Cincinnati DHC Digestive Health Center
NIDDK Silvio O. Conte Digestive Diseases Research Core Center

DHC Newsletter

Bench-to-Bedside Research in Pediatric Digestive Disease

Cincinnati Children's changing the outcome together

UNIVERSITY OF Cincinnati

June 2019 Volume 16 Issue 1 | A Quarterly Publication by Cynthia C. Wetzel, PhD

IN THIS ISSUE:

2019 Pilot and Feasibility Recipients

The Digestive Health Center (DHC) is pleased to announce the recipients of its 2019 Pilot & Feasibility grants.

John Harley, MD, PhD
Department of Pediatrics; Center for Autoimmune Genomics and Etiology
Project Title: "Epstein-Barr Virus and Herpes Virus Serology in Inflammatory Bowel Disease of Childhood"
Dr. Harley will determine whether exposure to Epstein-Barr virus, Herpes Simplex and Cytomegalovirus are associated with inflammatory bowel disease.

Juan Sánchez-Gurmaches, PhD
Department of Pediatrics; Divisions of Endocrinology and Developmental Biology
Project Title: "Brown Fat Preservation and NAFLD Development"
Dr. Sánchez-Gurmaches will determine the physiological effects of AKT signaling in brown fat in the development of Non-alcoholic Fatty Liver Disease (NAFLD).

Kelli VanDussen, PhD
Department of Pediatrics; Division of Gastroenterology, Hepatology and Nutrition
Project Title: "Host-Microbe Mechanisms Regulating Intestinal Epithelial Cell Microvilli"
Dr. VanDussen will identify pathways by which the microbiome affects intestinal epithelial cell microvilli in order to develop therapeutic approaches to restore microvilli function in Crohn's patients.

Stephen Waggoner, PhD
Department of Pediatrics; Center for Autoimmune Genomics and Etiology
Project Title: "Elucidation of the Transcriptional Regulatory Network Governing Innate Lymphoid Cell Behavior in Pediatric Crohn's"
Dr. Waggoner will identify the transcriptional regulatory networks controlling human innate lymphoid cell with the goal of developing new therapeutic interventions to restore gut homeostasis in patients with Crohn's disease.

Member's Research Highlighed on Journal of Clinical Investigation Cover

The research work of DHC Members Drs. Ting Wen (previous Pilot & Feasibility Award Recipient), Bruce Aronow and Marc Rothenberg was featured on the cover of May issue of the *Journal of Clinical Investigation*. The research team developed a protocol to isolate and analyze individual living cells from the esophagus of patients with Eosinophilic Esophagitis (EoE), a chronic, allergic inflammatory disease of the esophagus.

They discovered 8 types of immune system T cells in the esophageal tissue with an increase in the number of two cell types (T7 and T8) in diseased tissue. T8 cells are hardly present in healthy tissue making it an ideal target in the treatment of EoE and other T helper 2 cell associated diseases.

Member's Research Published in The Lancet

The collaborative, multicenter PROTECT study of DHC members Drs. Yael Haberman, Kevin Hommel, and Lee (Ted) Denson, was published in the April 27 issue of *The Lancet*. The Predicting Response to Standardized Pediatric Colitis Therapy (PROTECT) was a prospective study to provide evidence-based data on the disease course in newly diagnosed pediatric ulcerative colitis patients being treated with a standardized therapy protocol of mesalazine or corticosteroids. This study design allowed for the identification of clinical and biological features that would lead to a better understanding in the treatment response variability without the confounding uncontrolled treatment analysis.

The research team identified that rectal gene expression and gut microbial factors improved their ability to predict clinical outcomes beyond initial disease severity and clinical laboratory test results. The data also provided insight into the biological reasons why some patients respond better to treatment. These results will guide physicians in how best to treat pediatric ulcerative colitis patients.

New Photography System & Graphic Support Service at Pathology Core

Cincinnati Children's Research Pathology Core has a second digital photography system to generate high resolution images of macroscopic structures of tissues and organs. This system enables integration of cell level data with organ anatomy such as single cell/nuclear gene expression within morphologically distinct anatomic structures and correlation with radiographic CT imaging. With the addition of a second system, researchers will now have access to this resource even when clinical functions require use of the original system.

Starting in July, the Core will offer graphic support services including generation of journal cover images, cartoon diagrams, image color correction, image integration for manuscript figures, research posters and presentations, etc. These services will be provided by Chris Woods, an expert in digital imaging and illustration, who has provided his services to many DHC members in the past. Chris's expertise will now be expanded as an official service of the core charged through the CORES billing system.

Benefits for DHC Members:

DHC provides 25% of the total charge for services provided at the Research Pathology Core with a subsidy limit of $1,200 per member per year.

For more information:

Visit the Pathology Research Core Website or contact Dr. Kathryn Wikenheiser-Brokamp at kathryn.wikenheiser-brokamp@cchmc.org; 513-803-0239.

New NovaSeq6000 at DNA Sequencing and Genotyping Core

Cincinnati Children's DNA Sequencing and Genotyping Core recently acquired the NovaSeq6000, which is the latest Illumina Sequencing model with upgraded chemistry and optics. With the new equipment, there is a significant price reduction (up to 30%) for most of the Next-Generation Sequencing services. Some new services which require extensive sequencing, such as whole genome sequencing and single cell analysis, are now more cost efficient.

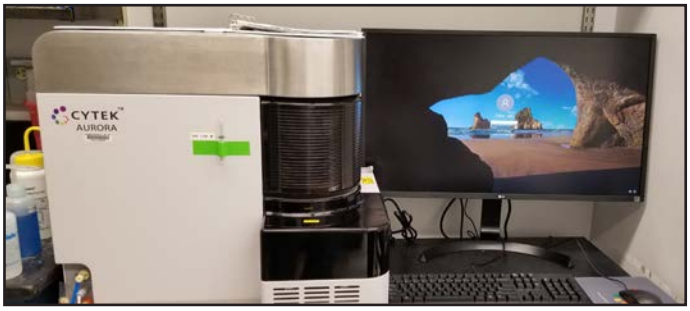
Benefits for DHC Members:

DHC provides 25% of the total charge for services provided at the DNA Sequencing and Genotyping Core with a subsidy limit of $2,400 per member per year.

For more information:

Visit the DNA Sequencing and Genotyping Core website or contact Dr. Xueguang Sun at xueguang.sun@cchmc.org; 513-636-0122.

New Cytek Aurora and ImageStream X Mark II at Flow Cytometry Core



The Research Flow Cytometry Core (RFCC) at Cincinnati Children's Hospital has a new cytometer- the Cytek Aurora that is equipped with:

- 4 lasers (violet 405 nm, blue 488 nm, yellow-green 561nm, and red 640 nm)
- 48 detectors covering fluorescence emissions from 400 nm to 900 nm without having to change any optical filters
- 96-well plate auto-sampler

With a careful panel design, 24 dyes can be used in combination and auto-fluorescence can be subtracted from the signal which makes the Aurora ideal for small samples and highly auto fluorescent cells.The low-noise electronics should provide excellent sensitivity and resolution for microvesicle detections. Future upgrades will include a UV laser.

The Core has also replaced the ImageStream X with the ImageStream X Mark II.This imaging flow cytometer is equipped with the same excitation lasers (violet 405 nm, blue 488 nm, red 642 nm, and 785 nm for SSC), same magnification options (20x, 40x, and 60x), and same 12 detection channels as the ImageStream X. New features include:

- improved acquisition speed with the ability to analyze up to 5,000 cells/sec
- improved user interface
- new availability of real-time plotting and gating
- new compensation wizard allowing for compensation in the acquisition software
- ability to run lower sample volumes (only 20 ul needed as compared to 50 ul)

For more information regarding the newly acquired ImageStream X Mark II, Robert Thacker, PhD, from Luminex, will present an overview on all the capabilities at the Ohio River Valley Cytometry Association User's Meeting on Wednesday, June 26th, from 2-3 pm in S5.125.

Benefits for DHC Members:

DHC provides 25% of the total charge for the analytical cytometer fee with a subsidy limit of $1,200 per member per year.

For More Information:

Visit the Flow Cytometry website or contact the Core Director: Dr. Sherry Thornton at sherry.thornton@cchmc.org; 513-636-5880 or Core Manager: Dr. Celine Silva-Lages at celine.silva-lages@cchmc.org; 513-636-5880.

DHC Seminar Series- Summer Break

There will be no DHC seminars during the summer. Our fall seminar series will begin on Tuesday September 10 with Dr. Kathryn Wikenheiser-Brokamp, Director of the DHC Integrative Morphology Core. She will present an overview of the new services available at the Cincinnati Children's' Research Pathology Core.

Seminars are held on Tuesdays at noon in CCHMC Location S Room 6.125. Light refreshments are provided. The enrichment series includes distinguished speakers from outside the Academic Medical Center as well as conferences by investigators from Cincinnati.

Transition to Full Membership - Dr. Phillip Minar

Dr. Phillip Minar, Department of Pediatrics, Division of Gastroenterology, Hepatology and Nutrition at Cincinnati Children's, received the Leona M. & Harry B. Helmsley Charitable Trust Grant supported by Helmsley funding. The title of his grant is "Precision Crohn's Disease Management Utilizing Predictive Protein Panels".

Dr. Minar used preliminary data that was generated from his DHC Pilot and Feasibility Award for his Helmsley grant application.

Congratulations to Dr. Minar for transitioning to Full Membership status in the DHC!

DHC Welcomes Three New Members

John Harley, MD, PhD is a Professor and Director of the Center for Autoimmune Genomics and Etiology in the Department of Pediatrics at Cincinnati Children's. Dr. Harley's digestive disease research focuses on identifying the role in which Epstein-Barr virus is involved in the pathogenic origins of inflammatory bowel disease.

Juan Sánchez-Gurmaches, PhD is an Assistant Professor in the Department of Pediatrics, Divisions of Endocrinology and Developmental Biology at Cincinnati Children's. His research focuses on understanding the physiological and pathologic mechanisms that control adipocyte development, growth, and metabolism.

Stephen Waggoner, PhD is an Assistant Professor in the Department of Pediatrics, Center for Autoimmune Genomics and Etiology at Cincinnati Children's. His research focuses on identifying new targets for therapeutic modulation of innate lymphoid cell function in the pathogenesis of Crohn's disease

Interested in Becoming a Member?

By becoming a DHC member, you will receive subsidies for many core services and resources. Your orders will receive priority at the research cores. Membership is open to all Cincinnati Children's and University of Cincinnati faculty members involved in digestive disease research. If you are interested in joining the DHC, visit our website for further instructions.

For all publications, please acknowledge the DHC as follows:
"This project was supported in part by NIH P30 DK078392 (*insert name of core that you used*) of the Digestive Diseases Research Core Center in Cincinnati."

For more information regarding the DHC visit our **website** or contact one of the following:

Director:	Jorge Bezerra, MD	jorge.bezerra@cchmc.org
Associate Directors:	Ted Denson, MD	lee.denson@cchmc.org
	Heidi Kalkwarf, PhD, RD	heidi.kalkwarf@cchmc.org
	Aaron Zorn, PhD	aaron.zorn@cchmc.org
Center Manager:	Cynthia Wetzel, PhD	cynthia.wetzel@cchmc.org

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September 2019 Volume 16 Issue 2 | A Quarterly Publication by Cynthia C. Wetzel, PhD

Request for Pilot and Feasibility Applications

The Digestive Health Center (DHC) is accepting applications for pilot projects to conduct basic, translational, patient based, or outcomes research broadly relating to pediatric digestive disease. Applications will be considered in all areas of digestive disease research with particular emphasis on the following DHC research themes:

1. Liver Disease and Modeling
2. Digestive Disease and Immunity
3. Digestive Disease and Obesity
4. Translational Embryology (as it relates to digestive disease)

Funds are intended to allow investigators to collect preliminary data sufficient to support an application for independent research through traditional NIH mechanisms. Funding for projects will range from $40,000 to $50,000 depending on budgetary needs and number of selected applications. Eligible applicants must have a faculty appointment as of July 2020. DHC membership is not required.

Applications are due Monday December 2, 2019 at 5:00 pm. The application forms and submission guidelines are available on the DHC website.

For further information contact: Aaron Zorn, PhD, DHC Pilot and Feasibility Program Director at aaron.zorn@cchmc.org or Cindy Wetzel, PhD, DHC Program Manager at cynthia.wetzel@cchmc.org.

IN THIS ISSUE:

Save the Date - Annual Scientific Symposium

The DHC will host its Annual Scientific Symposium and External Advisory Board Meeting on **Tuesday February 25, 2020.** This is a great opportunity to learn about the digestive disease cutting edge research being performed in Cincinnati and to establish new collaborations.

The day will include a poster session and keynote address by Dr. Noah Shroyer from Baylor College of Medicine. Dr. Shroyer's research focuses on the use of intestinal organoids as a model to study intestinal development and disease.

We encourage you to present your digestive disease research by submitting an abstract for the poster session. You do not have to be a DHC member to present a poster.

Abstracts are due **Friday January 31, 2020**. Prizes will be given to students and trainees for the best poster presented at the symposium.

Stay tuned for more details.

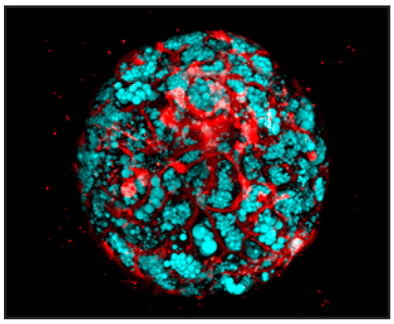
Abstracts Due

Symposium

Member's Research Featured on NIH Director's Blog

The research work of DHC Member Dr. Takanori Takebe was published in the August 6 issue of *Cell Metabolism* and was highlighted on Dr. Francis Collins' National Institutes of Health (NIH) Director's Blog. The research team, including lead author Dr. Rie Ouchi, used 11 different healthy and diseased induced pluripotent stem cell lines (iPSCs) to derive multi-cellular human liver organoids containing hepatocyte-, stellate-, and Kupffer-like cells that function similarly to *in vivo*-derived tissue.

Liver organoids that were created from children with Wolman disease accumulated fat lipids since they lack the lysosomal acid lipase gene that breaks down fat (see picture above). When the diseased liver organoids were exposed to fibroblast growth factor 19 (FGF19) there was protection from fat accumulation and a reduction in fibrosis. This suggests that FGF19 could be used to treat patients with Wolman disease, who often die at a very young age. The research team is now using this approach to study nonalcoholic fatty liver disease (NAFLD).



Confocal microscopic image of a human liver organoid generated from iPSCs from a child with Wolman disease. Hepatocyte cells are red and fat lipids are aqua colored bubble like shapes.

New External Advisory Board Member

Dr. Holger Willenbring has joined the DHC External Advisory Board. He is currently Professor of Surgery at University of California San Francisco (UCSF) and is a member of the Eli and Edythe Broad Center of Regeneration Medicine and Stem Cell Research.

He is the Associate Director of the NIDDK funded Digestive Diseases Research Core Center at UCSF. Dr. Willenbring's research focuses on using hepatocyte stem cell technology to treat liver disease.

Dr. Willenbring will join current External Advisory Board Members: Drs. Noah Shroyer (Baylor College of Medicine), Scott Snapper (Boston Children's Hospital), and Rebecca Wells (University of Pennsylvania). Dr. Stephen Duncan (Medical University of South Carolina) has rotated off the board.

Requirement of ORCID for NIH Trainees & K Award Applicants

ORCID (Open Researcher Community ID) provides you a digital identifier that distinguishes you from every other researcher, even those with the same name. ORCID is a non-profit organization supported by the fees from research organizations that include publishers and professional associations.

Starting October 2019, NIH will require all trainees who are appointed to an institutional research training grant, career development, and research education awards to have an ORCID identifier. And starting with applications with a due date of January 25, 2020, ORCIDs will be required of applicants applying for individual fellowship (NIH F) or career development (NIH K) awards.

All NIH grant applicants and recipients are encouraged to obtain an ORCID in order to simplify reporting and improve tracking of career outcomes.

Once you have your ORCID identifier you can include this information in your NIH eRA Commons Personal Profile.

Your unique ORCID identifier can be used with your name when you submit publications, grants, patents, etc. to ensure you receive credit for your scholarly activities.

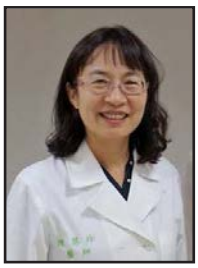
Registration is quick. To obtain your ORCID identifier visit the ORCID website.

2019 William and Rebecca Balistreri Lecture

Dr. Mei-Hwei Chang (picture to the left) will be the 2019 William and Rebecca Balistreri Lecturer for Translational Research in Hepatology. Dr. Chang is Professor of Pediatrics and Director of the Hepatitis Research Center at the National Taiwan University and Children Hospital.

Dr. Chang works on identifying how to prevent Hepatitis B Virus infection in children with the ultimate goal of eliminating the virus.

We are excited that Dr. Chang's colleague, Dr. Huey-Ling Chen (picture to the right) will be joining her on the trip to visit Cincinnati Children's. Dr. Chen's research focuses on cholestatic liver disease and complications after liver transplants.



Dr. Chang will present her research on Tuesday November 5 in the Research Auditorium as part of the DHC Seminar Series. Additionally, she will participate in the "Balistreri Rounds, an opportunity to discuss a complex liver patient case on Wednesday November 6 at 7:30 am in Location T Room 8.334.

Annual Pediatric Autoimmune Liver Disease Symposium & Family Day

The 3rd Annual Pediatric Autoimmune Liver Disease Symposium and Family Day hosted by the Center for Autoimmune Liver Disease (CALD) will be held on Friday September 27 at the Kingsgate Conference Center and on Saturday September 28 at Cincinnati Children's. On September 27, the focus will be on discussing the strategies of developing a learning network for Autoimmune Liver Disease to improve patient outcomes. On September 28, the focus will be on sharing the latest findings on liver fibrosis in Autoimmune Liver Disease. To register visit the Symposium Website. For more information send an email to CALD@cchmc.org

CURED Research Meeting

The 5th CURED (Campaign Urging Research for Eosinophilic Disease) Research Conference and Patient Education Program will be held November 7-9 at Cincinnati Children's.

This international meeting features a variety of topics such as the clinical, pathogenic, genetic, dietary features and therapies of eosinophilic gastrointestinal disorders (EGID). Presentations will include breakthroughs in novel therapeutic strategies and diagnostic modalities that will be of interest to researches, medical care team members, patient families and the industry.

Speakers include Dr. Erica Lyons from the Federal Drug Administration spekaing on the FDA Guidelines for Eosinophilic Esophagitis and Dr. Cathryn Nagler from the University of Chicago speaking on the role of the Microbiome in Eosinophilic Esophagitis.

To register visit the Symposium Website and enter code "CCHMC" for free registration.

For more information contact Julie Daisey at Julie.Daisey@cchmc.org.

For more information regarding the DHC visit our **website** or contact one of the following:

Director:	Jorge Bezerra, MD	jorge.bezerra@cchmc.org
Associate Directors:	Ted Denson, MD	lee.denson@cchmc.org
	Heidi Kalkwarf, PhD, RD	heidi.kalkwarf@cchmc.org
	Aaron Zorn, PhD	aaron.zorn@cchmc.org
Center Manager:	Cynthia Wetzel, PhD	cynthia.wetzel@cchmc.org

Seminar Series- Tuesdays at Noon, Room S6.125

Date	Presenter	Title
9/10/19	Kathryn Wikenheiser-Brokamp, MD, PhD CCHMC: Pathology	"Pathology Research Core Services and Technologies"
9/17/19	Alexander Bondoc, MD CCHMC: Pediatric Surgery	"Modeling Human Hepatoblastoma to Develop Novel Therapeutic Strategies"
9/24/19	John Harley, MD, PhD CCHMC: Center for Autoimmune Genomics and Etiology (CAGE)	"Genes & Epstein-Barr Virus in Inflammatory Bowel Disease"
10/1/19 *Distinct location Res. Auditorium	Alessio Fasano, MD Massachusetts General Hospital for Children *Co-Sponsor Nutrition Hot Topics	"The Role of Nutrition, Gut Microbiome Composition/Function and Intestinal Permeability in the Pathogenesis of Pediatric Chronic Inflammatory Diseases"
10/8/19	Alison Weiss, PhD UC: Department of Molecular Genetics, Biochemistry & Microbiology	"Human Intestinal Organoids Model Infectious Diseases"
10/15/19	Juan Sánchez-Gurmaches, PhD CCHMC: Endocrinology and Developmental Biology	"Signaling and Metabolic Mechanisms of Brown Fat Biology"
10/22/19 *Distinct location Res. Auditorium	Diego Bohórquez, PhD Duke University	"A Gut Choice"
10/29/18	Kelli VanDussen, PhD CCHMC: Gastroenterology	"Microvilli-associated Defects in Crohn's Disease Intestine"
11/5/19 *Distinct location Res. Auditorium	Mei-Hwei Chang, MD National Taiwan University and Children Hospital	"Natural History and Prevention of Hepatitis B Virus Infection in Children - Implication Toward Elimination of Hepatitis B"
11/12/19	No Seminar due to American Association for the Study of Liver Diseases Meeting	
11/19/19	Stephen Waggoner, PhD CCHMC: CAGE	"Engineering Immune Cell Behavior in Pediatric Crohn's Disease"
11/26/19	No Seminar Due to the Thanksgiving Holiday	
12/3/19	Steven Potter, PhD CCHMC: Developmental Biology Xueguang Sun, PhD CCHMC: Human Genetics	"DNA Core Update: New Prices and New Services with NovaSeq"

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January 2020 Volume 16 Issue 3 | A Quarterly Publication by Cynthia C. Wetzel, PhD

Annual Scientific Symposium Tuesday February 25, 2020

Poster Session: 9:30 to 11:45 am
Location S Room 1.203 and 1.204
Keynote Address: Paul Monga, MD, FAASLD
Location R Room 3381 (Research Auditorium) 12:00 pm

The Digestive Health Center (DHC) will host its Annual Scientific Symposium and External Advisory Board Meeting on **February 25, 2020** The day will include a poster session and keynote address by Dr. Satdarshan (Paul) Singh Monga from the University of Pittsburgh. Building upon the success of previous years, the poster session will feature work related to any area of digestive disease, including the four DHC themes:

1) Liver Disease & Modeling
2) Digestive Disease & Immunity
3) Digestive Disease & Obesity
4) Translational Embryology

To present a poster, visit the DHC website for the abstract submission form. Abstracts must be submitted electronically by **Friday, January 31, 2020** to cynthia.wetzel@cchmc.org. Prizes will be given to students and trainees for the best poster presented.

IN THIS ISSUE:

Members' Research Published in *Nature*

The research work of DHC Members Drs. Takanori Takebe, James Wells and Aaron Zorn was published in the October 3, 2019 issue of Nature. They along with first author, Dr. Hiroyuki Koike, and members of their research labs successfully generated a connected set of the liver, pancreas, and biliary ducts from human pluripotent stem cells (PSCs). These mini organoids were able to process bile acids as if they were digesting food. This is the first time researchers have generated an integrated organ system. This is another step closer to the long-term goal of being able to grow organ tissues for human transplantation.

Watch a computer animation of liver-pancreas-billiary tract organoid growth

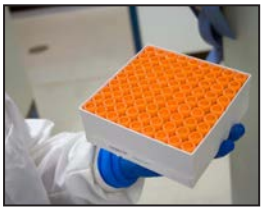
Jorge Bezerra, MD to Become 2020 AASLD President

Dr. Jorge Bezerra, DHC Director, was elected as President of the American Association for the Study of Liver Disease (AASLD), effective January 1, 2020. The AASLD President is a member of the Governing Board which is responsible for managing the affairs of the AASLD by establishing policies to prevent and cure liver diseases.

Dr. Bezerra will oversee the state-of-the-art educational program at the Annual Digestive Diseases Week (DDW) and the Liver Meetings, career development and training affairs for all members, and sponsorship of hepatology research. He will serve as President for one year. He is the fifth Pediatric Hepatologist to serve as AASLD President.

Congratulations to Dr. Bezerra on this prestigious international leadership role.

New Subsidy for Discover Together Biobank



The DHC leaders worked with Mike Pauciulo MBA, Director of the Cincinnati Children's Discover Together Biobank, to provide its members resources to accelerate clinical studies for pediatric digestive diseases.

The Discover Together Biobank facilitates the acquisition, processing, storage, and distribution of biospecimens for research studies. Below is a partial list of services that are available the CAP-Accredited Biobank:

- PI Biobank Sample Collection
- Access to DNA, RNA, biofluids, and tissue from disease and normal human samples
- Sample/Data/ Project Tracking

Benefits for DHC Members: The DHC will provide 25% of the total charge with a subsidy limit of $1,200 per member per year.

The Biobank Facility is located in Location R Room 2543. For more information visit the Discover Together Biobank website or contact Dr. Mike Pauciulo, MBA at mike.pauciulo@cchmc.org or 513-803-3842.

New External Advisory Board Member

Dr. Lopa Mishra has joined the DHC External Advisory Board. She is currently Professor of Surgery at George Washington University and the Director of the Center for Translational Medicine.

While Dr. Mishra was at MD Anderson, she was the Associate Director of the Texas NIDDK funded Digestive Diseases Research Core Center (DDRCC).

Her research focuses on identifying key signaling pathways in liver cancer with the goal of developing new therapeutics.

Dr. Mishra will join current External Advisory Board Members: Drs. Noah Shroyer (Baylor College of Medicine), Scott Snapper (Boston Children's Hospital), and Holger Willenbring (University of California San Francisco). Dr. Rebecca Wells (University of Pennsylvania) has stepped down from our Board since she has become the Associate Director of the their DDRCC.

FASEB Summer Research Conference 2020- Liver Biology

Liver Biology: Fundamental Mechanisms & Translational Applications
August 2-7, 2020
Astor Crowne Plaza, New Orleans

This FASEB Conference is the next iteration of a liver-focused meeting that has been held biennially since 1988. It is recognized as the premier small conference covering all aspects of basic and translational research involving the liver. The program will include the following sessions:

1. Hepatogenesis and Hepatic Architecture Establishment
2. Hepatic Plasticity & Regenerative Medicine
3. Non-Parenchymal Cell Biology, Liver Injuries and Fibrosis
4. Steatotic Liver Diseases
5. Comprehensive Analyses of Hepatocellular Carcinogenesis
6. New Technologies, Functional Screening and Target Discovery
7. Liver Immunology, Translational Research and Combinatorial Therapies
8. Metabolism, Bile Acids & Nuclear Receptors

To register visit the Symposium Website.

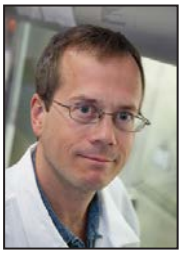
For more information contact the Conference Co-Director, Dr. Stacey Huppert (Associate Professor and DHC Member in the Division of Gastroenterology at Cincinnati Children's) at Stacey.Huppert@cchmc.org.

Transition to Full Membership - Dr. John Harley

Dr. John Harley Professor and Director of the Center for Autoimmune Genomics and Etiology in the Department of Pediatrics at Cincinnati Children's received a NIH R01 from the National Institute of Allergy and Infectious Diseases (NIAID). The title of his grant is "Genomics of Inflammatory Bowel Disease".

Dr. Harley used preliminary data that was generated from his DHC Pilot and Feasibility Award for his R01 grant application. Congratulations to Dr. Harley for transitioning to Full Membership status in the DHC!

DHC Member Highlights



Wells Receives Paul Allen Award and a CCRF Endowed Chair

James Wells, PhD is one of five recipients of the 2019 Distinguished Investigator Awards from the Paul G. Allen (co-founder of Microsoft) Frontiers Group. Dr. Wells will receive $1.5 million over 3 years to support his research investigating how enterendocrine cells sense nutrients in food and how these cells control the absorption, usage and storage of nutrients.

Dr. Wells was also awarded a Cincinnati Children's Research Foundation (CCRF) Chair. These awards are given to faculty who have demonstrated exceptional academic success in research, clinical care, or education and have made highly significant contributions to the institution.

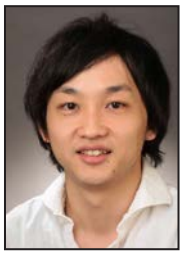
Dr. Wells is Professor in the Division of Developmental Biology and is the Chief Scientific Officer of the Center for Stem Cell & Organoid Medicine at Cincinnati Children's.

Alenghat Receives Burroughs Wellcome Fund Award

Theresa Alenghat, VMD, PhD is the recipient of the 2019 Investigators in the Pathogenesis of Infectious Disease Award from the Burroughs Wellcome Fund. Only 10 other investigators were selected to receive this award from the 150 applicant pool. This award will fund her project entitled "Dietary Regulation of Innate Intestinal Immunity". Dr. Alenghat is Associate Professor in the Division of Immunobiology at Cincinnati Children's.

Takebe Receives Dr. Ralph and Marian Falk Medical Research Trust

Takanori Takebe, MD received the 2019 Dr. Ralph and Marian Falk Medical Trust-Catalyst Award. This award provides one year of funding to support high-risk, high-reward research projects. The title of his project is "Novel Human Organoid Transplant Therapy Against Pediatric Liver Disease". He is Assistant Professor in the Divisions of Gastroenterology and Developmental Biology at Cincinnati Children's.



For all publications, please acknowledge the DHC as follows:
"This project was supported in part by NIH P30 DK078392 (*insert name of core that you used*) of the Digestive Diseases Research Core Center in Cincinnati."

For more information regarding the DHC visit our **website** or contact one of the following:

Director:	Jorge Bezerra, MD	jorge.bezerra@cchmc.org
Associate Directors:	Ted Denson, MD	lee.denson@cchmc.org
	Heidi Kalkwarf, PhD, RD	heidi.kalkwarf@cchmc.org
	Aaron Zorn, PhD	aaron.zorn@cchmc.org
Center Manager:	Cynthia Wetzel, PhD	cynthia.wetzel@cchmc.org

Seminar Series- Tuesdays at Noon, Room S6.125

Date	Presenter	Title
1/7/20 *Distinct location Res. Auditorium	Aleixo Muise, MD, PhD, FRCPC Hospital for Sick Children University of Toronto	"Insights into the Cause and Treatment of Monogenic Forms of Very Early Onset Inflammatory Bowel Disease (VEOIBD)"
1/14/20	Patrick Tso, PhD UC: Department of Pathology and Laboratory Medicine	"The Gastric Regulation of the Secretion of the Incretin Hormones"
1/21/20	Stacey Huppert, PhD CCHMC: Gastroenterology	"Molecular Regulation of Hepatocyte Maturation"
1/28/20	Soona Shin, PhD CCHMC: Pediatric Surgery	"Molecular Mechanism of Liver Cancer in Young Patients"
2/4/20	Sherry Thornton, PhD CCHMC: Research Flow Cytometry Core	"Cutting Edge Technologies for Flow Cytometry Analysis"
2/11/20	AP Naren, PhD CCHMC: Pulmonary Biology and Gastroenterology	"Personalized Model System for Individual Cystic Fibrosis Patient"
2/18/20	No Seminar due to Annual Digestive Diseases Research Core Centers Directors Meeting	
2/25/20 *Distinct location Res. Auditorium	DHC Annual Scientific Symposium Keynote Address by: Satdarshan (Paul) Singh Monga, MD, FAASLD University of Pittsburgh "The Many Tiers of Repair Ensure the Health of the Promethean Promise"	
3/3/20	Takahisa Nakamura, PhD CCHMC: Endocrinology and Developmental Biology	"RNA-mediated Immuno-metabolic Regulation in Obesity"
3/10/20	Peter Roy, PhD University of Toronto	"Using the Nematode C. elegans to Identify Candidate Drugs to Treat PFIC3 Cholestatic Liver Disease"
3/17/20	Joseph Palumbo, MD CCHMC: Hematology	"The Role of the Hemostatic System in Colitis and Colon Cancer Progression"
3/24/20	Leah Kottyan, PhD CCHMC: Center for Autoimmune Genomics and Etiology (CAGE)	"Identification of EoE-risk Genotype and IL13-Dependent Transcriptional Regulation in the Esophagus"
3/31/20 *Distinct location Res. Auditorium	David Haslam, MD CCHMC: Infectious Diseases	"Microbiome Research Support in Cincinnati: The Microbial Genomics and Metagenomics Laboratory"

Cincinnati DHC Digestive Health Center
NIDDK Silvio O. Conte Digestive Diseases Research Core Center

DHC Newsletter

Bench-to-Bedside Research in Pediatric Digestive Disease

Cincinnati Children's changing the outcome together

UNIVERSITY OF Cincinnati

March 2020 Volume 16 Issue 4 | A Quarterly Publication by Cynthia C. Wetzel, PhD

Highlights from the 2020 Annual Scientific Symposium

Poster Winners from Left to Right:
Andrew Vonberg, PhD; Vivienne Woo, Akaljot Singh, and Vered Shacham-Silverberg, PhD

IN THIS ISSUE:

The Digestive Health Center (DHC) held its Annual Scientific Symposium on Tuesday, February 25. Dr. Paul Monga from the University of Pittsburgh presented the keynote address "The Many Tiers of Repair Ensure the Delivery of the Promethean Promise". Posters were displayed by 48 researchers and 10 Research Core Services. Prizes were awarded for the best presented posters:

First Place: Vered Shacham-Silverberg, PhD (Research Fellow, Department of Pediatrics, Division of Developmental Biology member of Dr. Jim Wells' lab) for "Generating Human Derived Esophageal Raft Cultures for the Study of Development and Disease".

Second Place Tie: Akaljot Singh (Graduate Student, Department of Surgery, Division of Pediatric General and Thoracic Surgery, member of Dr. Mike Helmrath's lab) for "Modeling Human Intestinal Development Using In Vivo Human Intestinal Organoids".

Second Place Tie: Andrew Vonberg, PhD (Research Fellow, Department of Pediatrics, Division of Endocrinology, member of Dr. Takahisa Nakamura's lab) for "Hepatocyte-Derived Extracellular Vesicles in Activating Macrophages In Vivo and In Vitro Systems".

Honorable Mention: Vivienne Woo (Graduate Student, Cincinnati Children's, Division of Immunobiology member of Dr. Theresa Alenghat's lab) for "Commensal Bacteria Calibrate Host Defense by Enhancing Retinoic Acid Signaling".

See Page 2 for more highlights from the Annual Scientific Symposium.

Annual Progress Report Will be Submitted to NIH- April 1

NIH National Institute of Diabetes and Digestive and Kidney Diseases 70 years 1950 2020

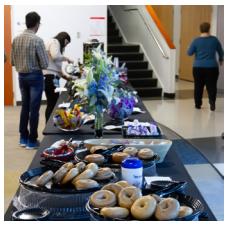
The annual DHC Progress Report will be submitted to NIH by April 1. We thank all the DHC members for providing us with their grant funding and 2019 publications. Below summarizes some of our accomplishments.

- Our 77 members generated 99 digestive disease related publications that contained results from a DHC supported research core. 54 (55%) of these publications had 2 or more members as co-authors.
- Members received $35.5 million in extramural funds for digestive disease research of which $10.6 million was from NIDDK.
- In the last 10 years, 14 Pilot and Feasibility Recipients have transitioned to NIH R01 funded investigators. $1.58 million has been distributed to 33 awardees who have $37 million in funding, a 23 fold return on investment.

Photos and Highlights from Annual Scientific Symposium Continued

We would like to thank Jill Soldano for her incredible job hosting the visit of the External Advisory Board Members and organizing the Annual Scientific Symposium. We also thank Ruth Castle, GiGi DiPuccio, Mary Rose Koch, and Angie Vickers for their exceptional assistance with the Symposium.

Left to Right: 1st picture Ruth Castle, Mary Rose Koch, Jill Soldano, and GiGi DiPuccio
2nd picture GiGi and Angie Vickers



Thanks to the poster judges and amazing organizers!

We also thank those who reviewed posters:

Drs. Alenghat, Asai, Balistreri, Barski, Blackard, Bondoc, Divanovic, Gandhi, Han, Haslam, Helmrath, Heubi, Hommel, Huppert, Khandelwal, Madan, Martin, Mohanty, Mouzaki, Nakamura, Naren, Patel, Rosen, Rothenberg, Shata, Shivakumar, Timchenko, VanDussen, Waggoner, Wells, Wen, Yin, and Zimmermann.

New DHC Executive Committee Member

The DHC Executive Committee consists of the Center Director, Associate Diretors, Center Manager, Directors and staff of the DHC supported Research Cores, and one DHC Investigator who represents the membership. The committee is instrumental in overseeing the operation of the DHC while developing new initiatives to advance the center.

The DHC Leadership team decided it was important to include a second DHC Investigator who was a past Pilot and Feasibility Recipient. Theresa Alenghat, VMD, PhD from the Department of Pediatrics, Division of Immunobiolgy has agreed to join the commitee. Dr. Alenghat is joining Dr. Nikolai Timchenko, from the Department of Surgery, Division of Pediatric General and Thoracic Surgery, to represent the DHC membership. We welcome Dr. Alenghat to the DHC executive committee.

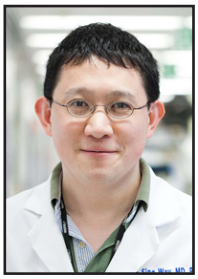
Transition to Full Membership - Dr. Ting Wen

Dr. Ting Wen, Department of Pediatrics, Division of Allergy and Immunology at Cincinnati Children's, received his first NIH R01 from the National Institute of Allergy and Infectious Diseases (NIAID). The title of his grant is "Roles of FFAR 3-SCFA Axis in Th2 Cytokine Production by Tissue Lymphocytes in Eosinophilic Esophagitis".

Dr. Wen used preliminary data that was generated from his DHC Pilot and Feasibility Award for his R01 grant application. Congratulations to Dr. Wen for transitioning to Full Membership status in the DHC!

DHC Member Highlights

Way Elected to AAP



Sing Sing Way, MD was elected to the Association of American Physicians (AAP). He is the Director of the Center for the Study of Inflammation and Tolerance and is a member in the Division of Infectious Diseases at Cincinnati Children's. Dr. Way has been elected to a highly prestigious organization that was founded for the advancement of scientific and practical medicine. Fewer than 15% of the Association of American Physicians are pediatricians. The following current DHC members are part of the Association of American Physicians: Drs. Jorge Bezerra, Fred Finkelman, and Marc Rothenberg.

Denson and Kottyan Receive Mentoring Award

Lee (Ted) Denson, MD and Leah Kottyan, PhD received the Cincinnati Children's Mentoring Achievement Faculty Award. Dr. Denson is the DHC Associate Director overseeing the Enrichment Program and is a member in the Divsion of Gastroenterology, Hepatology, and Nutrition. He is the PI of the NIH funded T32 Gastroenterology training grant that supports clinical fellows. Dr. Denson has mentored numerous trainees to independent research careers.

Dr. Kottyan is the Director of the Schmidlapp Young Women's Scholars Program and is a member in the Center for Autoimmune Genomics and Etiology. In addition to mentoring junior faculty, graduate students, fellows, and summer students, she created a week long class called "Introduction to Immunology and Laboratory Research".

Alenghat Receives Research Achievement Award

Theresa Alenghat, VMD, PhD received the Cincinnati Children's Research Achievement Faculty Award. She is internationally recognized for her work on epigenomic pathways that regulate intestinal homeostasis. Dr. Alenghat is a member in the Division of Immunobiology.

Kofron Receives Service Achievement Award

Matthew Kofron, PhD received the Cincinnati Children's Service Achievement Faculty Award. Dr. Kofron is the Director of the Confocal Imaging Core, which is supported by the DHC. Under his leadership, the Core was chosen as one of only five "Nikon Centers of Excellence". He works with many of the DHC members by training their research staff on the art of imaging. Dr. Kofron is a member in the Division of Developmental Biology.

Trauma Services Collaborative Receives Award

DHC member Jennifer Kaplan, MD, MS along with her colleagues received the Cincinnati Children's Clinical Care Team Faculty Award for the Trauma Services Collaborative. The team is focused on developing, implementing, and improving guidelines for pediatric injury mangement at the hospital and within the community.

Dr. Jennifer Kaplan is in front row 3rd from the left.

For all publications, please acknowledge the DHC as follows:
"This project was supported in part by NIH P30 DK078392 (*insert name of core that you used*) of the Digestive Diseases Research Core Center in Cincinnati."

Seminar Series- Tuesdays at Noon, Room S6.125

Date	Presenter	Title
3/24/20	In keeping with institutional guidelines in response to concerns surrounding the global outbreak of COVID-19, we are cancelling these seminars until May 12, 2020. We will reschedule these presentations for a later date. Please refer to future email announcements for more information.	
3/31/20		
4/7/20		
4/14/20		
4/21/20		
4/28/20		
5/5/20		
5/12/20	Peter Farrell, MD CCHMC: Gastroenterology	"Severity Prediction and Steps Towards Improved Management in Pediatric Acute Pancreatitis"
5/19/20	Bryan Copple, PhD Michigan State University	"Immune Dysregulation in Acute Liver Failure"
5/26/20	Sarah Orkin, MD CCHMC: Gastroenterology	"Social determinants of Health in Pediatric Nonalcoholic Fatty Liver Disease: Does Neighborhood Matter?"

Interested in Becoming a Member?

By becoming a DHC member, you will receive subsidies for many core services and resources. Your orders will receive priority at the research cores. Membership is open to all Cincinnati Children's and University of Cincinnati faculty members involved in digestive disease research. If you are interested in joining the DHC, visit our website for further instructions.

For more information regarding the DHC visit our **website** or contact one of the following:

Director:	Jorge Bezerra, MD	jorge.bezerra@cchmc.org
Associate Directors:	Ted Denson, MD	lee.denson@cchmc.org
	Heidi Kalkwarf, PhD, RD	heidi.kalkwarf@cchmc.org
	Aaron Zorn, PhD	aaron.zorn@cchmc.org
Center Manager:	Cynthia Wetzel, PhD	cynthia.wetzel@cchmc.org