Funding Opportunity for Pilot & Feasibility Projects through the University of Chicago's NIH/NIDDK-Sponsored Center for Interdisciplinary Study of Inflammatory Intestinal Disorders (C-IID) and the Duchossois Family Institute (DFI)

****Applicants wishing to obtain more information or advice should contact Dr. Eugene B. Chang (C-IID Pilot and Feasibility Program Director) or Dr. April Ross (P&F Research Program Administrator) prior to August 10, 2020 *****

*UPDATE*FULL SUBMISSION DEADLINE: Monday 5 p.m. CST, September 14, 2020. All submissions must be completed online via 2020 C-IID P&F Application (url: https://www.surveymonkey.com/r/C-IID-DFI PilotandFeasibility)

Goals: The Center for Interdisciplinary Study of Inflammatory Intestinal Disorders (C-IID) [formerly named the Digestive Diseases Research Core Center (DDRCC)] and the Duchossois Family Institute (DFI) have joined in partnership to award up to 5 Pilot and Feasibility awards at a level of \$50,000 each for research on digestive health and diseases. Proposals that involve studies of inflammatory bowel diseases (IBD) and related areas of intestinal inflammation, the gut immune system, the gut microbiome, host-microbe interactions, microbiome-based biotherapeutics, hepatic and digestive functions, host-microbe metabolism, and epithelial biology/developmental regulation of the gut will be given special consideration. Applicants from underrepresented communities are encouraged to apply. NIH-designated U.S health disparity populations include: Blacks and African Americans, Hispanics and Latinos, American Indians and Alaska Natives, Asian Americans, Native Hawaiians and other Pacific Islanders, persons with disabilities, and gender minorities.

Investigator Tracks (in order of preferential consideration)

Track I. Early stage investigators, including promising senior research fellows and post-doctoral candidates having the endorsement of their departments, proposing investigations in the mission areas of the C-IID and DFI. This is the principal target group and is intended ideally for candidates without current NIH or other significant extramural support to initiate research into digestive health and diseases.

Track II. Established faculty outside of gastrointestinal research who wish to extend their investigations into the mission areas of the C-IID and DFI.

Track III. Faculty doing research in digestive health and diseases who wish to branch out into new areas or test novel hypotheses that are significantly different from their mainstream research.

Suggested Research Topics: The following represent areas of research of interest to the C-IID and DFI. Please feel free to ask for guidance if unsure about the suitability of your topic or project.

- Host-microbiome interactions, pathogens and opportunistic infections, symbionts and pathobionts, and the development of microbial biotherapeutics relevant to digestive health and disease, particularly in humans.
- Basic, clinical, and translational research relevant to mucosal inflammation, the gut immune system, and genetics of the digestive tract.
- Growth and differentiation, development, stem cell biology, regulation, integrative biology, biology and pathobiology of the gastrointestinal tract (including the luminal GI tract, liver, pancreas, biliary system, etc.).
- The pathogenesis, genetics, epigenetics, and organismal aspects of digestive diseases.
- Nutrition, metabolomics, metabolism, and nutritional interventions relevant to the digestive system and organs.

Examples of previous grant recipients:

- Developing biosensors for at-home analysis of fecal calprotectin to monitor gut health Bryan Dickinson, PhD
- Assessment of small intestinal microbiota restructuring in Class I and Class II obese patients undergoing endoscopic bariatric restrictive procedures (endoscopic sleeve gastroplasty) Christopher Chapman, MD
- Impact of B cells depletion on T-cell mediated immune responses and ensuing intestinal tissue destruction in celiac disease Valarie Abadie, PhD

Core Facilities/Services: Applications that propose to use C-IID cores and services and/or involve collaborative interactions with other members of the C-IID and DFI will be given special consideration. Please see our website www.uchicagoddrcc.org for further details of our Research Cores and examples of funded P&F projects.

- Integrative Clinical and Biospecimen Core (Sonia Kupfer, MD, Joel Pekow, MD, Christopher Weber, MD, PhD): Offering the patient registry, tissue biobanking facilities, and support in designing clinical studies in areas such as human gut microbiomes in health and disease, IBD, gastroenterology, and hepatology, and celiac diseases.
- Host-Microbe Core (Alexander Chervonsky, MD, PhD, Dionysios Antonopoulos, PhD, Betty Theriault, DVM, DACLAM, A. Murat Eren, PhD): Provides unique approaches to the study of host-microbe interactions, including cell/tissue models, gnotobiotic mouse technologies, metagenomics, and approaches for structural and functional profiling of complex microbial communities.
- **Tissue Engineering and Cell Models Core** (Eugene B. Chang, MD, John Alverdy, MD): Offering unique cell and tissue models, enteroids/organoids, and mouse models along with molecular and genetic engineering approaches to develop new model systems.
- Multiparametric Host Cell Analysis Core (Luis Barreiro, PhD, Bana Jabri, MD, PhD): The MHC core aims to provide expert consultation, training, experimental and bioinformatic support in the use of the growing array of highly specialized cutting-edge technologies that are available for flow cytometry and genomic analysis, specifically related to the study of gastrointestinal disease.

- **DFI Microbiome Metagenomics Facility (MMF)** (Sayantoni Mukhopadhyay, MS, Eric Pamer, MD): The MMF provides bacterial 16S ribosomal RNA gene and shotgun metagenomic sequence analyses on intestinal contents and other samples containing complex microbial populations. The MMF will work with investigators to analyze microbiota sequence data from experimental and clinical samples. Analysis tools are available to classify bacterial sequences down to the genus level (and to the species level when possible) to determine both community membership and structure. Analyses include graphic visualization of the bacterial composition of individual samples and determination of microbial population diversity within and between samples.
- **DFI Host-Microbe Metabolomics Facility** (Jean-Luc Chaubard, PhD, Eric Pamer, MD) This facility measures and characterizes metabolites that are produced or modified by commensal microbes with the goal of defining how these molecules function in microbemicrobe and host-microbe interactions.

Period and Amount of Funding: Up to 5 Pilot & Feasibility awards of \$50,000 each will be jointly funded by the C-IID and DFI partnership for an initial period of one year beginning December 1, 2020. Funds will be dispersed in two installments, the latter contingent on a review of progress made by the program directors. Funds may be requested for personnel (with the exception of PI salary), supplies, services and other costs (not equipment or travel). A detailed budget with justification is essential for the application.

Applications: Interested applicants are advised to contact Drs. Eugene B. Chang or April Ross by August 10, 2020, prior to submitting a full application, Pilot & Feasibility applications should conform to a standardized format, which can be found below.

Funding for Pilot and Feasibility Projects Application Format

(* 5 page limit for sections 4-6. Minimum 0.5 inch margins, 11 pt. Arial)

- 1. Title of proposal
- 2. Investigator(s) and Co-Investigators
- 3. Scientific Summary
- 4. Specific Aims*:
- 5. Significance/Project narrative*:
- 6. Methods of Procedure* (including incorporation of measures to insure rigor and reproducibility)
- 7. References
- 8. Justification and Need for Center Use of Funding: Pilot & Feasibility applications are strongly advised to contact and discuss with Core Directors their potential use of C-IID and DFI core facilities and services, in certain cases, a fee-for-service charges may be involved which should be included in the budget). A narrative (5-10 lines) should be provided that describes how the C-IID and/or DFI cores will be used.
- 9. Budget (please use enclosed budget template for upload) and provide budget justification

Personnel cost	
Reagents and Supplies	

Services	
Other Costs	
Total	

^{*}PI salary, equipment and travel excluded

- 10. Other support with dollar amounts listed.
- 11. IRB/Animal care review status and approval notification (if applicable)
- 12. Inclusion-enrollment report for human studies (if applicable)
- 13. Biographical sketch (NIH formatted)

****Additional materials are required for senior post-doctoral and fellow trainees applying as Track I candidates ****

- Applicants must provide a 1-2 paragraph statement of their career plans and goals. Please specify how the research proposal is a departure from the work of your mentor(s) and how it will position you better for a career in academic medicine.
- Mentor's biographical sketch (NIH formatted).
- Mentor/sponsor's letter of recommendation for the applicant, particularly in providing a frank assessment of the promise and potential of the candidate for academics and independence.
- Grant and funding support information for the mentor/sponsor and a statement of how much of proposed project differs from their work.

PLEASE COMPLETE ONLINE APPLICATION AT <u>2020 C-IID P&F Application</u> NO LATER THAN 5:00 PM on **Monday, September 14, 2020**

For questions regarding the application please contact:

April Ross, PhD (aprilross@medicine.bsd.uchicago.edu) (C-IID Research Program Administrator)

Eugene B. Chang, MD (echang@medicine.bsd.uchicago.edu) (2-6458) (C-IID Pilot and Feasibility Program Director)

Review and Processing: 1. Applications will be initially screened by the C-IID Executive Committee for their appropriateness for Pilot & Feasibility funding. [Application receipt deadline 9/14/20]. 2. Following this initial screen and if necessary, applications may be returned to applicants for modification prior to submission to the External Advisory Board. 3. The completed applications will be reviewed by the Center's External Advisory Board who ultimately will determine funding priorities at their meeting in October or November of 2020. 4. Applicants will be notified of the funding decision in November 2020 with a funding start date of December 1, 2020.