gut microbiome in obesity, particularly after weight loss and bariatric surgery. Research involving identical twins has shown that when the stools from an obese donor and a lean donor are transplanted into germ-free mice, the mice that receive the obese donor's stool tend to subsequently gain more weight. Moreover, patients who undergo bariatric surgery experience a marked reduction in appetite and changes in food preferences that have not been explained, and fecal transplant from post-bariatric surgery donors results in weight loss in animal models. These and other findings led Dr. Sanmiguel and her colleagues to begin to explore role of gut microbial metabolites in the control of food preference and weight control. "The gut microbiome is certainly not the only player in the field of obesity, but it definitely plays an important role," Dr. Sanmiguel says.

In an effort to learn more about that role, Dr. Sanmiguel is collaborating with a group that includes Dr. Erik Dutson, COMET's surgical director, to study appetite and behavioral changes in patients following bariatric surgery. The ongoing study has found an association between gut metabolites and changes in appetite and food preferences after the surgery, along with resulting changes in brain function. "These are preliminary findings with a small sample size, but we are seeing profound changes in appetite, food preferences and brain structure in the first months after surgery, then over time the appetite and food cravings tend to return," Dr. Sanmiguel says.

Dr. Sanmiguel's group is continuing to examine how the gut microbiome contributes to the changes in brain structure and function seen immediately after the surgery that can promote reduced appetite and increased satiety. "We have found that some of the products of the gut microbiome affect hunger, satiety levels, and weight loss, and also that certain characteristics of the gut microbiome before surgery can predict who is going to be most successful in losing weight after the surgery," Dr. Sanmiguel says. She is hopeful that her group's research will contribute to a better understanding of which patients are most likely to benefit from bariatric surgery — and, ultimately, to new treatments that could achieve the same effect on appetite and satiety without the operation.



New Center Draws from Campus Strengths to Explore New Frontier in Biomedical Research

Approximately 100 trillion microbes reside in the human body, and in recent years it has become clear that the microorganisms populating the intestine, skin, lungs, urinary tract and many other body sites have a major impact on human health. A growing body of evidence suggests that heart disease, cancer, diabetes, metabolic disease, obesity, inflammatory bowel disease (IBD), autoimmune disorders, allergies, as well as neurologic and psychiatric disorders all may be associated in some way with microbes gone awry.

"The microbiome is like a hidden organ, larger than any other in the body in terms of cell numbers," says Dr. Emeran A. Mayer, a professor in the UCLA Vatche and Tamar Manoukian Division of Digestive Diseases and executive director of the G. Oppenheimer Center for Neurobiology of Stress and Resilience (CNSR). "We can transplant entire phenotypes from one mouse to another — including anxiety, depression and obesity- suggesting that these microbes produce chemicals that can affect the host in complex ways — even changing entire behavior patterns. However, we're still just scratching at the surface, but the field is moving extremely fast."

To capitalize on UCLA's campus-wide strengths in research pertaining to this new frontier in biomedical science, Drs. Mayer and Jonathan Jacobs have played key roles in spearheading the establishment of the UCLA Microbiome Center, which brings together investigators with wide-ranging areas of expertise from across the entire UCLA campus, including the California Nanosystems Institute (CNSI), to learn how bacteria and other microbes affect human health, and to use that information to explore new therapeutic strategies. The center is directed by a steering committee composed of Drs. Mayer, Jeffrey Miller (director of CNSI), Jonathan Braun (chair of Department of Pathology and Laboratory Medicine), Wenyuan Shi (director of Bio-Rad Core for Advanced Molecular Research), Paul Weiss (Department of Chemistry & Biochemistry), Elaine Hsiao (Department of Integrative Biology and Physiology), and Jonathan Jacobs (Vatche and Tamar Manoukian Division of Digestive Diseases). Much of the work of the UCLA Microbiome Center is in digestive disease-related areas, including functional and inflammatory bowel disorders, metabolic syndrome and obesity.

The UCLA Microbiome Center is positioned to be a leader in this growing field through interdisciplinary collaborations it has fostered among researchers from all over the UCLA campus (including the School of Medicine, CNSI, the Life Sciences Departments, and the School of Engineering) and the infrastructure it has built to support this work, in particular in the areas of neuroscience, gastroenterology, obesity and novel technologies, Dr. Mayer says. "Our program is unique in the country in the way that it spans from basic science and animal models to clinical research, looking at the brain-gut microbiome axis as it is applied to different diseases in both humans and animals," he explains.

With the exception of fecal microbial transplants — introducing processed stool from healthy donors into the GI tracts of patients with recurrent Clostridium difficile — much of the progress in the emerging field of the gut-brain microbiome axis has been at the research level. Nonetheless, findings suggest a role for the microbiota well beyond what anyone might have imagined a decade ago. "There was a lot of excitement that the Human Genome Project was going to change medicine fundamentally, and it turned out to be just the beginning of a long process," Dr. Mayer says. "But learning about these microbes goes way beyond the human genome. Identifying the intricate relationships between the microbiome and the human host has the potential to completely transform our understanding of health and human disease."

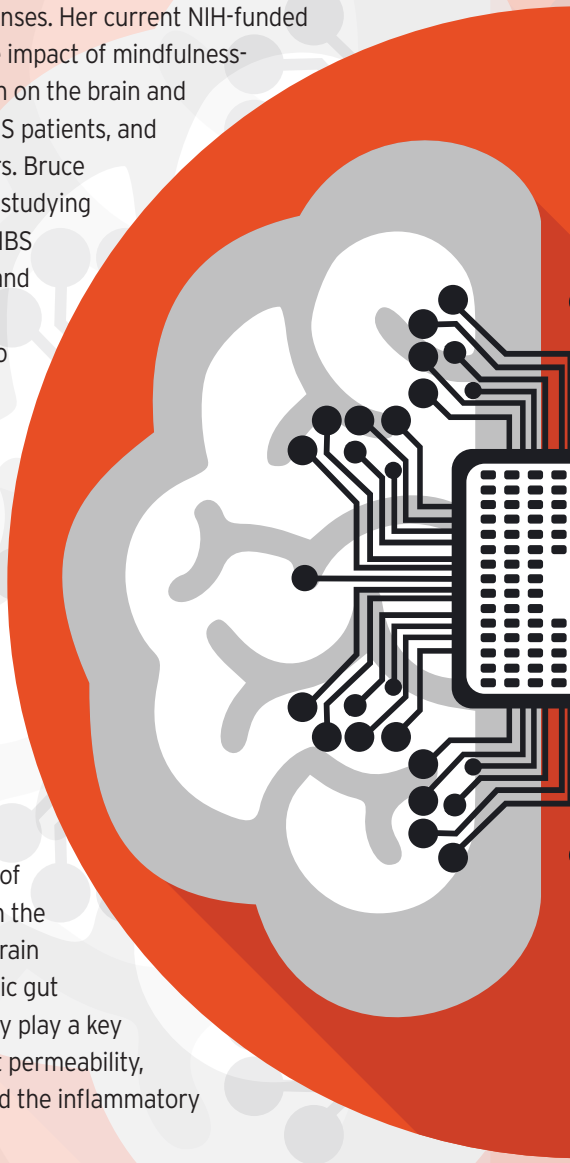
Novel Approaches Toward More Effective Tr

For many years, there has been limited interest within the medical field in how the brain and gut interact in health and disease. Even patients with common functional GI disorders such as irritable bowel syndrome (IBS), functional dyspepsia and functional heartburn were reluctant to accept such a concept, wrongly assuming their symptoms would be explained in psychological terms. The emerging research into the gut microbiome has dramatically changed the equation in the last five years, with the study of brain-gut microbiome (BGM) interactions taking center stage in many fields and specialties, including gastroenterology, cardiology, chronic pain and psychiatry, to name only a few.

Investigators at the G. Oppenheimer Center for Neurobiology of Stress and Resilience (CNSR) have been on the cutting edge of this research for several decades, being the first to study the role of the human brain in patients with IBS and in linking alterations in gut microbes to alterations in brain structure and function. Under the leadership of Dr. Emeran A. Mayer, a world-renowned gastroenterologist and neuroscientist with 30 years of experience and continuous NIH funding in the study of brain-gut interactions, center investigators are focusing on the role of the mind and of gut microbiota in modulating brain-gut interactions, including sex differences in these interactions; the effects of mindfulness-based stress reduction and cognitive behavioral therapy (CBT) on brain signatures in irritable bowel syndrome (IBS); brain-gut microbiome interactions in inflammatory and functional GI disorders; and the role of gut microbes in obesity.

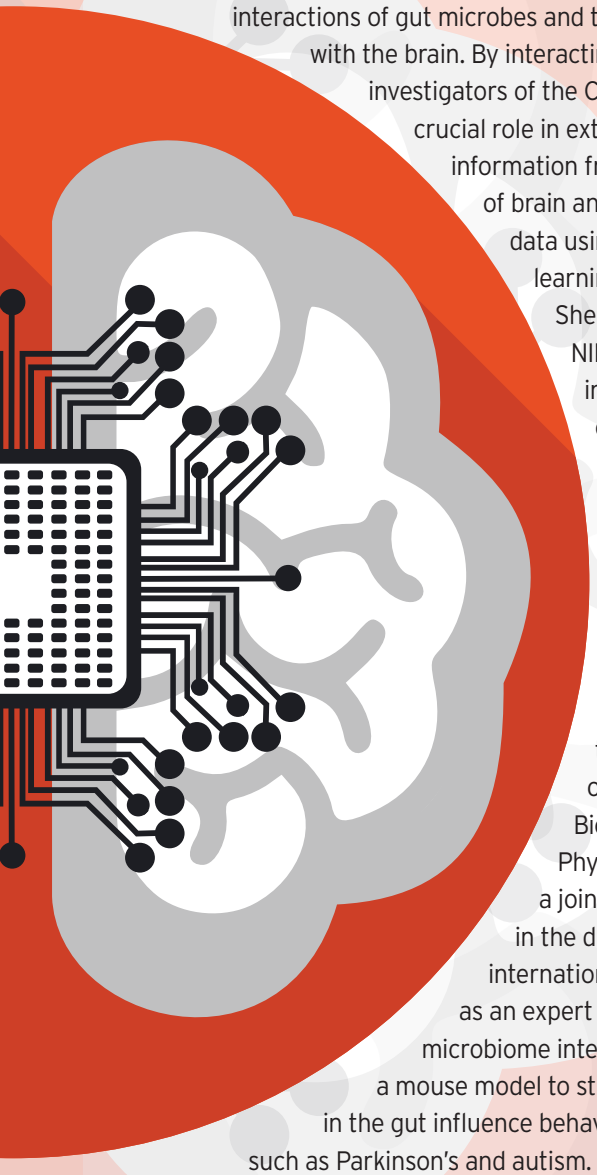
Dr. Lin Chang, one of the co-directors of the CNSR and board member of the ROME Foundation, and a key opinion leader on the treatment of IBS, has been studying the epigenetic mechanisms underlying the effect of early adverse life events, psychosocial stress and resilience on IBS symptoms. Her NIH-funded studies look at the role of micro RNAs and gene methylation in the IBS colonic mucosa.

Dr. Kirsten Tillisch is the head of the Integrative Medicine Program at the West Los Angeles VA and is nationally recognized in the use of integrative medicine approaches to treat brain-gut disorders. Dr. Tillisch was the first to demonstrate an effect of gut microbial manipulation with probiotics on emotional brain responses. Her current NIH-funded study is looking at the impact of mindfulness-based stress reduction on the brain and the microbiomes of IBS patients, and she is working with Drs. Bruce Naliboff and Mayer in studying the effects of CBT on IBS symptoms, the brain and the microbiome. Dr. Jonathan Jacobs, who directs the UCLA Microbiome Center Core, is collaborating with several investigators in the CNSR on studies involving the gut microbiome, and is working with Dr. Mayer on the interactions of the brain and gut in patients with Crohn's disease — a new area of IBD research based on the recognition that the brain is influenced by chronic gut inflammation, and may play a key role in modulating gut permeability, microbial behavior and the inflammatory activity in the gut.



Drs. Claudia Sanmiguel and Arpana Gupta are studying the role of BGM interactions in obesity and food addiction, and evaluate the mechanisms by which bariatric surgery and cognitive behavioral therapy affect weight loss in obese subjects.

eatments for IBS, Obesity and Chronic Pain



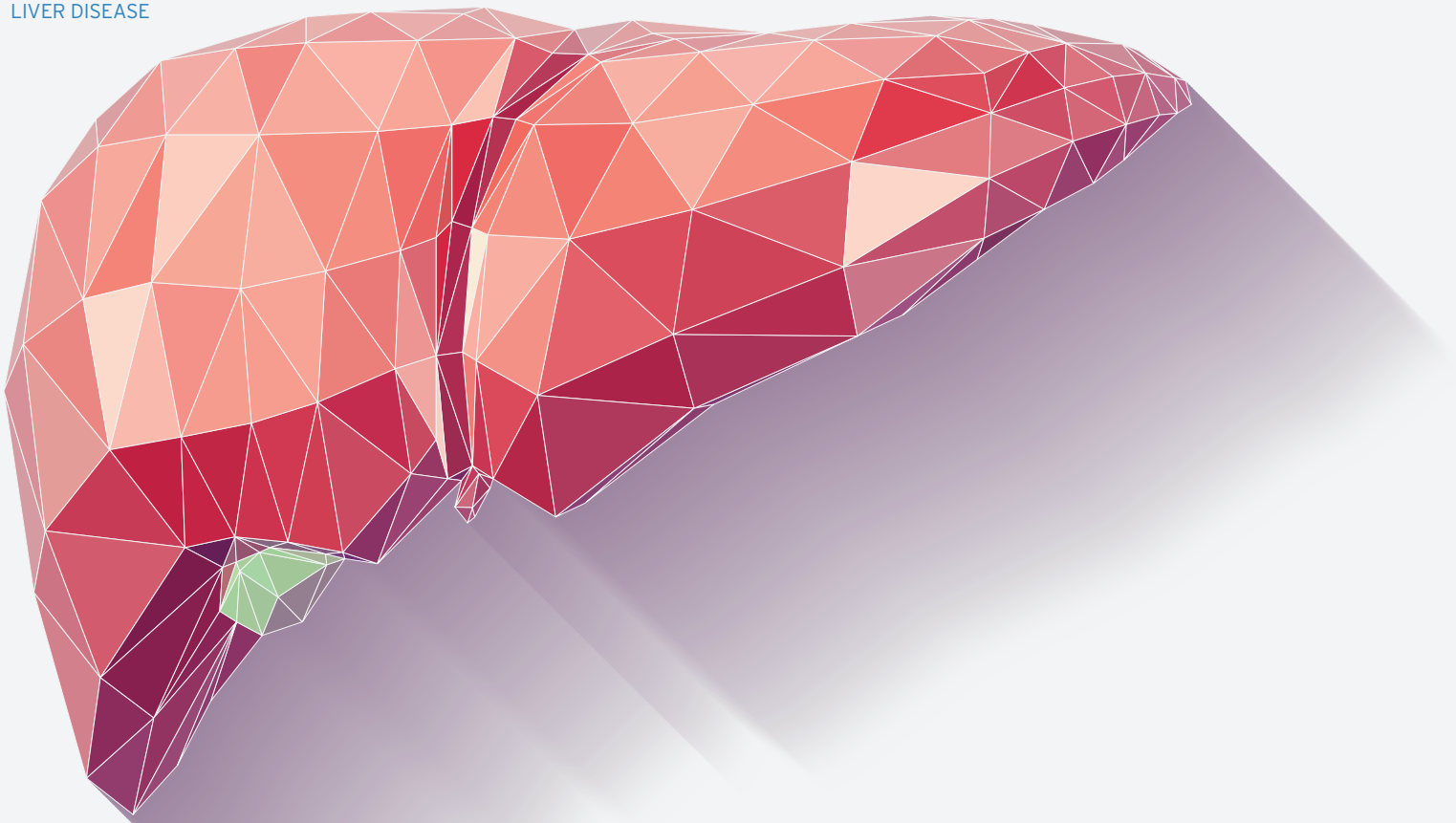
Dr. Jennifer Labus, the director of the CNSR Neuroimaging and Bioinformatics Core, has developed novel analytical techniques ("multiomics integration") to analyze the interactions of gut microbes and their metabolites with the brain. By interacting with all investigators of the CNSR, she plays a crucial role in extracting relevant information from extensive sets of brain and gut microbial data using machine learning approaches. She also pursues NIH-funded studies into the role of the central nervous system and the vaginal microbiome in vulvodynia.

Dr. Elaine Hsiao, an assistant professor in the Department of Integrative Biology and Physiology who holds a joint appointment in the division and is internationally recognized as an expert in brain-gut microbiome interactions, is using a mouse model to study how microbes in the gut influence behaviors in conditions such as Parkinson's and autism. "We're seeing that changing the microbiome in the mice can produce substantial effects on their behavior, as well as differences in the structure and activity of the brain cells," Dr. Hsiao says. "That is inspiring a great deal of effort to better understand what it is that bacteria or other microbes are doing to affect the brain, and how they communicate with each other."

While at Caltech in 2013, Dr. Hsiao and her colleagues found that autism-like behavior could be produced in the offspring of mice they treated with a viral mimic during pregnancy. These offspring, which were found to have altered gut bacteria, showed reduced autism-like behaviors when treated with a health-promoting bacterium. Dr. Hsiao's UCLA lab continues to follow up on those findings with studies of the impact of microbiome changes on behaviors related to autism and other neurological disorders, including depression, epilepsy and Parkinson's disease. Her laboratory recently discovered that bacteria from human-gut microbiota stimulate host biosynthesis of the hormone and neurotransmitter serotonin.

In addition to studying the role of the BGM axis in functional GI disorders, several CNSR investigators are pursuing NIH-funded interdisciplinary studies into other chronic pain conditions, including urological pelvic pain syndromes such as interstitial cystitis and chronic prostatitis (Drs. Jason Kutch and Larissa Rodriguez), and vulvodynia (Dr. Jennifer Labus).

Through interdisciplinary collaborations among these researchers and experts from all over the UCLA campus, the CNSR has been a leader in the field of mind-body interactions related to gastroenterology, chronic pain and women's health. "Our program is unique in the country in the way that it spans from basic science and animal models to clinical research, looking at the brain-gut microbiome axis as it is applied to different diseases in both humans and animals," Dr. Mayer explains. Many of the above researchers are in the process of putting together an interdisciplinary translational program project grant that will be submitted to the NIH in late May, Dr. Mayer notes.



Researchers Seek to Better Characterize Hepatotoxicity, Treat Fatty Liver and Improve Quality of Life for Patients

As the first line of defense responsible for clearing chemicals ingested in the human body, the liver is being put to the test at a time when the population is increasingly consuming supplements for purposes ranging from losing weight and enhancing strength to getting an energy boost, or simply improving their health through "natural" means. Unfortunately, says Dr. Francisco Durazo, professor of medicine in UCLA's Vatche and Tamar Manoukain Division of Digestive Diseases and chief of Transplant Hepatology, this is leading to a growing number of cases in which patients are presenting with acute hepatotoxicity.

Dr. Durazo currently has funding from the National Institutes of Health (NIH) to study drug-induced liver injury, particularly as a result of supplements. "We are seeing a significant increase in these injuries, most commonly from workout-related supplements and fat burners," says Dr. Durazo, who has served as a principal investigator for the Drug Induced Liver Injury Network, established by the National Institute of Diabetes and Digestive and Kidney Diseases to collect and analyze cases of severe liver injury caused by prescription and over-the-counter drugs, herbal products and supplements.

Drug-induced liver injury is the most common cause of acute failure, Dr. Durazo notes. It is estimated that more than half of the U.S. population takes supplements, which has led to increasing concerns about liver injury. Another common cause is acetaminophen overdose. While initial attention, particularly in Europe, centered on uses of the drug for suicide attempts, the focus has now shifted to the problem of unintentional overdose – so-called therapeutic misadventures. Antibiotics and anti-seizure

medications can also cause liver injury. "We are looking to better understand how this occurs and who is at risk," Dr. Durazo says. "Each medication has a different pathophysiology and is going to cause a different syndrome; we want to characterize the risk factors, natural history and toxicity of different medications."

Dr. Durazo and colleagues are also participating in a multicenter clinical trial of the drug obeticholic acid for the treatment of non-alcoholic fatty liver disease, or non-alcoholic steatohepatitis (NASH). "With the obesity epidemic, nearly 30 percent of the population has fatty liver, and some of those patients will progress to cirrhosis and liver cancer," Dr. Durazo says. "This is a major public health problem — we are now doing more transplants from fatty liver than from problems caused by alcohol — and there is still no effective treatment." In addition to these research projects, Dr. Durazo recently completed a study on the natural history of pancreatic cysts in patients undergoing liver transplant, and is currently involved in research exploring the treatment of hepatocellular carcinoma with radiofrequency ablation and thermal injury prevention.

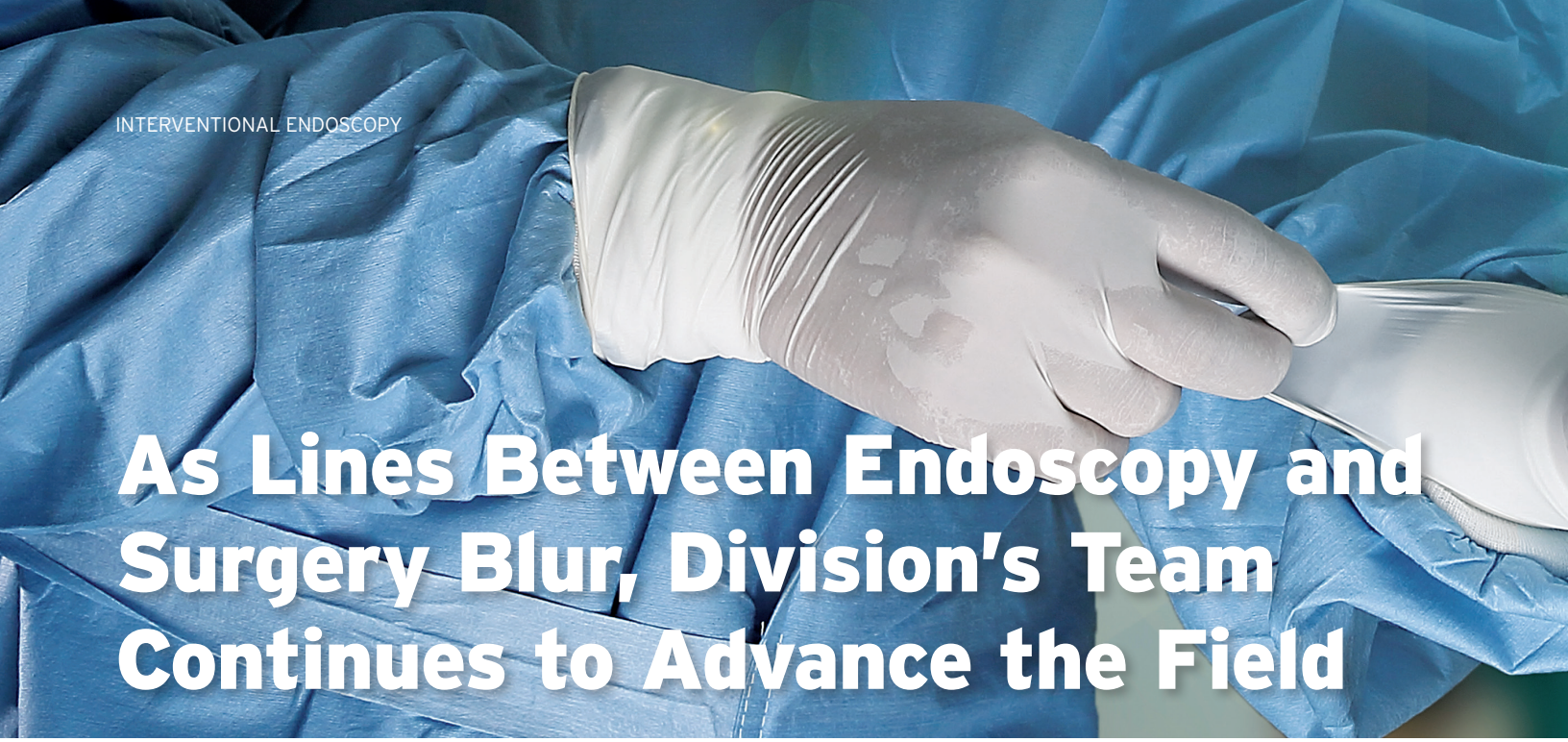
Elsewhere in the division, Dr. Steven-Huy Han, a professor of medicine and director of the Hepatology Clinical Research Center, is tackling another major public health concern, involving the treatment of chronic hepatitis B. The guidelines for who should be treated and for how long vary widely not only between Europe, Asia and the United States, but even across different geographical regions of the United States. Hepatitis B produces no symptoms, but if untreated it can cause cirrhosis of the liver, liver failure, and eventually liver cancer. Dr. Han, who has headed multiple clinical studies involving the treatment of chronic hepatitis B as well as hepatitis C, is interested in contributing to more standardized treatment protocols.

Given the trends in liver disease, it is becoming increasingly important to identify ways to improve the quality of life for patients who are experiencing liver disease complications. That is the focus of Dr. Sammy Saab, a professor in the division. Dr. Saab's group is studying various liver complications, as well as the impact of hepatitis C therapy and accessibility, in an effort to identify the best ways to intervene to improve patients' quality of life and sense of well-being.

"Often, patients don't associate problems they're experiencing with the liver, even though it's affecting their quality of life — for example, they might describe leg cramps that feel like a knife ripping through their calves, without recognizing that this could be a reflection of excessive diuretics or electrolyte disturbances," Dr. Saab notes. "And doctors don't always ask questions that might identify a problem that could be addressed. One of our goals is to empower patients with more knowledge of what the liver does and what happens when it isn't working well."

Dr. Saab notes that people with liver cirrhosis are at risk for complications that can include water retention and confusion, as well as symptoms of fatigue, itchy skin and leg cramps. His group is studying the frequency with which these symptoms occur and how they affect patients' daily activities.

With the high rates of obesity, diabetes, hypertension and hyperlipidemia, the incidence of fatty liver is expected to continue to rise in the U.S. "Many of us are seeing more and more patients coming to us with cirrhosis — not just from alcohol or hepatitis C, but the big gorilla in the room is fatty liver," Dr. Saab says. "A small proportion of people with fatty liver will develop cirrhosis, but even a small percentage from this large group of patients will mean many more people will eventually need a liver transplant. The wait for liver transplantation is quite long, and so we need to find better ways to assist patients who are experiencing cirrhosis so that they can live with it as well as possible."



As Lines Between Endoscopy and Surgery Blur, Division's Team Continues to Advance the Field

Interventional endoscopy has grown rapidly in recent years, emerging as the preferred procedure for diagnosing and treating many GI conditions that were once the domain of surgery given advantages that include fewer complications, quicker recovery times, the ability to combine and tailor procedures to patients' needs, and the fact that the interventions can be reversible. At UCLA, the four members of the interventional endoscopy team within the Vatche and Tamar Manoukian Division of Digestive Diseases are engaged in studies that are continuing to blur these boundaries while also improving the diagnostic and therapeutic capability of endoscopy.

Dr. V. Raman Muthusamy, director of interventional endoscopy for the division, has extensively studied a combination of resection and ablation techniques to treat Barrett's esophagus patients, both as a strategy to prevent the development of cancer and for treating early esophageal cancers to avoid the need for surgery. Dr. Muthusamy, who helped to pioneer the use of radiofrequency ablation to burn off the dysplasia in Barrett's patients, recently developed new quality metrics for these techniques, called endoscopic eradication therapy, with two colleagues. The American Society of Gastrointestinal Endoscopy and American College of Gastroenterology recently endorsed these metrics, which can be used to guide and assess endoscopists performing these procedures. Barrett's esophagus is a complication of chronic reflux in which the lining of the esophagus begins to take on the appearance and characteristics of the lining of the stomach and small intestine, putting patients at a significantly higher risk of developing esophageal cancer. The ability to perform endoscopic eradication techniques that are far less invasive than surgery makes treating dysplastic Barrett's esophagus — and thus reducing the risk of progression to cancer — a much more appealing option, Dr. Muthusamy notes.

Dr. Muthusamy is also exploring better ways to getting tissue from endoscopic ultrasound — focusing not only on how to obtain tissue from areas that have proved inaccessible, but also how to obtain enough tissue from more accessible areas (such as the pancreas) to allow for theranostics, or being able to profile tumors to predict which drugs will be most effective. "Historically we say if you have cancer of a certain type you get this drug, and some people respond while others don't," Dr. Muthusamy says. "Part of moving toward more personalized medicine is the need to get enough of the tumor to actually run these tests, which requires more than you would get just for a diagnosis." His group is now using new needles to acquire additional tissue for a host of cancers. This increased ability to extract tissue with endoscopic ultrasound is also being applied to obtain liver biopsies during endoscopy.

Another member of the team, Dr. Rabindra Watson, has been at the forefront of developing endoscopic techniques for patients who gain weight after bariatric surgery. A majority of the more than two million people in the United States who have undergone bariatric weight-loss surgery (most commonly gastric bypass) begin to regain weight after a period of time, in part because their surgically created

gastric pouch starts to stretch. Dr. Watson has refined a procedure to reduce the volume of the gastric pouch through the injection of sclerosing agents that harden/tighten the tissue, or by re-sewing the pouch to counter the postsurgical stretching. He has been at the forefront of developing primary techniques — including the use of intragastric balloons or other approaches that mimic surgical procedures — to allow an endoscopy procedure for weight loss to be used instead of surgery.

A third member of the team, Dr. Alireza Sedarat, is utilizing and developing new resection techniques. In the past, endoscopists have removed only small lesions, but increasingly they have adopted approaches to remove larger cancers or precancerous lesions. After conducting animal studies, Dr. Sedarat is beginning to perform a technique known as endoscopic submucosal dissection (ESD) in patients, which allows for the resection of larger lesions than current endoscopic mucosal resection techniques. He is also performing peroral endoscopic myotomy (POEM) as an alternative to surgery for esophageal motility disorders, including achalasia — a condition of the esophagus in which the muscle is chronically contracted, making it difficult to swallow. "This is probably the most revolutionary endoscopic advance of the last 10-15 years, because traditionally the technique has been to open up the chest or go through the abdomen and cut the muscle of the lower esophagus," says Dr. Muthusamy. Dr. Sedarat is currently the only interventional endoscopist in Los Angeles County offering the procedure.

Dr. Stephen Kim is conducting translational research to advance the treatment of pancreatic cysts. He has been collecting fluid from patients being treated for the cysts in an effort to develop better ways of characterizing them. By the age of 70, between 10 and 25 percent of patients are found to have a pancreatic cyst when they undergo radiologic testing. "Most of them don't progress to cancer, but we have imperfect criteria for determining which ones do and which don't," Dr. Muthusamy notes. If Dr. Kim is successful, it will potentially pave the way for earlier intervention in patients whose cysts are determined to be problematic with less need to conduct costly monitoring of patients whose cysts are determined to be benign.

Both Dr. Kim and Dr. Muthusamy are developing strategies to ensure that duodenoscopes are kept as safe as possible in light of superbug outbreaks at hospitals. And Dr. Muthusamy is also exploring ways to improve the efficiency of endoscopic healthcare through better practice management to decrease delays and the costs associated with them.

"As our tools get better and better, endoscopic surgery and laparoscopic surgery are melding," Dr. Muthusamy says. "We're continually working to improve on the things we do, but also to expand into new areas that were typically surgical — in the endoscopic eradication therapy that I do for Barrett's, for example, patients I see in the endoscopy unit all would have gone to surgery 10 years ago, and now almost none of them do. And as we blend the lines between surgery and endoscopy with regards to therapy, we are also working to get better at our diagnostic capabilities with endoscopes."

SATURDAY, MAY 6

ASGE Hands-On Workshop: Hemorrhoid Therapies

BJ Dunkin, N Gupta, A Foxx-Orenstein, ***Dennis M. Jensen****, SV Kantsevoy, MF McGee, EM Pauli, WA Qureshi, TJ Savides*

Hands-on Workshop
8:00 AM
South Hall - McCormick Place 2716435

42 Y/O Media Consultant with Severe IBS

Lin Chang

Postgraduate Course Case-based Sessions
4:00 PM
E450a - McCormick Place 2612209

The 2016 Election: What It Means for Research Policy?

Folasade (Fola) P. May

Clinical Symposium
8:20 AM
S100C - McCormick Place 2596925

Standard and Alternative Approaches to Malignant Biliary Obstruction

V. Raman Muthusamy

Clinical Symposium
10:15 AM
S401 - McCormick Place 2610771

Endoscopic Management of Post-bariatric Surgery Adverse Events

Rabindra R. Watson

Clinical Symposium
2:50 PM
S401 - McCormick Place 2612089

Neuropeptides and Mucosal Healing

Charalabos Pothoulakis

Research Symposium
3:00 PM
S105a - McCormick Place 2596871

GLP-2 Acutely Enhances Duodenal SGLT1-mediated Glucose Absorption via EGF Signaling and Neural Pathways

Izumi Kaji, Yasutada Akiba, Jonathan D. Kaunitz

Research Forum
8:00 AM
S403a - McCormick Place 2678736

Serotonin Released By FFA2 Activation Stimulates HCO3-secretion, but Induces Mucosal Injury in Rat Duodenum

Koji Maruta, Yasutada Akiba, Izumi Kaji, Jonathan D. Kaunitz

Research Forum
8:15 AM
S105bcd - McCormick Place 2677503

Intestine-specific Dual Oxidase Deficiency Lacks ATP-P2Y-mediated Luminal H2O2 Production in Mouse Duodenum and Cecum

Yasutada Akiba, Koji Maruta, Izumi Kaji, Jonathan D. Kaunitz

Research Forum
8:45 AM
S105bcd - McCormick Place 2679649

Clostridia from the Gut Microbiome are Associated with Brain Functional Connectivity and Evoked Symptoms in IBS

Jennifer S. Labus, Elaine Hsiao*, J Tap, M Derrien,* ***Arpana Gupta****, B Le Nevé, R Brazeilles, C Grinsvall, L Ohman, H Törnblom,* ***Kirsten Tillisch****, M Simren,* ***Emeran A. Mayer***

Research Forum
2:20 PM
S403a - McCormick Place 2685788

Brain-gut Axis and Bariatric Surgery: Weight Loss and Changes in Brain Control of Feeding Behaviors are Mediated by Alterations in Amino Acids Metabolic Pathways

Arpana Gupta, Jennifer S. Labus, Erik Dutson, Kareem Hamadani, Kristen Coveleskie, Jean Stains, Tiffany Ju, Anna Balioukova, Yijun Chen, Emeran A. Mayer, Claudia P. Sanmiguel

Research Forum
2:37 PM
S403a - McCormick Place 2677725

Colonic Mucosal Microbiome is Associated with Mucosal MicroRNA Expression in Irritable Bowel Syndrome

Swapna Mahurkar-Joshi, Jennifer S. Labus, Jonathan Jacobs, Elizabeth J. Videlock, Venu Lagishetty, Dimitrios Iliopoulos, Emeran A. Mayer, Lin Chang

Research Forum
3:11 PM
S403a - McCormick Place 2679405

Fidaxomicin and OP1118 Inhibit *C. difficile* Toxin A- and B-mediated Inflammatory Responses via Inhibition of NF-KB Activity

Hon Wai Koon, Jiani Wang*, X Chen, CP Kelly,* ***Charalabos Pothoulakis***

Research Forum
4:00 PM
S102abc - McCormick Place 2682440

Predictors of Interobserver Variability (IOV) Among Cytopathologists (CYPS) Evaluating Pancreatic Endoscopic Ultrasounds-guided Fine Needle Aspiration (EUS-FNA) Cytology Specimens: A Multicenter Validation Study

R Mounzer, CB Marshall, M Hall, VC Simon, BA Centeno, K Dennis, J Dhillon, F Fan, L Khazai, JB Klapman, S Komanduri, X Lin, ***David Lu****, S Mehrotra,* ***V. Raman Muthusamy****, R Nayar, A Paintal,* ***Jianyu Rao****, S Sams, JN Shah, TM Tynan,* ***Rabindra R. Watson****, A Rastogi, SB Wani*

Topic Forum
10:30 AM
E450a - McCormick Place 2674420

A Comparison of Right Colon Adenoma Detection Rate (RADR) and Proximal Colon ADR (PADR) for CAP-assisted Total Water (CATW) vs CAP-assisted Water Exchanged (CAWE) Methods in Screening Colonoscopy

JW Leung, A Melnik, J Pearcy, AW Yen, ***Felix W. Leung***

Topic Forum
2:30 PM
E450a - McCormick Place 2670129

Adenoma Detection - Where are We Now and Where are We Going

Felix W. Leung

Topic Forum
3:15 PM
E450a - McCormick Place 2718984

Abdominal Compression Administered Early by the Colonoscopist Shortened Insertion Time of Water Exchange Colonoscopy

Y Hsieh, CW Tseng, ***Felix W. Leung***

Poster Session
12:00 PM
South Hall - McCormick Place 2675176

Comparison of Transoral Outlet Reduction (TORE) Alone Versus with Gastroplasty (TORE-G): A Matched Cohort Analysis

Rabindra R. Watson, Brian L. Huang, *D Goyal,* ***Neela Easwar,*** *SS Irani, MC Larsen*

Poster Session
12:00 PM
South Hall - McCormick Place 2684749

Do We Properly Diagnose Our Celiac Patients? Three Year Follow Up in a Celiac Referral Center

Aria Zand, Natalie E. Duran, Eric Esrailian, Daniel Hommes, Guy A. Weiss

Poster Session
12:00 PM
South Hall - McCormick Place 2683562

Flat Spots are Unrecognized as Stigmata for Diagnoses of Definitive Diverticular Hemorrhage in the Colon

Dennis M. Jensen, Mary Ellen Jensen, Thomas O. Kovacs, Kevin A. Ghassemi, Gordon V. Ohning, Marc Kaneshiro, Alireza Sedarat, Gareth Dulai, Gustavo A. Machicado

Poster Session
12:00 PM
South Hall - McCormick Place 2671620

Lower Sustained Virologic Response in Patients with Hepatocellular Carcinoma Treated for Hepatitis C with Direct Acting Antivirals

Kelvin T. Nguyen, Peter Konyn, Gina Choi, Francisco A. Durazo, Steven-Huy Han, Samantha Ramirez, Sammy Saab, Mohamed El-Kabany

Poster Session
12:00 PM
South Hall - McCormick Place 2674822

Orally Active Cathelicidin Mimic Veragenin CSA13 Modulates Clostridium-associated Colitis in Mice via a Modification of Intestinal Microbiome

Caroline C. Mussatto, Jiani Wang, Hon Wai Koon

Poster Session
12:00 PM
South Hall - McCormick Place 2682390

Pre-procedure Explanation Provided Adequate Insight for Patients to Opt for Scheduled Unsedated Colonoscopy or On Demand Sedation to Obviate Sedation Risks and Post-procedure Burden — Prior Sedation Did Not Preclude Acceptance of These High Value Options

Felix W. Leung

Poster Session
12:00 PM
South Hall - McCormick Place 2680085

Treatment with Direct-acting Antivirals Improves HBA1C in a Cohort of Veterans with Chronic Hepatitis C

Tien S. Dong, Jihane N. Benhammou, Jenna K. Kawamoto, Joseph R. Pisegna, Folasade (Fola) P. May

Poster Session
12:00 PM
South Hall - McCormick Place 2670752

SUNDAY, MAY 7

Substance P-regulated MicroRNA-31-3P Silencing Enhances Mucosal Repair Following Colitis

Kai Fang, Ivy Ka Man Law, Dimitrios Iliopoulos, Charalabos Pothoulakis

Distinguished Abstract Plenary
2:20 PM
S105a - McCormick Place 2668890

Mesenteric Adipose Tissue Derived Stromal Cells from Crohn's Disease Patients Induce Lactoferrin-dependent Protective Responses in Colonic Epithelial Cells and Mice with Colitis

Jill M. Hoffman, Aristea Sideri, Jonathan J. Ruiz, *JR Turner,* ***Charalabos Pothoulakis, Iordanes Karagiannides***

Distinguished Abstract Plenary
2:34 PM
S105a - McCormick Place 2670164

Substance P-induced Colonic Epithelial Cell-secreted Exosomes Exacerbate Experimental Colitis and Regulate Cell Proliferation and Migration via Exosomal MIR-21

Kyriaki Bakirtzi, Dimitrios Iliopoulos, Charalabos Pothoulakis

Plenary Session
4:00 PM
S12abc - McCormick Place 2679608

Irritable Bowel Syndrome

Lin Chang

Postgraduate Course General Session
11:50 AM
Arie Crons Theatre - McCormick Place 2608812

Novel Brain Imaging Techniques in IBS

Emeran A. Mayer

Rome Foundation Lectureship
11:00 AM
S100ab - McCormick Place 2597358

Upper GI Bleeding Management: Tips from the Masters

LL Strate, ***Dennis M. Jensen***

Meet-the-Professor Luncheons
12:30 PM
S502 - McCormick Place 2612104

Women's Preferences for IBD Medical Therapy During Pregnancy

A Fairchild, T Kushner, FR Johnson, BE Sands, U Mahadevan, A Ananthakrishnan, ***Christina Y. Ha,*** *M Bewtra*

Clinical Symposium
2:00 PM
E345a - McCormick Place 2682266

Adverse Events Related to Endoscopic Eradication Therapy (EET) in Barrett's Esophagus (BE): Results from a Multicenter Cohort Study

JC Obuch, B Cinnor, GL Austin, P Blatchford, M Boniface, BC Brauer, DS Early, SA Edmundowicz, HT Hammad, CL Harris, T Hollander, JB Klapman, VM Kushnir, B McNair, JN Shah, VC Simon, TM Tynan, ***V. Raman Muthusamy,*** *S Komanduri, SB Wani*

Research Forum
9:15 AM
S501 - McCormick Place 2674320

CGRP Significantly Regulates Appetite, Energy Intake and Metabolism Peripherally

Daniel Sanford, John P. Vu, Suwan Oh, Leon Luong, Joseph R. Pisegna, Patrizia M. Germano

Research Forum
10:00 AM
S503 - McCormick Place 2686915

Brain Morphometry Distinguishes Two Distinct IBS Subgroups

Clarence B. Le, Emeran A. Mayer, Kirsten Tillisch, Jennifer S. Labus

Research Forum
2:12 PM
S502 - McCormick Place 2684650

Crohn's Disease, Obesity, and High Crohn's Disease Genetic Risk are Associated with Parallel Changes in the Microbiome of the Cecal and Sigmoid Mucosal-luminal Interface

Jonathan Jacobs, Maomeng Tong, *P Ruegger, D Li, T Haritunians, P Fleshner, E Vasiliauskas, A Ippoliti, G Melmed, DQ Shih, SR Targan,* ***James Borneman,*** *D McGovern,* ***Jonathan Braun***

Research Forum
4:42 PM
S105bcd - McCormick Place 2685263

Inspection of Endoscope Instrument Channels After Reprocessing Using a Prototype Video Camera: A Pilot Study

Adarsh M. Thaker, Stephen Kim, Alireza Sedarat, Rabindra R. Watson, V. Raman Muthusamy

Topic Forum
8:30 AM
E450a - McCormick Place 2672434

SUNDAY, MAY 7 (continued)

A Multilevel Quality Improvement Initiative to Improve Colorectal Cancer Screening in a Managed Care Population

Christine Yu, Aria Zand, Eric Esrailian, Daniel Hommes, Folasade P. May

Poster Session
12:00 PM
South Hall - McCormick Place 2677698

Characterization and Targeting of the Human Epigenome in Ulcerative Colitis

Marina Koutsioumpa, *C Polytarchou*, ***Emmanuelle Faure, Iordanes Karagiannides, Dimitrios Iliopoulos***

Poster Session
12:00 PM
South Hall - McCormick Place 2676236

Clinical and Pathologic Evaluation of a New EUS Core Biopsy Needle: A Large Multicenter Trial

DG Adler, LJ Taylor, ***V. Raman Muthusamy,*** *G Parasher, N Thosani, AM Chen, JM Buscaglia, HR Aslanian, A Siddiqui*

Poster Session
12:00 PM
South Hall - McCormick Place 2671465

Endoscopic Ultrasound has a Critical Role in the Evaluation of Bile Duct Dilation of Unclear Etiology

Jennifer Phan, Phillip Ge, Ani Kardashian, Stephen Kim, Alireza Sedarat, Rabindra R. Watson, V. Raman Muthusamy

Poster Session
12:00 PM
South Hall - McCormick Place 2677752

Factors for Success in Endoscopic Submucosal Dissection: A Western Experience

Phillip Ge*, WM Abidi, CC Thompson, H Aihara*

Poster Session
12:00 PM
South Hall - McCormick Place 2686938

Food Addiction and Its Association with Metabolic Complications Among Liver Transplant Recipients

Cameron S. Sikavi, Melissa Jimenez, Youssef P. Challita, Matthew R. Viramontes, Ruby Allen, Michelle Mai, Negin Esmailzadeh, Elisa Moreno, Sammy Saab

Poster Session
12:00 PM
South Hall - McCormick Place 2685334

GLP-2 Acutely Ameliorates LPS-related Intestinal Permeability in Rats

Yasutada Akiba, Izumi Kaji, Koji Maruta, Jonathan D. Kaunitz

Poster Session
12:00 PM
South Hall - McCormick Place 2679728

Is Hemostasis with Doppler Endoscopic Probe Guidance an Improvement Compared to Visually Guided Treatment of Severe Ulcer Hemorrhage?

Dennis M. Jensen, Mary Ellen Jensen, Daniela Markovic, Jeffrey Gornbein, Thomas O. Kovacs, Kevin A. Ghassemi, Gordon V. Ohning, Marc Kaneshiro, Alireza Sedarat, Gareth Dulai, Gustavo A. Machicado

Poster Session
12:00 PM
South Hall - McCormick Place 2671657

Morphological Brain Alterations and Changes in Hedonic Ingestive Behaviors Associated with Bariatric Surgery

Arpana Gupta, Emeran A. Mayer, Elizabeth Gallagher, Ravi Bhatt, Tiffany Ju, Kristen Coveleskie, Jean Stains, Yijun Chen, Anna Balioukova, Jennifer S. Labus, Erik Dutson, Claudia P. Sanmiguel

Poster Session
12:00 PM
South Hall - McCormick Place 2679523

Results of an Ongoing Randomized Controlled Trial Comparing the Diagnostic Efficiency of Early Deployment of Video Capsule Versus Standard of Care for the Management of Non-hematemesis Gastrointestinal Bleeding

Neil B. Marya*, SA Jawaid, A Foley, K Patel, AH Rupawala, S Han, D Kaufman, L Maranda, J Tennyson, CA Marshall, K Bhattacharya, DR Cave*

Poster Session
12:00 PM
South Hall - McCormick Place 2679795

Shared Gut Microbiome Dysbiosis in Crohn's Disease and Obesity

D Li, ***Jonathan Jacobs****, Z Liu,* ***Jonathan Braun****, SR Targan, D McGovern*

Poster Session
12:00 PM
South Hall - McCormick Place 2685227

Suboptimal Interobserver Agreement (IOA) Amongst Cytopathologists (CYPS) for Pancreatic Endoscopic Ultrasound Fine Needle Aspiration (EUS-FNA) Cytology Specimens: A Multicenter Validation Study

SB Wani, R Mounzer, M Hall, VC Simon, BA Centeno, K Dennis, J Dhillon, F Fan, L Khazai, JB Klapman, S Komanduri, X Lin, ***David Lu****, S Mehrotra,* ***V. Raman Muthusamy****, R Nayar, A Paintal,* ***Jianyu Rao****, S Sams, JN Shah, TM Tynan,* ***Rabindra R. Watson****, A Rastogi, CB Marshall*

Poster Session
12:00 PM
South Hall - McCormick Place 2674352

The Impact of Capsule Endoscopy Visualization on the Ability to Identify Small Bowel Pathologies

Neil B. Marya, Adarsh M. Thaker, Daniel Eshtiaghpour, Raymond A. Addante, Stephen Kim, Alireza Sedarat, V. Raman Muthusamy, Rabindra R. Watson

Poster Session
12:00 PM
South Hall - McCormick Place 2680805

The Use of Photodynamic Therapy in Pancreatic Cancer: Consensus Statement from an Expert Panel

KK Wang, ***Timothy R. Donahue****, GB Haber, JM DeWitt, KJ Chang, RJ Shah,* ***V. Raman Muthusamy****, A Mahipal, T Mang, T Hasan, V Grover*

Poster Session
12:00 PM
South Hall - McCormick Place 2682812

Time to Diagnostic Colonoscopy and Colonoscopic Findings after Positive Fit in an Ethnically Diverse Cohort of U.S. Veterans

Jennifer Phan, Christine Yu, Mark Reid, Dean Ehrlich, Lisa Lin, Tina R. Storage, Nimah Jamaluddin, Doantrang Dinh, Elizabeth Aby, Purnima Bharath, Joseph R. Pisegna, Folasade (Fola) P. May

Poster Session
12:00 PM
South Hall - McCormick Place 2674724

Water Exchange (WE) Significantly Raises Adenoma Detection Rate (ADR) Compared with Water Immersion (WI) and Air Insufflation (AI) — Pooled Data from Two Multi-site Randomized Controlled Trials (RCT)

Felix W. Leung*, M Koo, S Cadoni, P Falt, Y Hsieh, A Amato, M Erriu, P Fojtik, P Gallittu, C Hu, JW Leung, M Liggi, S Paggi, F Radaelli, E Rondonotti, V Smajstrla, CW Tseng, O Urban*

Poster Session
12:00 PM
South Hall - McCormick Place 2670271

Where is the Bleeding Site in Patients with Melena and Severe GI Hemorrhage

Dennis M. Jensen, Mary Ellen Jensen, Thomas O. Kovacs, Kevin A. Ghassemi, Gordon V. Ohning, Marc Kaneshiro, Alireza Sedarat, Gareth Dulai, Gustavo A. Machicado

Poster Session
12:00 PM
South Hall - McCormick Place 2671603

MONDAY, MAY 8

Superior Endoscopic and Deep Remission Outcomes in Adults with Moderate to Severe Crohn's Disease Managed with Treat to Target Approach Versus Clinical Symptoms: Data From CALM

JF Colombel, R Panaccione, P Bossuyt, M Lukas, FJ Baert, T Vanasek, A Danalioglu, G Novacek, A Armuzzi, X Hebuterne, SP Travis, S Danese, W Reinisch, WJ Sandborn, P Rutgeerts, ***Daniel Hommes****, S Schreiber, E Neimark, B Huang, Q Zhou, JH Petersson, K Wallace, AM Robinson, RB Thakkar, GR D'Haens*

Distinguished Abstract Plenary
5:16 PM
E345a - McCormick Place 2716554

H3K4ME3 Affects Glucose Metabolism and Lipid Content in Pancreatic Cancer

Marina Koutsioumpa, *M Hatziapostolou, C Polytarchou****, Swapna Mahurkar-Joshi, Dimitrios Iliopoulos***

State-of-the-Art Lecture
8:30 AM
S101b - McCormick Place 2671552

IBD Systems Biology & Drug Discovery

Dimitrios Iliopoulos

Research Symposium
3:00 PM
S102abc - McCormick Place 2596924

Planning for an Academic Career During Fellowship

Lin Chang

Committee Sponsored Symposium
12:30 PM
S104 - McCormick Place 2597413

Long Non-coding RNA (lncRNA) Profiling Reveals Overexpression of UCA1 and CCAT1 in Human Colonocytes Stimulated by Neurotensin and in Colonic Mucosal Tissues from Ulcerative Colitis (UC) Patients

Ivy Ka Man Law, David M. Padua, Dimitrios Iliopoulos, Charalabos Pothoulakis

Research Forum
2:45 PM
S104 - McCormick Place 2679439

Gene Expression Profiling Identifies CDKN2B-AS1 as a Long Non-coding RNA Associated with IBD and Regulated by TGF-BETA

Carl R. Rankin, Dimitrios Iliopoulos, Charalabos Pothoulakis, David M. Padua

Research Forum
3:15 PM
S104 - McCormick Place 2676764

Corticotropin-releasing Hormone Receptor 2 (CRHR2) Mediates Enteric Glial Cell Function During Colitis

Jill M. Hoffman, Jonathan J. Ruiz, Charalabos Pothoulakis

Research Forum
4:00 PM
S104 - McCormick Place 2684031

Bitter Taste Receptors, T2R138 and T2R16, are Induced in the Large Intestine of Male and Female Mice on a High Fat Diet in a Microbiota-dependent Manner

Filippo Caremoli, Jennifer Huynh, Venu Lagishetty, Jonathan Jacobs, Jonathan Braun, Catia Sternini

Research Forum
4:45 PM
S104 - McCormick Place 2681069

Cost Comparison Between Deployment of Early Capsule Endoscopy Versus Standard of Care in Patients Presenting with Non-hematemesis Gastrointestinal Bleeding

SA Jawaid, ***Neil B. Marya****, M Hicks, K Patel, CA Marshall, A Foley, L Maranda, K Bhattacharya, DR Cave*

Topic Forum
9:15 AM
E350 - McCormick Place 2684068

Effect of Management Practices on Length of Stay for Non-hematemesis Gastrointestinal Bleeding Patients Receiving Early Capsule Endoscopy vs Standard of Care

SA Jawaid, ***Neil B. Marya****, CA Marshall, A Foley, K Bhattacharya, DR Cave*

Topic Forum
9:22 AM
E350 - McCormick Place 2684130

Altered Brain Structure and Functional Connectivity and its Relation to Pain Perception in Female Adolescents with Irritable Bowel Syndrome

Ravi Bhatt, Arpana Gupta, Jennifer S. Labus, Lonnie K. Zeltzer, Jennie Tsao, Kirsten Tillisch

Poster Session
12:00 PM
South Hall - McCormick Place 2677034

Bitter Taste Receptor T2R138 in Mouse Enteroendocrine Cells is a Sensor for the Quorum Sensing Molecule, ACYL-homoserine Lactone

Jennifer Huynh, Filippo Caremoli, James Sinnett-Smith, Steven H. Young*, R Latorre, R De Giorgio, RA Liddle,* ***Enrique Rozengurt, Catia Sternini***

Poster Session
12:00 PM
South Hall - McCormick Place 2676938

Crosstalk Between Insulin/IGF-1 Receptor and G Protein-coupled Receptor (GPCR) Signaling Pathways Stimulates YAP Function in Pancreatic Ductal Adenocarcinoma Cancer (PDAC) Cells

Fang Hao, Qinhong Xu, Jan V. Stevens, James Sinnett-Smith, Enrique Rozengurt

Poster Session
12:00 PM
South Hall - McCormick Place 2674487

Crosstalk Between Protein Kinase D1 (PKD1) and P21-activated Kinase (PAK) in Intestinal Epithelial Cells: Identification of a Novel Phosphorylation Site within the N-terminal Region of PKD1

James Sinnett-Smith, Jen-Kuan Chang, Enrique Rozengurt

Poster Session
12:00 PM
South Hall - McCormick Place 2676255

Dysregulation of the Long-noncoding RNA, GHRLOS, in Irritable Bowel Syndrome

Elizabeth J. Videlock, Swapna Mahurkar-Joshi, Dimitrios Iliopoulos, Charalabos Pothoulakis, Emeran A. Mayer, Lin Chang

Poster Session
12:00 PM
South Hall - McCormick Place 2676050

Endoscopic Ultrasound Guided Fine Needle Core Liver Biopsy Using a Novel 19 Gauge Needle with Modified One Pass Wet Suction Technique

J Nieto, ***Huda Khaleel, Youssef P. Challita, Melissa Jimenez****, TH Baron, K Hathaway, LR Walter, K Patel, A Lankarani, M Herman, D Holloman,* ***Sammy Saab***

Poster Session
12:00 PM
South Hall - McCormick Place 2675844

Expression Profiling of Sigmoid Biopsies in Irritable Bowel Syndrome vs Healthy Controls

Elizabeth J. Videlock, Swapna Mahurkar-Joshi, Dimitrios Iliopoulos, Charalabos Pothoulakis, Emeran A. Mayer, Lin Chang

Poster Session
12:00 PM
South Hall - McCormick Place 2680576

How are Patient Outcomes Impacted by Value Based Health Care Delivery for Inflammatory Bowel Diseases

Aria Zand, Elizabeth Aredas, Natalie E. Duran, Courtney A. DiNicola, Precious Lacey, Alexandria H. Arenas, Daniel Hommes

Poster Session
12:00 PM
South Hall - McCormick Place 2683704

MONDAY, MAY 8 (continued)

Immune Regulatory Effect of Phosphatase and Tensin Homologue (PTEN) in the Gut is Associated with Extraintestinal Inflammation

E Im, ***Charalabos Pothoulakis****, SH Rhee*

Poster Session
12:00 PM
South Hall - McCormick Place 2674034

Increased Sleep Disturbances in Irritable Bowel Syndrome (IBS) Patients is Associated with Greater Symptom Severity and Decreased Quality of Life

Amir Kalani, Bruce D. Naliboff, Wendy Shih, Emeran A. Mayer, Lin Chang

Poster Session
12:00 PM
South Hall - McCormick Place 2677469

P21-activated Kinase (PAK)-mediated Phosphorylation of Protein Kinase D1 (PKD1) Triggers Membrane Dissociation of PKD1 in Intestinal Epithelial Cells: Identification of a Novel Mechanism in the Regulation of PKD1 Localization

Jen-Kuan Chang, James Sinnett-Smith*, R Jacamo,* ***Steven H. Young****, O Rey,* ***Enrique Rozengurt***

Poster Session
12:00 PM
South Hall - McCormick Place 2676086

Predictors of Quality of Life in Irritable Bowel Syndrome Compared to Health Controls

Raymond A. Addante, Bruce D. Naliboff, Wendy Shih, A Presson, Kirsten Tillisch, Emeran A. Mayer, Lin Chang

Poster Session
12:00 PM
South Hall - McCormick Place 2682803

Progression of Chronic Kidney Disease is Ameliorated by Direct Acting Antivirals in Patients Treated for Chronic Hepatitis C Virus Infection Resulting in Improved GFR Outcomes

Elizabeth Aby, Tien S. Dong, Debika Bhattacharya, Jenna K. Kawamoto, Joseph R. Pisegna, Jihane N. Benhammou

Poster Session
12:00 PM
South Hall - McCormick Place 2676125

Protein Kinase D (PKD) Mediates Yes-associated Protein (YAP) Activation in Response to G Protein-couples Receptor Activation in Intestinal Epithelial Cells: Identification of a Novel Crosstalk Between PKD and YAP

Jia Wang, James Sinnett-Smith, Enrique Rozengurt

Poster Session
12:00 PM
South Hall - McCormick Place 2676175

Retained Esophageal Contrast on Modified Barium Swallow Study Predicts Abnormal High Resolution Esophageal Manometry

David Lin, Jeremy Wang, Andrew A. Erman, Dinesh Chhetri, Jeffrey Conklin

Poster Session
12:00 PM
South Hall - McCormick Place 2677560

Sex-dependent Alterations of Colonic Epithelial Permeability in Irritable Bowel Syndrome

Muriel H. Larauche, Swapna Mahurkar-Joshi, Mandy Biraud, Tiffany Ju, Nafeesa Islam, Emeran A. Mayer, Lin Chang

Poster Session
12:00 PM
South Hall - McCormick Place 2679714

Statins Inhibit Proliferation of Pancreatic Ductal Adenocarcinoma Cancer (PDAC) Cells Acting Synergistically with Metformin and Inhibitors of MEK and MTOR

Qinhong Xu, Fang Hao, Yinglan Zhao, James Sinnett-Smith, Enrique Rozengurt

Poster Session
12:00 PM
South Hall - McCormick Place 2674682

Statins Potently Inhibit YAP Activity and Proliferation of Mouse Pancreatic Cells Isolated from KC and KPC Mice

Fang Hao, Jen-Kuan Chang, James Sinnett-Smith, Guido Eibl, Hui-Hua Chang, Enrique Rozengurt

Poster Session
12:00 PM
South Hall - McCormick Place 2674711

Statins Potently Inhibit YAP Function and Proliferation of Pancreatic Ductal Adenocarcinoma Cancer (PDAC) Cells

Fang Hao, Qinhong Xu, Yinglan Zhao, James Sinnett-Smith, Steven H. Young, Jan V. Stevens, Enrique Rozengurt

Poster Session
12:00 PM
South Hall - McCormick Place 2676000

The Trans-golgi Network Protein Aftiphilin is Involved in Maintaining Colonic Epithelial Cell Integrity During Colonic Inflammation

Ivy Ka Man Law, Charalabos Pothoulakis

Poster Session
12:00 PM
South Hall - McCormick Place 2679473

Trauma Severity and Lack of Confiding in Others Increases Risk of Having Irritable Bowel Syndrome

Tiffany Ju, Bruce D. Naliboff, Wendy Shih, *A Presson*, ***Cathy Liu, Arpana Gupta, Emeran A. Mayer, Lin Chang***

Poster Session
12:00 PM
South Hall - McCormick Place 2676495

TUESDAY, MAY 9

Race Predicts SVR 12 Among Patients with Hepatitis C Treated with Direct-acting Antivirals in a Large Veterans Affairs Cohort

Jihane N. Benhammou, Tien S. Dong*, R Dixit,* ***Jenna K. Kawamoto, Vivek Dixit, Folasade (Fola) P. May, Debika Bhattacharya, Joseph R. Pisegna***

Distinguished Abstract Plenary
10:14 AM
S502 - McCormick Place 2685295

Irritable Bowel Syndrome — Looking Through the Crystal Glass

Lin Chang

Meet-the-Professor Luncheons
12:30 PM
S405 - McCormick Place 2612378

Rapid LPS Transport During Long-chain Fatty Acid Absorption in Rat Small Intestine

Koji Maruta, Yasutada Akiba, Izumi Kaji, Jonathan D. Kaunitz

Research Forum
3:12 PM
S101a - McCormick Place 2679691

Role of MU and Delta Opioid Receptors and Their Ligands, Î²-Endorphin and Pre-pro-enkephalin, In Stress-induced Visceral Analgesia in Male and Female Mice

Muriel H. Larauche, Nabila Moussaoui, Mandy Biraud, Won Ki Bae*, W Walwyn,* ***Yvette Tache***

Research Forum
4:24 PM
S101b - McCormick Place 2685037

Issues in the Endoscopic Management of Lower GI Bleed

Dennis M. Jensen

Topic Forum
11:15 AM
S105bcd - McCormick Place 2718985

A Pilot Study of IGG4 Staining in EoE: An Unreliable Marker of Disease Activity

Amanda Pope, Bita V. Naini, Maria Garcia-Lloret, Kevin A. Ghassemi, Elizabeth A. Marcus, Martin G. Martin, Laura Wozniak

Poster Session
12:00 PM
South Hall - McCormick Place 2675075

Altered Colonic Motor Response to Stress in Alzheimer Disease Transgenic Mouse is Improved by Peripheral TNF-ÎʹÎʹ Modulation

Mulugeta Million, Hung Pham, Aleksandra Poteshkina, Peruzo Eslami, Izumi Kaji, Shuping S. Wu, Muriel H. Larauche

Poster Session
12:00 PM
South Hall - McCormick Place 2684346

An Investigation of BMI and Sex-related Alterations in Intrinsic Brain Connectivity of the Reward and Interoceptive Brain Regions

Arpana Gupta, Emeran A. Mayer, Claudia P. Sanmiguel, Ravi Bhatt, Tiffany Ju, Amanat Bal, Kirsten Tillisch, Bruce D. Naliboff, Jennifer S. Labus, Lisa A. Kilpatrick

Poster Session
12:00 PM
South Hall - McCormick Place 2676366

Characteristics and Healthcare Burden of Osteoporotic Fractures in Patients with Cirrhosis

Arpan A. Patel, Jonathan Baghdadi, *S Silverman,* ***Sammy Saab,*** *S Vinay*

Poster Session
12:00 PM
South Hall - McCormick Place 2677420

Constipation in 6-hydroxydopamine Rat Model of Parkinson's Disease and Effect of Ghrelin Agonist HM01

Izumi Kaji, Artem Minalyan, Nabila Moussaoui, Yasutada Akiba, Jonathan D. Kaunitz, Yvette Tache, Lixin Wang

Poster Session
12:00 PM
South Hall - McCormick Place 2682562

Dietary Tryptophan Intake and Risk of Incident Crohn's Disease and Ulcerative Colitis

Jenny Sauk, *H Khalili, A Ananthakrishnan, P Lochhead, J Richter, AT Chan*

Poster Session
12:00 PM
South Hall - McCormick Place 2685027

Digital Single-operator Cholangioscopy and Indeterminate Biliary Strictures: Improved Visual Optics Enhance the Yield of Targeted Biopsies

Mahmoud Omar, Dean Ehrlich, Stephen Kim, *SM Saleh, H Zaghla, EA Rewisha,* ***Francisco A. Durazo, Saurabh S. Mukewar, Alireza Sedarat, Rabindra R. Watson, V. Raman Muthusamy***

Poster Session
12:00 PM
South Hall - McCormick Place 2672785

Diminishing Role of Liver Biopsy for Hepatitis C in Liver Transplant Recipients

Elizabeth Aby, Melissa Jimenez, Jonathan Grotts, Vatche G. Agopian, Samuel W. French, Ronald W. Busuttil, Sammy Saab

Poster Session
12:00 PM
South Hall - McCormick Place 2671901

Duodenoscope Reprocessing Practice Patterns in the U.S. Endoscopy Centers: A Survey Study

Adarsh M. Thaker, V. Raman Muthusamy, Rabindra R. Watson, Alireza Sedarat, *ML Kochman, AS Ross,* ***Stephen Kim***

Poster Session
12:00 PM
South Hall - McCormick Place 2676548

Enteric Glial Cells (EGCS) in the Colonic Myenteric Plexus are Involved in Abdominal Surgery (AS)-induced Inhibition of Colonic Propulsive Function in Rates

Pu-Qing Yuan, Yvette Tache

Poster Session
12:00 PM
South Hall - McCormick Place 2682651

Fear of the Unknown as an Unique Source of Stress for More Severe IBS Patients

JM Lackner, ***Emeran A. Mayer,*** *AC Braun, BM Quigley*

Poster Session
12:00 PM
South Hall - McCormick Place 2671334

Gut Microbiome Dysbiosis in Crohn's Disease is Also Associated with Disease Severity

D Li, ***Jonathan Jacobs, Jonathan Braun,*** *SR Targan, D McGovern*

Poster Session
12:00 PM
South Hall - McCormick Place 2685276

Heightened Awareness of Body Sensations and Symptoms Distinguishes Brain Morphology in the Somatosensory Cortex Across Gastrointestinal Disorders

Beatrix Krause, Nathan Sumarsono, Jennifer S. Labus, Cody Ashe-McNalley, Cathy Liu, Bruce D. Naliboff, Emeran A. Mayer

Poster Session
12:00 PM
South Hall - McCormick Place 2684238

Impact of Rifaximin on Health-related Quality of Life in Patients with Diarrhea-predominant Irritable Bowel Syndrome

BD Cash, Z Heimanson, ***Lin Chang***

Poster Session
12:00 PM
South Hall - McCormick Place 2683922

Insertion Water Exchange (WE) Minimized Multitasking-related Distraction from Mucosal Inspection During Withdrawal Inspection — A Plausible Explanation for Enhanced Adenoma Detection Rate

Y Hsieh, H Yang, CW Tseng, M Koo, ***Felix W. Leung***

Poster Session
12:00 PM
South Hall - McCormick Place 2669870

Relative Preservation of TREG Function in TL1A-TG Mice Under Germ-free Condition

K Kumagai, M Sidhu-Varma, Y Shimodaira, N Jacob, Y Kanazawa, ***Jonathan Jacobs, Venu Lagishetty,*** *JP Abraham, Y Ye, J Luu, RB Sartor, M Fukata, SR Targan, DQ Shih*

Poster Session
12:00 PM
South Hall - McCormick Place 2679983

Resilience is Associated with Early Life Stress and HPA Axis Response in IBS

Sarah Park, Bruce D. Naliboff, Wendy Shih, Angela Presson, Tiffany Ju, Lisa A. Kilpatrick, Arpana Gupta, Emeran A. Mayer, Lin Chang

Poster Session
12:00 PM
South Hall - McCormick Place 2675074

Survey of Current Practice Patterns for Per Oral Endoscopic Myotomy (POEM)

David Lin, Stephen Kim, Rabindra R. Watson, V. Raman Muthusamy, *MA Khashab, GG Ginsberg,* ***Alireza Sedarat***

Poster Session
12:00 PM
South Hall - McCormick Place 2679763

Where Fit Falls Short: Why Patients Do Not Attend Diagnostic Colonoscopy After Positive Fecal Immunochemical Testing

Christine Yu, Jennifer Phan, Mark W. Reid, Dean Ehrlich, Lisa Lin, Tina R. Storage, Nimah Jamaluddin, Doantrang Dinh, Elizabeth Aby, Purnima Bharath, Joseph R. Pisegna, Folasade (Fola) P. May

Poster Session
12:00 PM
South Hall - McCormick Place 2680719

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