



NIDDK grant P30 DK120515

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Dear Colleagues,

We are excited to present the latest edition of the SDDRC Newsletter.

In this newsletter, you will find a wealth of information, including updates on our services and center events, announcement of the 2023 Pilot and Feasibility awardees, and remarkable achievements of our members as illustrated by the list of recent publications.

Furthermore, we are excited to share that we have recently submitted our renewal application to the National Institutes of Health (NIH). This significant milestone demonstrates our commitment to the pursuit of excellence in digestive diseases research.

Thank you for your continued support and engagement. We hope that this newsletter serves as a source of inspiration, connection, and valuable information for all our Center members.

Best wishes,

Bernd Schnabl and Lars Eckmann

SDDRC Co-Directors





Core Service and Updates

Human Translational Core

The Core provides access to well-characterized human biospecimens for patients with Nonalcoholic Fatty Liver Disease (NAFLD) and Inflammatory Bowel Disease (IBD).

The Core is now offering access to archival clinical (GI/liver) tissue samples (stained or unstained slides) from the Pathology Department. This service can be obtained by submitting the sample request form located on the Center website, or via email to the Center.

If you are not sure how to get started, we can provide consultation in pathology, biostatistics, protocol design, and training. Contact us with any questions: sddrc@health.ucsd.edu.

Preclinical Model Core

The Core provides histological support through an arrangement with the Histology Core at the La Jolla Institute for Immunology. A wide range of technologies and services are available, including tissue preparation, fixation, routine and specialized staining, and state-of-the-art microscopy.

The Core also provides routine access to germ-free and gnotobiotic mice, and to various murine models of liver and gastrointestinal disease.

Direct any questions on the logistics of histological sample submission or the use of murine models to the Center administration: sddrc@health.ucsd.edu.

Microbiomics and Genomics Services

The Center would like to welcome David Pride, MD, PhD, Professor of Medicine as the new Director for the Microbiomics and Functional Genomics Core.

The Core provides access to all common sequencing-based assays, including 16S rRNA and metagenomic shotgun sequencing of microbial communities, and RNA-seq (including single-cell transcriptomics), ChIP-seq, miRNA-Seq, GRO-Seq, Ribo-Seq, ATAC-Seq, Whole Genome Sequencing, and Exome sequencing.

If you plan to use these services for the first time, we encourage you to contact Dr. Kristen Jepsen (kjepsen@health.ucsd.edu) for guidance on preparation and sample submission.

The Core also provides bioinformatics support, including analysis of sequencing-based assays and consultation and training in specific experimental and analytical techniques related to microbiomics and functional genomics.

Please contact Dr. Sara Brin Rosenthal (sbrosenthal@health.ucsd.edu) with any questions about the bioinformatics services of the Core.



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Center News

Congratulations to the SDDRC members on the following achievements and recognitions:



Kathleen "Kit" Curtius, PhD

Received an AGA Scholar award in July 2022 and a VA Data Science Merit Review award in 2023.

Cristina Llorente, PhD

Awarded an R01 grant for Goblet cells and intestinal immune response in alcohol-associated liver disease.



David "Brent" Polk, MD

Received the 2022 Provider of the Year Honoree by the Crohn's & Colitis Foundation.

Manuela Raffatellu, MD

Awarded an NIH grant for Antimicrobial activity of Escherichia coli Nissle 1917 microcin M in February 2023.



David Gonzalez, PhD

Awarded an R01 grant for Microbiome driven proteolysis as a contributing factor to severity of ulcerative colitis disease activity.



Jesus Rivera-Nieves, MD

Awarded a grant from the VA for Control by Beta 7 integrins of the bacterial triggers of IBD in January 2023.



Rena Yadlapati, MD

Awarded an R03 grant for the Role of Psychological Processes on Symptom Burden in Laryngopharyngeal Reflux.

Spring 2023



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Congratulations to the 2022-23 Pilot & Feasibility Awardees

The Pilot & Feasibility program has awarded a total of \$160,000 to the following investigators with promising research projects in digestive diseases:

Innovative Awards



Hartmann, Phillipp, MD, Assistant Professor, Department of Medicine, UC San Diego
Project Title: "Novel microbiota-humanized mouse model to investigate the pathophysiology of primary sclerosing cholangitis (PSC)"



Lee, Jin, PhD, Assistant Professor, Department of Pathology, UC San Diego
Project Title: "Mechanistic analysis of Zfp791 functions in hepatocellular carcinoma"



Oh, Tae Gyu, PhD, Bioinformatics Scientist, The Salk Institute for Biological Studies
Project Title: "Single-cell transcriptome and chromatin profiling of FXR agonism against non-alcoholic steatohepatitis and hepatocellular carcinoma"

Jon I. Isenberg Fellowship Award



Wettersten, Hiromi, PhD, DVM, Assistant Professor, Department of Pathology, UC San Diego
Project Title: "Integrin $\alpha\beta3$: A double edged sword in pancreatitis"

The next round of Pilot & Feasibility grants for the academic year 2023-24 will be announced in summer/fall of 2023.



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Upcoming Center Events

2023 Upcoming SDDRC Seminar Series

The Center invites nationally and internationally renowned speakers to facilitate and promote interactions among investigators in the San Diego area committed to digestive diseases research.

Date	Location	Time	Speaker	Affiliation
7/31/23	Leichtag- 107	12:00 - 1:00 PM	Don Rockey, MD	Medical University of South Carolina
8/28/23	Zoom	4:00 - 5:00 PM	Jun Yu, MD, PhD	The Chinese University of Hong Kong
9/25/23	Leichtag- 107	12:00 - 1:00 PM	Robert F. Schwabe, MD	Columbia University
10/31/23	MET- 141	7:30 - 8:30 AM	David Weinberg, MD, MSc	Temple University
11/29/23	MET Lower Auditorium	5:00 - 7:00 PM	Barbara, Jung, MD, AGAF	University of Washington
12/11/23	Zoom	10:00 - 11:00 AM	Barbara Stecher-Letsch, PhD	Ludwig Maximilian University Munich

2023 Upcoming SDDRC Workshop:

Date	Time	Presenter	Location
12/13/23	2:00 - 3:30 PM	Frank Anania, MD, FACP, AGAF, FAASLD	Leichtag- 107

Citing the Center

Have you used the services offered by the center? Please remember to acknowledge the Center grant in your publication:

“The study was supported by the NIDDK-funded San Diego Digestive Diseases Research Center (P30 DK120515).”

Thank you!

Letters of Support

We are here to help you conduct digestive diseases research projects. The Center can provide you with support for your grant application. If you need a letter of support,

please contact us:

sddrc@health.ucsd.edu



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Recent 2023 Publications by Center Members acknowledging SDDRC

To recognize the excellence and breadth of research done by our members, we highlight a number of representative papers (members are shown in bold). Reprints of these papers can be provided upon request.

- 1 **Ajmera V**, Cepin S, Tesfai K, Hofflich H, Cadman K, Lopez S, Madamba E, Bettencourt R, Richards L, Behling C, **Sirlin CB**, **Loomba R**. A prospective study on the prevalence of NAFLD, advanced fibrosis, cirrhosis and hepatocellular carcinoma in people with type 2 diabetes. *J Hepatol* 2023 Mar; 78:471-478. PMID: PMC9975077.
- 2 Zheng M, Huang DQ, Konkwo C, Agrawal S, Khera AV, **Loomba R**, Vilarinho S, **Ajmera V**. Genomic analysis of lean individuals with NAFLD identifies monogenic disorders in a prospective cohort study. *JHEP Rep* 2023 Feb; 5:100692. PMID: PMC10017416.
- 3 Zeng S, Rosati E, Saggau C, Messner B, Chu H, Duan Y, **Hartmann P**, Wang Y, Ma S, Huang WJM, Lee J, Lee SM, Carvalho-Gontijo R, Zhang V, Hoffmann JP, Kolls JK, Raz E, **Brenner DA**, **Kisseleva T**, LeibundGut-Landmann S, Bacher P, Stärkel P, **Schnabl B**. Candida albicans-specific Th17 cell-mediated response contributes to alcohol-associated liver disease. *Cell Host Microbe* 2023 Mar; 31:389-404. PMID: PMC10039706.
- 4 Handzlik MK, Gengatharan JM, Frizzi KE, McGregor GH, Martino C, Rahman G, Gonzalez A, Moreno AM, Green CR, Guernsey LS, Lin T, Tseng P, Ideguchi Y, Fallon RJ, Chaix A, Panda S, Mali P, Wallace M, **Knight R**, Gantner ML, Calcutt NA, **Metallo CM**. Insulin-regulated serine and lipid metabolism drive peripheral neuropathy. *Nature* 2023 Feb; 614:118-124. PMID: PMC9891999.
- 5 Du L, Ji Y, Xin B, Zhang J, Lu LC, **Glass CK**, **Feng GS**. Shp2 Deficiency in Kupffer Cells and Hepatocytes Aggravates Hepatocarcinogenesis by Recruiting Non-Kupffer Macrophages. *Cell Mol Gastroenterol Hepatol* 2023 Feb; 15:1351-1369. PMID: PMC10140795.
- 6 Lin YH, Duong HG, Limary AE, Kim ES, Hsu P, Patel SA, Wong WH, Indralingam CS, Liu YC, Yao P, Chiang NR, Vandenburgh SA, Anderson TR, Olvera JG, Ferry A, Takehara KK, Jin W, Tsai MS, Yeo GW, Goldrath AW, **Chang JT**. Small intestine and colon tissue-resident memory CD8⁺ T cells exhibit molecular heterogeneity and differential dependence on Eomes. *Immunity* 2023 Jan; 56:207-223. PMID: PMC9904390.
- 7 Siguenza N, Russell BJ, Richter RA, **Zarrinpar A**. Complete genome sequence of an Escherichia coli strain isolated from laboratory mouse stool for use as a chassis for transgene delivery to the murine microbiome. *Microbiol Resour Announc* 2023 Apr; 12:e0101422. PMID: PMC10112262.