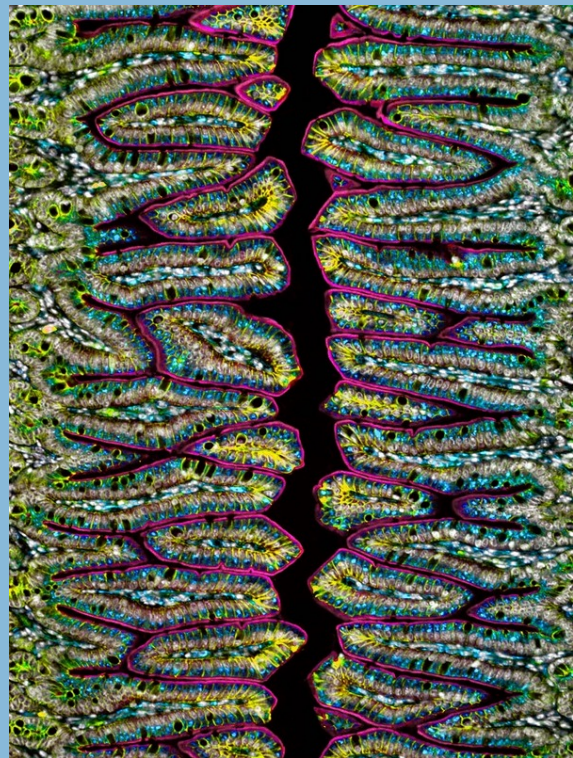




On the Inside

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Photomicrograph of intestinal crypts stained for p120 (yellow), Ezrin (magenta) and Lamp1 (blue). Courtesy of A. Engevik (unpublished).

A Note from the Directors



Don C. Rockey
DDRCC Director

Dear All: we were excited to see you all, and by the great turnout at our **3rd Annual Digestive Disease Research Center (DDRCC) Retreat and Symposium** on **April 8, 2022**. We were also impressed by the quality of science; thank you to everyone who presented. A stimulating and gratifying time was had by all, including by our guest and keynote



Stephen Duncan
CDLD Director

speaker, Dr. S. Paul Monga, DDRCC / Pittsburgh Liver Center Director and MUSC DDRCC External Advisory Board member. Dr. Monga relayed overwhelmingly positive assessments of our membership and scientific program, both to us, and to the other members of our EAB at the virtual committee meeting directly following.

Feedback and "positive press" like this is encouraging as we begin to approach the mid-point of our five-year competitive renewal cycle. While much progress has been made, these DDRCC renewals are becoming increasingly competitive. At several recent virtual sessions with NIDDK program officers and center leaders, we have each been charged with placing emphasis on our individual and typically unique scientific themes, and towards growing our research bases to support digestive disease research. As well, increasing emphasis is being placed on core usage by DDRCC full members and the extent to which such usage has benefited their productivity in these research areas. Overall, this means that publication and grant reporting will face increasing scrutiny during competitive renewal. To address this new emphasis, our core directors and Kyu, our center manager, will be increasing their efforts to make you, our members, aware of the availability of our excellent scientific cores, and to send frequent reminders to properly acknowledge DDRCC and CDLD core support in all of your publications and grants.

Please also be sure to respond thoughtfully to the annual core usage and evaluation surveys that Kyu will send in June. Continued success in "growing" our cores and fostering their use is key to our fostering a vibrant and collaborative digestive disease community here at MUSC.

Our **7 am Clinical / Translational** and **11 am Basic Science** virtual enrichment series will be drawing to a close in June for the summer hiatus. As always, we are interested in your suggestions for future seminars, so please let us know if you'd like to hear from a particular guest speaker during the 2022-23 Seminar Series re-commencing in September. ([email Antonis](#) or [Don](#)).

Best wishes for a summer of excitement and continued research success,

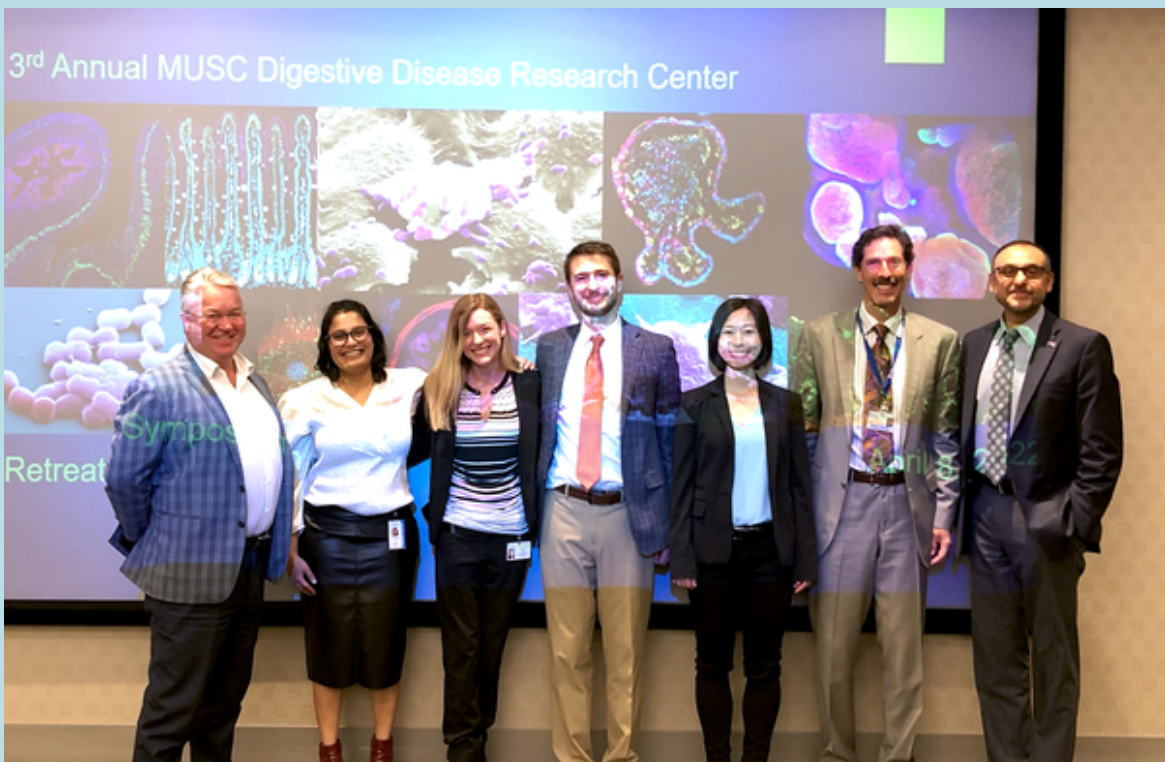
Don and Steve

3rd Annual MUSC Digestive Disease Research Center

RETREAT AND SYMPOSIUM



Congratulations to our Abstract Prize Winners!



From left to right: Stephen Duncan, (CDLD Director), Amanda Delaugala, Taylor Ticer, Matthew Carson, Lu Han, Don Rockey (DDRCC Director), and Paul Monga (keynote speaker)

Platform Speaker Prizes

Matthew Carson Oral Health Sciences (Novince Lab)

“Antibiotic Disruption of the Intestinal FXR-FGF15 Axis Dysregulates Adiposity and Skeletal Maturation in Mice.”

Taylor Ticer Regenerative Medicine & Cell Biology (A. Engevik Lab)

“Klebsiella pneumoniae Cross-feeds Clostridioides difficile and Enhances Colonic Pro-inflammatory Responses.”

Poster Session Prizes

Amanda Daulagala Regenerative Medicine & Cell Biology (Kourtidis Lab)

“Epithelial adherens junctions regulate ECM remodeling via miRNAs.”

Lu Han Biochemistry & Molecular Biology (Leone & Ostrowki Labs)

“The splanchnic mesenchyme is the main tissue origin of fibroblasts in the pancreas during homeostasis and tumorigenesis.”

Notes from the DDRCC

2022-23 Pilot and Feasibility Awardees

Each year, the **Digestive Disease Research Core Center (DDRCC)** and **COBRE in Liver and Digestive Disease (CDLD)** award several P & F awards on a competitive basis. These awards provide \$35-50,000 in direct cost funding for one year to both junior and senior investigators for digestive disease projects. P & F awards also grant Full Member status to awardees that includes subsidized core usage for all DDRCC and CDLD cores. Details regarding the [DDRCC](#) and [CDLD](#) P & F programs can be found on their respective websites. Congratulations to this years award winners!

DDRCC Pilot Project Awards



Amy C. Engevik, PhD (Regenerative Medicine and Cell Biology Dept.)

"Determining the role of Myosin Vb in colonic goblet cell function." July 1, 2022 - June 31, 2023 (\$50,000)



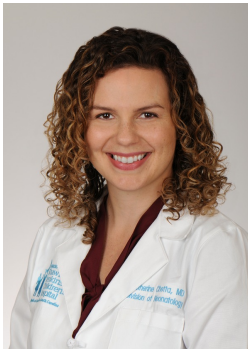
Eric G. Meissner, MD, PhD (Dept. of Medicine, Infectious Disease Division)

"Modulation of IFNLR1 on macrophages to inhibit Hepatitis B virus infection." July 1, 2022 - June 31, 2023 (\$50,000)



Tim Barnoud, PhD (Biochemistry and Molecular Biology Dept).

"Targeting HSP70 for the treatment of pancreatic cancer." Sept 1, 2022 - August 31, 2023 (\$50,000)



Katherine Chetta, MD (Dept. of Pediatrics, Neonatology Division).

"Investigating the biologic role of human alpha-lactalbumin and oleic acid in the diet of preterm infants." Sept 1, 2022 - August 31, 2023 (\$50,000)

NIDCR Newsmakers: Novince Lab



Chad Novince, DDS, PhD (left) and Jessica Hathaway-Schrader, PhD (right)

[Chad Novince](#), Assoc. Professor of Oral Health Sciences, and postdoctoral fellow [Jessica Hathaway-Schrader](#) were recently featured in a news article from the [National Institute of Dental and Craniofacial Research \(NIDCR\)](#) at NIH. The article highlighted their recently published findings linking gut microbiota-triggered immune responses to the loss of tooth-supporting bone (see also **Publications** below).

Congratulations, Dr. Novince and Hathaway-Schrader!

PanCAN Grant: Aaron Hobbs



Aaron Hobbs, PhD

[Aaron Hobbs](#), Asst. Professor in the Biochemistry and Molecular Biology Dept, recently received the [PanCAN Early Career Development Award](#) for his project titled:

"KRAS G12R metabolic reprogramming alters therapeutic sensitivity."

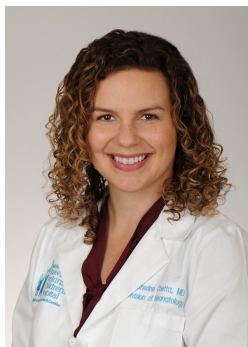
(July 1, 2022 - June 30, 2024; \$250,000)

Congratulations, Dr. Hobbs!

Nourishing a Cultural Exchange: Engevik & Chetta Lab Collaborations

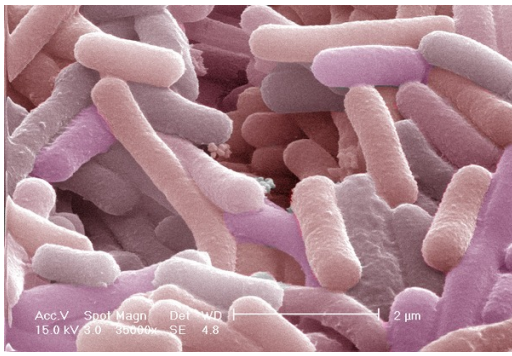


Mindy Engevik, PhD



Katie Chetta, MD

A major goal of the DDRCC is to foster collaborative efforts between our members in digestive and liver disease. As a prime example of such a productive interaction, [Mindy Engevik](#) (Regenerative Medicine and Cell Biology) and [Katie Chetta](#) (Pediatrics) recently co-published their first joint [manuscript](#) combining their complimentary interests in early preterm infant nutrition and



EM micrograph of Lactobacillus reuteri
(M. Engevik, unpublished)

the role of gut microbiota in inflammatory bowel disease. In their paper, Drs. Engevik and Chetta found that while both human milk and various preterm formulas both supported the growth of normal commensal gut bacteria, formulas additionally supported the growth of several known pathogenic species, possibly due to their specific long chain fatty acid profiles and iron content. We look forward to reading about their continuing joint success!

We like to hear about your progress and achievements!

Please send your news and announcements to the DDRCC Digest via email to the [Center Manager](#).

DDRCC and CDLD Enrichment Seminar Series

We were privileged to host an outstanding series of virtual seminars this year, featuring speakers of national and international renown. All of the GI & Hepatology 7am series were recorded, and are available through Box. A few notable highlights are mentioned below. The complete collection of recorded talks are available to DDRCC and CDLD members [here](#).

DDRCC / CDLD / GI and Hepatology Grand Rounds: Wednesday, 7am EST (Zoom)

June 1

Todd Baron, MD UNC School of Medicine

EUS-guided interventions

June 6

David Katzka, MD Columbia University School of Medicine

New insights into eosinophilic esophagitis

June 15

Paul Watkins, MD UNC School of Medicine

Why good drugs are sometimes bad for the liver

DDRCC/CDLD/ RMCB Virtual Seminar Series:

Wednesday, 11 am EST (Zoom)

The DDRCC/CDLD Seminar Series will return in September

To receive notifications for our Enrichment series seminars, please contact the DDRCC Center Manager.

Selected GI Publications by our Members

Each newsletter, we highlight a subset of the many outstanding papers published and presented by our DDRCC members. We strive to mention particularly significant primary research papers where our members were lead authors or key contributors, and to represent the broad scope of clinical, basic science and clinical-translational research interests across our membership. To assist us in these efforts, we continue to encourage you to [email Kyu](#), our center manager, about your particularly significant papers and presentations.

While space does not allow us to list a comprehensive month-to-month list of our member publications, such a list can be found on our DDRCC website [here](#).

A complete listing of our DDRCC member publications since its inception can also be found through NCBI [here](#).

April, 2022 - May, 2022

Engevik MA, Stripe LK, Baatz JE, Wagner CL, **Chetta KE**. Identifying single-strain growth patterns of human gut microbes in response to preterm human milk and formula. Food Funct. 2022 May 23;13(10):5571-5589. PubMed PMID: 35481924.

Heslop JA, Pournasr B, **Duncan SA**. Chromatin remodeling is restricted by transient GATA6 binding during iPSC differentiation to definitive endoderm. *iScience*. 2022 May 20;25(5):104300. PubMed PMID: 35602939; PubMed Central PMCID: PMC9118154.

Crockett SD, Barry EL, Mott LA, Snover DC, **Wallace K**, Baron JA. Predictors of Incident Serrated Polyps: Results from a Large Multicenter Clinical Trial. *Cancer Epidemiol Biomarkers Prev*. 2022 May 4;31(5):1058-1067. PubMed PMID: 35506244; PubMed Central PMCID: PMC9074097.

Javaid S, Schaefer A, Goodwin CM, Nguyen VV, Massey FL, Pierobon M, Gambrell-Sanders D, Waters AM, Lambert KN, Diehl JN, **Hobbs GA**, Wood KC, Petricoin EF, Der CJ, Cox AD. Concurrent Inhibition of ERK and Farnesyltransferase Suppresses the Growth of HRAS Mutant Head and Neck Squamous Cell Carcinoma. *Mol Cancer Ther*. 2022 May 4;21(5):762-774. PubMed PMID: 35247914; PubMed Central PMCID: PMC9081222.

Wei J, Zhang J, Wang D, Cen B, Lang JD, **DuBois RN**. The COX-2-PGE2 Pathway Promotes Tumor Evasion in Colorectal Adenomas. *Cancer Prev Res (Phila)*. 2022 May 3;15(5):285-296. PubMed PMID: 35121582; PubMed Central PMCID: PMC9064954.

Talbert EE, **Guttridge DC**. Emerging signaling mediators in the anorexia-cachexia syndrome of cancer. *Trends Cancer*. 2022 May;8(5):397-403. Review. PubMed PMID: 35190301; PubMed Central PMCID: PMC9035074.

Ahmad J, Barnhart HX, Bonacini M, Ghabril M, Hayashi PH, Odin JA, **Rockey DC**, Rossi S, Serrano J, Tillmann HL, Kleiner DE. Value of liver biopsy in the diagnosis of drug-induced liver injury. *J Hepatol*. 2022 May;76(5):1070-1078. PubMed PMID: 35074471; PubMed Central PMCID: PMC9018618.

Gonzales HM, **Taber DJ**, Nadig S, Patel N, Lin A, Baliga PK, Rohan VS. The impact of race on metabolic, graft, and patient outcomes after pancreas transplantation. *Am J Surg*. 2022 Apr;223(4):812-816. PubMed Central PMCID: PMC8777579.

Tipnis SV, Huda W, Wilmskoetter J, Martin-Harris B, **Bonilha HS**. Radiation Effective Doses to Adults Undergoing Modified Barium Swallow Studies. *Dysphagia*. 2022 Apr;37(2):399-406. PubMed PMID: 33891192.

Hathaway-Schrader JD, Carson MD, Gerasco JE, Warner AJ, Swanson BA, Aguirre JI, **Westwater C**, Liu B, **Novince CM**. Commensal gut bacterium critically regulates alveolar bone homeostasis. *Lab Invest.* 2022 Apr;102(4):363-375. PubMed PMID: 34934182; PubMed Central PMCID: PMC8967765.

Yang D, King W, Aihara H, Karasik MS, Ngamruengphong S, Aadam AA, Othman MO, Sharma N, Grimm IS, Rostom A, **Elmunzer BJ**, Jawaid SA, Perbtani YB, Hoffman BJ, Akki AS, Schlachterman A, Coman RM, Wang AY, Draganov PV. Effect of endoscopic submucosal dissection on histologic diagnosis in Barrett's esophagus visible neoplasia. *Gastrointest Endosc.* 2022 Apr;95(4):626-633. PubMed PMID: 34906544.

Wyer S, Townsend DM, Ye Z, **Kourtidis A**, Choo YM, de Barros ALB, Donia MS, Hamann MT. Recent advances and limitations in the application of kahalalides for the control of cancer. *Biomed Pharmacother.* 2022 Apr;148:112676. Review. PubMed PMID: 35149387; PubMed Central PMCID: PMC9004612.

Hermann RP, **Rockey DC**, Suzuki A, Merz M, Tillmann HL. A novel phenotype-based drug-induced liver injury causality assessment tool (DILI-CAT) allows for signal confirmation in early drug development. *Aliment Pharmacol Ther.* 2022 Apr;55(8):1028-1037. . PubMed PMID: 35266155.

Accessing DDRC Cores

Quick Links for DDRCC and CDLD Core Use

A reminder that Full Members receive subsidized usage of our [cores](#). Below are some summary details for accessing the cores and initiating projects.

This project was supported in part by NIH P30 **DK123704** (*core facility*) at the MUSC Digestive Disease Research Core Center.

This project was supported in part by NIH P20 **GM120475** (*core facility*) at the MUSC Digestive Disease Research Core Center.

Leadership Update: CDLD Animals Models Core



Kristi L. Helke, DVM, PhD

As we begin Year 3, the Animal Models Core of the Digestive Disease Center and **COBRE in Digestive & Liver Diseases** will be led by Professor and Chair for the Department of Comparative Medicine and Director of the Division of Lab Animal Resources, [Kristi L. Helke](#), DVM, PhD. She will oversee both the Gnotobiotic core directed by [Caroline Westwater](#), PhD, and the Transgenic & Genome Editing (TGE) core led by Executive Director [Alexander Awgulewitsch](#), PhD, and new incoming TGE Director **Fulei Tang**, PhD.

Our thanks to outgoing director, Dr. Suzanne Craig, DVM, and welcome to Drs. Helke and Tang!

Analytical Cell Models Core:

- The DDRCC and CDLD both **fully subsidize** the use of the ACC by its members.
- For iPSC projects, please contact the Core Director, [Dr. Steve Duncan](#).
- For primary cell isolation, please contact [Dr. Don Rockey](#).

Advanced Imaging Core:

- The DDRCC and CDLD both provide **full members** with a **25% discount** on facility fees.
- For imaging projects, please contact the Core Director, [Dr. John Lemasters](#) and Core Manager [Li Li](#).

CDLD Animal Models Core:

- The CDLD **fully subsidizes** the use of the Animal Models Core for its **Junior Investigators**.
- Other **discounts** may currently apply for DDRCC members.
- For animal projects please contact the Core Director, [Dr. Kristi Helke](#).
- For gnotobiotic mouse models, please contact [Dr. Caroline Westwater](#).
- For transgenic and CRISPR/Cas9 projects, please contact the TGE Director, [Dr. Fulei Tang](#), or Executive Director, [Dr. Alexander Awgulewitsch](#).

DDRCC Proteomics Core:

- **DDRCC full members** will receive a 50% discount from facility fees.
- For MS projects, please contact the Core Co-Director, **Dr. Lauren Ball**.

Clinical Component Core:

- The DDRCC and CDLD **fully subsidize** biostatistical consultations with the Clinical Component Core by all of its members, including biostatistical support and mentoring for its Junior Investigators and Pilot & Feasibility applicants and awardees.
- To start a project, visit the [SPARC website](#) and submit a Biostatistics, Design & Epidemiology request, and contact:
 - DDRCC Core Director, **Dr. Paul Nietert**
 - CDLD Director **Dr. Ramesh Ramakrishnan**.

CITE OUR GRANTS

FOR THE DDRCC:

FOR THE COBRE CDLD:

P20 GM120457

For queries regarding DDRCC news, membership and cores, please contact the Center Manager:

Kyu-Ho Lee, MD-PhD

Gastroenterology and Hepatology

Department of Medicine

CSB HE903B

96 Jonathan Lucas St

Charleston, SC 29425

(843) 792-1689

Email Dr. Lee

For queries regarding the COBRE in Digestive and Liver Disease, please contact the COBRE PI:

Stephen Duncan, DPhil

Department Chair

Regenerative Medicine and Cell Biology

BSB 657A MSC508

173 Ashley Ave

Charleston, SC 29425

(843) 792-9104

Email Dr. Duncan

Visit the DDRCC Website:

<https://medicine.musc.edu/departments/dom/divisions/gastroenterology/research/labs-and-centers/ddrcc>

Visit the CDLD Website:

<https://medicine.musc.edu/departments/regenerative-medicine/cobre-digestive-liver-disease>



