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A Note from the Directors



Don C. Rockey
DDRCC Director

Dear Colleagues: As summer draws to a close and we transition back to Fall academic activities, we want to express our appreciation to all of you who were able to attend our informal Summer beer hour (above). A good time was had by all, and the enthusiastic attendance reflected the ever-active spirit of collaboration and exchange within our growing digestive disease research group.



Stephen Duncan
CDLD Director

This new academic year promises to be very important because we will be embarking on organizing competitive renewal applications of both the DDRCC and the CDLD. Thus, we will be intensely focused on the evaluation of all of our center activities and member productivity - and this will solidify our thinking about our proposals to improve our support for our membership for the upcoming years.

Many thanks to those of you who responded to our annual **Membership and Cores Survey**. A summary of the results from this year's survey are shared in this newsletter, and more details about usage and satisfaction are being disseminated to our core directors. Thank you also for the robust response regarding suggestions for additional core services. **Bioinformatics support** and having a tissue sample **Biorepository** were identified as being desirable additions. Thus, in response to these data, we have initiated some discussions within MUSC to explore these possibilities, and hope to have more to share in the coming months.

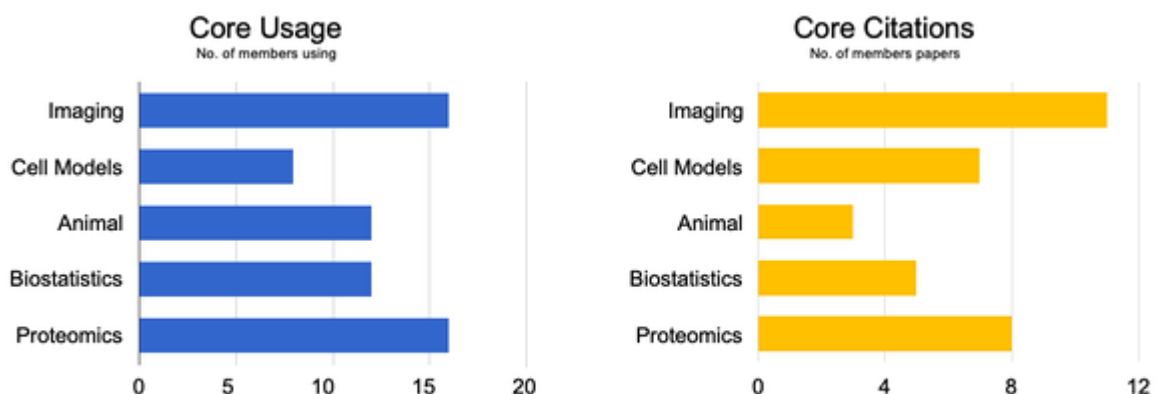
Please stay tuned for more information as we work towards developing our competitive renewal applications.

Best wishes for the closing weeks of Summer, and the start of the Fall academic calendar.

Don and Steve

Annual Members Survey

This year, we received survey responses from 39 full and associate members, a large majority of which reported using at least one core. Usage and core citation ratings are shared below.



Year 3 DDRCC and CDLD Combined Cores

The vast majority of responding full members (34 of 39) also reported being involved in a collaboration with at least one other full or associate member in Year 3, with over half (22) reporting that these collaborations resulted in the submission of a joint publication.

Results reported in this survey will better enable us to capture and document the enhanced productivity fostered by our center. You, our members, can also help us in this endeavor by citing this support in your manuscript and grant submissions.

PLEASE CITE OUR CORES!

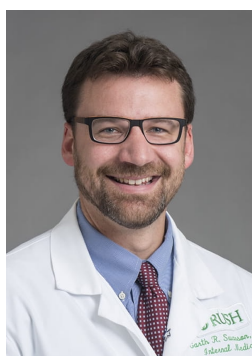
In order for us to submit a successful renewal application, we need to robustly document **acknowledged core usage** in our publications and grants. Please help us to credit our centers for your publications successes by adding a statement like the samples below to the **Acknowledgements** section of your manuscripts:

"This work was supported by the ____ core of the Medical University of South Carolina Digestive Disease Research Core Center (P30 DK123704)"

"This work was supported by the ____ core of the Medical University of South Carolina COBRE in Digestive and Liver Disease (P20 GM120475)"

New Members

In addition to the new 2023-2024 Pilot and Feasibility Project awardees that we noted in the last DDRC Digest, we also would like to welcome two new senior investigators to our DDRC. **Welcome to our new members!**



**Garth Swanson,
MD**

[Garth Swanson, MD](#) Professor and Director, GI & Hepatology Division, Department of Medicine.

Dr. Swanson joined the MUSC faculty in June of 2023. A former graduate of MUSC, he completed his residency and fellowship training at Rush University Medical Center in Chicago, where he also served as faculty in digestive diseases and nutrition. A clinical and translational investigator, his primary research interest is focused on

the impact of environmental factors on the gastrointestinal tract and gut-derived inflammation. These include circadian disruption and the mechanisms by which they impact the microbiome, intestinal permeability, endotoxemia, and mucosal injury in inflammatory bowel disease. Dr. Swanson currently has two R01s examining the impact of circadian misalignment in IBD, and chronotherapy using 5-ASA in UC.

Welcome Dr. Swanson!



**Chentha Vasu,
PhD**

[Chenthamarakshan Vasu, PhD](#), Professor, Department of Microbiology & Immunology

Dr. Vasu has been a faculty at MUSC since 2004, where his laboratory has been pursuing a long-standing interest in the interactions of gut microbiota and the immune system. Work in his laboratory spans the overall interaction of gut microbial populations with each other and with immune cells. These include studies of the detailed cellular and molecular mechanisms governing the intracellular and extracellular transport of cell, microbial and pathogen constituents, and the microbial metabolism of dietary polysaccharides that affect the immune microenvironment. This latter mechanism of immune modulation is the topic of a new R01 recently awarded from NIDDK (see below).

Congratulations and welcome, Dr. Vasu!

News from the DDRCC

New Grant: Steve Duncan



**Steve Duncan, D.
Phil.**

[Stephen Duncan](#), Professor and Chair of the Regenerative Medicine & Cell Biology Department, was recently awarded a new **R01 grant from NIDDK**:

"Inhibition of hepatic (V)LDL production by a novel antagonist of carboxyl esterase 1."

R01 DK136328

September 1, 2023 - August 31, 2027 (\$392,574/yr)

Congratulations, Dr. Duncan!

New Grant: Jessica H. Hartman



Jessica Hartman,
PhD

[Jessica Hartman](#), Assistant Professor in the Biochemistry & Molecular Biology Department, was recently awarded a new **R35 grant from NIGMS**:

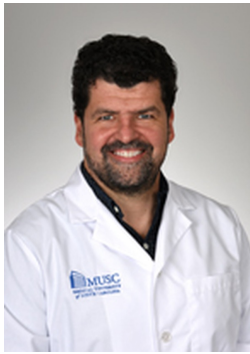
"Regulation and Consequences of Cytochrome P450 2E1"

[R35 GM150843](#)

August 1, 2023 - June 30, 2028 (\$250,000/yr)

Congratulations, Dr. Hartman!

New Grant: John O'Bryan



John O'Bryan,
PhD

[John O'Bryan](#), Professor the Department of Cellular and Molecular Pharmacology & Experimental Therapeutics, was recently awarded a new **Established Investigator Research Program Idea Development Award** from the Department of Defense:

"Targeting KRAS-Mutant Lung Cancers Using Novel Biologics"

HT9425-23-1-0774

August 1, 2023 - July 31, 2025 (\$350,000)

Congratulations, Dr. O'Bryan!

New Grant: Natalie Saini



Natalie Saini, PhD

[Natalie Saini](#), Assistant Professor in the Department of Biochemistry & Molecular Biology, was recently awarded a new R35 grant from NIGMS:

"Determining the factors that impact single stranded DNA mutagenesis."

[R35GM151021](#)

August 1, 2023 - May 31, 2028 (\$250,000/yr)

Congratulations, Dr. Saini!

New Grant: Chenthamarakshan Vasu



Chetha Vasu, PhD

[Chenthamarakshan Vasu](#), Professor in the Department of Microbiology & Immunology, was recently awarded a new R01 from NIDDK:

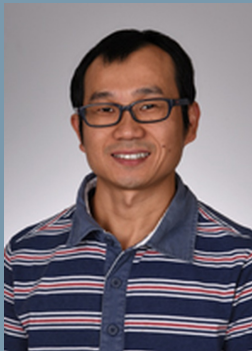
"Identification and Functional Characterization of Bioactive Microbial Metabolites of Beta-Glucan Degradation."

[1R01DK136094-01](#)

June 15, 2023 - April 30, 2028 (\$460,988/yr)

Congratulations, Dr. Vasu!

Developing Scholar Award: Wenjian Gan



Wenjian Gan, PhD

[Wenjian Gan, PhD](#) Associate Professor in the Department of Biochemistry & Molecular Biology, was recently recognized with the **2023 Developing Scholar Award for Basic Science** by MUSC. He received this award at the upcoming James W. Colbert Lectureship and Faculty Awards and Recognition ceremony on August 15th.

Congratulations, Dr. Gan!

We like to hear about your progress and achievements!

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

Enrichment Activities

SAVE THE DATE!

We have been looking ahead to our **5th Annual DDRC Retreat and Symposium**, which we have penciled-in for **Friday, April 12th, 2024**. It's not too early to mark your calendars!

Enrichment Series

The Enrichment Program Seminars will be starting back up in **September**. The collection of recorded talks from the 7AM GI & Hepatology Grand Rounds are available to DDRCC and CDLD members [here](#).

If you have suggestions for next year's speakers, please contact [Antonis](#) or [Dr. Rocky](#).

DDRCC / CDLD / GI & Hepatology Grand Rounds: Wednesday, 7am EST (TEAMS unless noted)

September 6

Garth Swanson, MD MUSC

Precision medicine in IBD

September 20

Joan Culpepper-Morgan, MD Harlem Hospital, NY, NY

Behavioral interviewing

September 27

Colin Rees, MD University of Newcastle

Colorectal cancer screening, prevention and early diagnosis research

October 4

Neil Sharma, MD Indiana University and Parkview Cancer Institute

The role of EUS in pancreatic cancer: past, present and future.

October 11

Kofi Oppong, MD Newcastle University, Newcastle upon Tyne, UK

The role of EUS and EUS-FNB in the diagnosis of autoimmune pancreatitis

October 18

Juan-Carlos Carcia-Pagan, MD University of Barcelona

TIPS for EVH

October 25

Michael Heneghan, MB, BCh, MD Kings College

Liver disease in pregnancy

DDRCC / CDLD / RMCB Seminar Series:

Wednesday, 11am EST

September 13

Lu Han MUSC

Persistence of the fetal splanchnic program in the adult pancreatic fibroblasts during homeostasis and tumorigenesis

October 4

Daysha Ferer-Torres, PhD University of Michigan (*Faculty Candidate*)

In vitro models of the human esophagus reveal ancestrally diverse response to injury.

October 11

Andrei Ivanov, PhD Cleveland Clinic, Lerner College of Medicine

Cytoskeletal regulation of epithelial barrier integrity and host-pathogen interactions in the gut.

October 18

Kyle S. McCommis, PhD St Louis University School of Medicine

Inhibition of the mitochondrial pyruvate carrier in metabolic diseases.

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](#).

June, 2023 - July, 2023

Alkakhn W, Farrar N, Sikora V, Emecen-Huja P, Huja SS, **Yilmaz Ö**, Pandruvada SN. Statins Modulate Microenvironmental Cues Driving Macrophage Polarization in Simulated Periodontal Inflammation. *Cells*. 2023 Jul 29;12(15). PubMed PMID: 37566040; PubMed Central PMCID: PMC10417531.

Luque JS, Kiros GE, Vargas M, Jackson DR, Matthew OO, Austin TD, Tawk R, Ali AA, Harris CM, **Wallace K**, Gwede CK. Association of Preventive Care Attitudes and Beliefs with Colorectal Cancer Screening History among African American Patients of Community Health Centers. *J Cancer Educ*. 2023 Jul 13. PubMed PMID: 37442915.

Dressman JW, McDowell CT, Lu X, **Angel PM**, **Drake RR**, **Mehta AS**. Development of an Antibody-Based Platform for the Analysis of Immune Cell-Specific N-linked Glycosylation. *Anal Chem*. 2023 Jul 11;95(27):10289-10297. PubMed PMID: 37293957.

Indeglia A, Leung JC, Miller SA, Leu JI, Dougherty JF, Clarke NL, Kirven NA, Shao C, Ke L, Lovell S, **Barnoud T**, Lu DY, Lin C, Kannan T, Battaile KP, Yang THL, Batista Oliva I, Claiborne DT, Vogel P, Liu L, Liu Q, Nefedova Y, Cassel J, Auslander N, Kossenkov AV, Karanicolas J, Murphy ME. An African-Specific Variant of TP53 Reveals PADI4 as a Regulator of p53-Mediated Tumor Suppression. *Cancer Discov*. 2023 Jul 7;13(7):1696-1719. PubMed PMID: 37140445; PubMed Central PMCID: PMC10326602.

Moore JA, Wheless WH, Zhang J, Marsden J, **Mauldin PD**, Moran WP, **Schreiner AD**. Gaps in Confirmatory Fibrosis Risk Assessment in Primary Care Patients with Nonalcoholic Fatty Liver Disease. *Dig Dis Sci*. 2023 Jul;68(7):2946-2953. PubMed PMID: 37193930.

Azzouz DF, Chen Z, Izmirly PM, Chen LA, Li Z, Zhang C, Mieleles D, Trujillo K, Heguy A, Pironti A, Putzel GG, Schwudke D, Fenyo D, Buyon JP, **Alekseyenko AV**, Gisch N, Silverman GJ. Longitudinal gut microbiome analyses and blooms of pathogenic strains during lupus disease flares. *Ann Rheum Dis*. 2023 Jun 26. PubMed PMID: 37365013.

Goos M, **Maldonado EN**. Fluorescence microscopy imaging of mitochondrial metabolism in cancer cells. *Front Oncol*. 2023;13:1152553. Review. PubMed PMID: 37427141; PubMed Central PMCID: PMC10326048.

Schreiner AD, Sattar N. Identifying Patients with Nonalcoholic Fatty Liver Disease in Primary Care: How and for What Benefit?. *J Clin Med*. 2023 Jun 12;12(12). Review. PubMed PMID: 37373694; PubMed Central PMCID: PMC10298910.

Allen CG, Judge DP, **Nietert PJ**, Hunt KJ, Jackson A, Gallegos S, Sterba KR, Ramos PS, Melvin CL, Wager K, Catchpole K, **Ford M**, McMahon L, Lenert L. Anticipating adaptation: tracking the impact of planned and unplanned adaptations during the implementation of a complex population-based genomic screening program. *Transl Behav Med*. 2023 Jun 9;13(6):381-387. PubMed PMID: 37084411; PubMed Central PMCID: PMC10255754.

Khalifa A, **Obeid JS**, Gregoski MJ, **Rockey DC**. Accurate Identification of Patients with Cirrhosis and Its Complications in the Electronic Health Record. *Dig Dis Sci*. 2023 Jun;68(6):2360-2369. Review. PubMed PMID: 36899112.

Kuhn MB, VandenBerg HS, Reynolds AJ, Carson MD, Warner AJ, LaRue AC, **Novince CM**, **Hathaway-Schrader JD**. C3a-C3aR signaling is a novel modulator of skeletal homeostasis. *Bone Rep*. 2023 Jun;18:101662. PubMed PMID: 36860797; PubMed Central PMCID: PMC9969257.

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.

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:

P30 DK123704

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 THE COBRE CDLD:

P20 GM120457

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>

