Meet the 2019 Ferring Innovation Grants Recipients

In 2019 Ferring's Innovation Grants Program, an initiative of the Ferring Research Institute (FRI), awarded 8 grants to early-stage researchers working in Gastroenterology & Hepatology, Reproductive Medicine & Maternal Health, and Urology. We caught up with the latest grant recipients to learn more about their fascinating research projects, their diverse passions – from performing in community musical groups to exploring amateur geology - and their shared desire to improve the lives of patients all over the world.

*Click here to see past **Ferring Innovation Grant recipients**.*

Name: Katherine (Katie) Burns, PhD
University: University of Cincinnati College of Medicine
Research Project: *Targeting neutrophilic responses in the initiation of endometriosis*

How would you summarize your research project?
Our research is focused on finding a non-hormonal therapeutic for endometriosis by concentrating on a treatment that can block the first steps during the initiation of endometriosis.

What motivated you to research this area?
I have endometriosis and it has affected many parts of my life for 30 years. The unmet needs surrounding this disease are enormous. Currently, only band-aids are available to the millions of women who live with this disease.

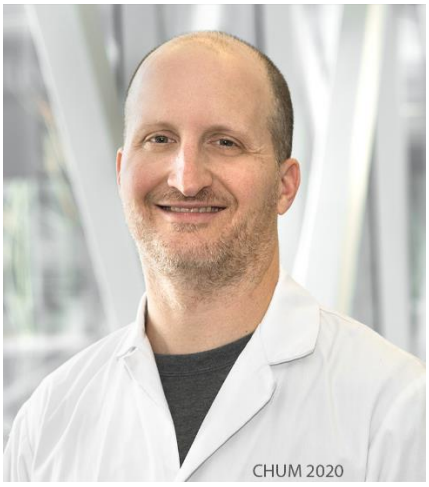
What do you hope to achieve through the Ferring Innovation Grants program?
We hope to achieve better knowledge of what occurs and how to target the first stages of endometriosis lesion development.

Most exciting thing about your research project?
We are most excited about using both small molecule inhibitors and a biologic to target the earliest time points of disease initiation, which will hopefully, in the future, allow for disease prevention and/or slowing of disease progression.

How would you describe yourself in 3 words?
Dedicated, trustworthy, motivated.

Interesting fact about yourself?
During my 4th of 5 surgeries for endometriosis, I was a patient in an NIH Clinical Trial. From this experience, I switched my career to reproductive biology and toxicology.

Anything else you'd like to add?
We are grateful for the support from Ferring in helping to increase endometriosis disease awareness and, ultimately, to help the millions of women affected with endometriosis and its co-morbidities.



Name: Emmanuel Charbonney, MD PhD
University: University of Montreal
Research Project: *New insights into the role of uric acid in the pathogenesis of hepatic encephalopathy*

How would you summarize your research project?
We are investigating a circulating factor released following liver injury that can affect the brain and its function.

What motivated you to research this area?
As an intensivist and scientist, I'm interested by the causes of disease but also by the pursuit of new treatments.

What do you hope to achieve through the Ferring Innovation Grants program?
I'm excited to be able to demonstrate that uric acid is a potential target for the treatment of hepatic encephalopathy with the help of an experimental model of liver disease. I hope that it will provide insights to translate into clinical testing and impact patient's care.

Most exciting thing about your research project?
The collaboration with Christopher Rose (PhD), a renowned scientist in the field, as well as the integration of such a project into the clinical perspectives of my hospital.

Most challenging part of your research project?
The capacity to develop a disease model that will correspond to the human equivalent, in order to translate to an applicable clinical therapy in the future.

How would you describe yourself in 3 words?
Curious, perseverant and inclusive.

Interesting fact about yourself?
I love travelling, speaking different languages and I'm a chocolate addict.

Name: James Checco, PhD
University: University of Nebraska-Lincoln
Research Project: *A multi-analytical approach to identify interstitial cystitis/bladder pain syndrome (IC/BPS) biomarkers in urine*

How would you summarize your research project?
The goal of this project is to identify compounds in urine that may be used to help diagnose interstitial cystitis/bladder pain syndrome.

What motivated you to research this area?
Interstitial cystitis/bladder pain syndrome (IC/BPS) is a chronic bladder condition that often leads to pain and an urgency to urinate. It can often be difficult to diagnose IC/BPS because many of its symptoms are shared with other urinary tract/bladder disorders. Thus, there is a critical need for reliable biomarkers to aid in diagnosing this condition. To begin to solve this need, our group saw an opportunity to apply distinct, multimodal approaches to identity biomarkers from understudied classes of molecules.

What do you hope to achieve through the Ferring Innovation Grants program?
The Ferring Innovation Grants program gives me the flexibility to pursue a new research direction of interest to me, and I aim to use this opportunity to advance our knowledge of IC/BPS. Long-term, we anticipate that the results of our research may benefit patients suffering from this disorder by allowing more reliable diagnosis in a non-invasive manner.

Most exciting thing about your research project?
I am excited to pursue a project that has the long-term potential to help individuals suffering from IC/BPS. In addition, as in all research, it is exciting to “venture into the unknown” to make new discoveries! The results that we obtain have the potential to teach us more about the molecular basis of IC/BPS, which may also be valuable in helping people in the future.

Most challenging part of your research project?
We will be analyzing patient biosamples (obtained from a federal repository) to identify putative biomarkers, but the amount of patient sample we receive is limited. It will be a technical challenge to optimize procedures to reliably detect and quantify molecules from limited volume samples.

How would you describe yourself in 3 words?
I am excited!

Interesting fact about yourself?
I play the clarinet in a local musical group, the Lincoln Community Concert Band.

Name: Jennifer Condon, PhD
University: Wayne State University
Research Project: *Pharmacological targeting of GRP78 as a novel therapeutic for the inhibition of idiopathic preterm birth*

How would you summarize your research project?
We aim to examine if we can eliminate the risk of preterm birth by administering a novel protein, which we have found to be significantly decreased in women that deliver preterm. The protein is normally secreted by the pregnant uterus across gestation and helps keep the uterus in a non-contractile relaxed state.

What motivated you to research this area?
My research in this area is motivated by the need to determine why women undergo both normal term and idiopathic preterm labor. Unfortunately to-date the mechanisms that govern these events remain largely unknown. My lab has focused on the role of uterine endoplasmic reticulum stress and secreted extracellular chaperone proteins acting as agents that precondition and prepare the pregnant uterus to withstand subsequent exogenous and endogenous contractile stimuli as the pregnancy progresses to term. In other areas of research circulating chaperones are currently undergoing clinical trials examining their efficacy as anti-inflammatory agents. The translatability of this current proposal also motivated us to pursue this research area, as extracellular GRP78 may act as an anti-inflammatory therapeutic target for the prevention of preterm birth.

What do you hope to achieve through the Ferring Innovation Grants program?
We aim to determine if re-establishment of an appropriate preconditioned serum profile through prophylactic administration of GRP78 will reverse the sub-preconditioned phenotype and inhibit the onset of idiopathic preterm birth.

Most exciting thing about your research project?
Our project is highly attractive from a clinical viewpoint and as a tocolytic strategy as we ultimately aim to identify local and systemic adaptations that may serve to prolong uterine quiescence in women at risk for preterm birth but also affords us a unique opportunity for non-invasive preterm birth associated biomarker discovery. Also GRP78 as a target molecule is an endogenously expressed and secreted protein found in the serum of pregnant women that does not cross the placental barrier therefore we will avoid the off target effects of small molecule mimics.

Most challenging part of your research project?
The most challenging component of this research is going to be defining in vivo the relevant downstream partners of the extracellular chaperones that permit their anti-inflammatory pro-resolutionary action in the macrophage and myocyte.

How would you describe yourself in 3 words?
Optimistic, patient and motivated.

Interesting fact about yourself?
Originally from Co Waterford, Ireland, the oldest city in Ireland. I'm an amateur geologist, love trial riding and the outdoors, recently cycled from Washington DC to Pittsburgh on the C&O canal and Allegheny Passage, a fantastic 5-day trip.

Name: Leo Chen Huei, PhD
University: Singapore University of Technology & Design
Research Project: *Relaxin treatment of liver fibrosis and vascular dysfunction using a novel animal model of non-alcoholic steatohepatitis*

How would you summarize your research project?
This project explores the feasibility of the peptide hormone relaxin to reverse liver and vascular disease.

What motivated you to research this area?
This research grant was inspired by conversations with Ms Sue-Hui Tan from Ferring Pharmaceuticals (Singapore). Specifically, she introduced me to Professor Walter Wahli and Associate Professor Andrew Tan from National Technological University, Singapore, where they developed a novel animal model of non-alcoholic steatohepatitis. I have expertise with relaxin pharmacology in vascular systems and relaxin is also known to be a potent anti-fibrotic peptide. Together, we find this peptide extremely promising as a potential therapeutic target for preclinical testing using this novel animal model of non-alcoholic steatohepatitis.

What do you hope to achieve through the Ferring Innovation Grants program?
We hope to encourage further research regarding the therapeutic potential of relaxin in liver and vascular diseases. Furthermore, to draw attention to the potential utility of this animal model to test other potential molecular entities for the treatment of non-alcoholic steatohepatitis.

Most exciting thing about your research project?
The opportunity to advance our knowledge in disease pathology and mechanism of action of relaxin, which ultimately may have the potential to translate these findings into clinical trials

Most challenging part of your research project?
The most challenging part of the project is to determine what is the optimum duration of treatment and how to translate these findings to human settings**.**

How would you describe yourself in 3 words?
Innovative, practical, curious

Interesting fact about yourself?
Beside science, I enjoy reading on Chinese metaphysics and global economics

Anything else you'd like to add?
I sincerely thank the Ferring Research Institute for supporting our research.

Name: Carlos Penha-Gonçalves, DVM, PhD
Affiliation: Instituto Gulbenkian de Ciência
Research Project: *Crosstalk of liver damage-associated endothelial cells and macrophages: exploiting TREM-2 as a therapeutic target in liver regenerative responses*

How would you summarize your research project?
We are aiming to find new therapeutic tools to promote liver regeneration responses that in the future could help people with severe liver disease.

What motivated you to research this area?
The liver has amazing regeneration ability. I am interested in understanding basic molecular mechanisms that underpin liver tissue repair after acute and chronic injury.

What do you hope to achieve through the Ferring Innovation Grants program?
To uncover a molecular target that impacts on revascularization of liver damaged tissue.

Most exciting thing about your research project?
To investigate how different cell types communicate in the liver to repair damaged tissue. We are particularly interested in uncovering the molecular crosstalk between immune cells and endothelial cells in the injured liver.

Most challenging part of your research project?
To demonstrate that specific biological molecules are effective in promoting liver regeneration in vivo.

How would you describe yourself in 3 words?
Optimistic, principled, perseverant

Interesting fact about yourself?
I like to engage in collaborative scientific research in developing countries.

Anything else you'd like to add?
I am thankful to Ferring for supporting this research.

Name: Giorgio I. Russo, MD, PhD
University: University of Catania
Research Project: *Association between protein expression and oncological outcomes in bladder cancer patients receiving radical cystectomy after BCG failure*

How would you summarize your research project?
Our study focuses on an unfortunately frequent variant of bladder cancer, the muscle-invasive muscle tumor, with a high mortality rate. Patients diagnosed with this type of "high risk" bladder cancer will be studied with the Tissue Microarrays (TMA) technique, as opposed to traditional investigation techniques based on individually placed tissue sections. This experiment will allow identification of specific proteins that are associated with bladder aggressiveness in order to find the most efficient therapies for our patients.

What motivated you to research this area?
I have always aspired to find new treatments for urological cancer patients and research has the task and the duty to give an answer to society. This prestigious grant will give us a great opportunity: to discover new mechanisms still unknown.

What do you hope to achieve through the Ferring Innovation Grants program?
Our research proposal will have the task of understanding the oncological results in patients undergoing radical cystectomy after failure with BCG. In fact, we expect to find significant alterations of protein expression patterns investigated by tissue microarray. In particular, knowing which proteins are altered in patients with failure to BCG is extremely important in order to be able to predict the response of such patients to treatment, but also to study new therapeutic mechanisms able to balance the ineffectiveness of treatment with BCG.

Most exciting thing about your research project?
The best part will be to be the coordinator of a magnificent project for the first time.

Most challenging part of your research project?
The most compelling part of the project will be to collect as many cases as possible in order to produce reliable results.

How would you describe yourself in 3 words?
Competitive, tough and Sicilian

Interesting fact about yourself?
Many years ago, I was close to becoming a pianist for profession and now I am a Urologist. Totally two different things but I am quite sure that both are integrated in my life for my profession.

Anything else you'd like to add?
This is the first time that an Italian project has been awarded by the Ferring Grant and I am really proud.

Name: Xiaoqin Ye, MD, PhD
University: University of Georgia
Research Project: *Intrauterine fluid resorption to facilitate embryo implantation*

How would you summarize your research project?
This research project aims to identify potential chemicals that could influence intrauterine fluid resorption prior to embryo implantation because excessive fluid in the uterus (womb) can adversely affect embryo implantation.

What motivated you to research this area?
Embryo implantation is the initial maternal-embryo physical interaction that is mandatory for successful mammalian reproduction. It requires synchronized readiness of a uterus and an embryo as well as their timely dialogues. I was led to the research area of uterine factors in embryo implantation by my *Lpar3*-deficient “mousey babies” while I was a postdoctoral “mousey mama”. An embryo is semi-allogeneic to the biological mother-to-be and allogeneic to a surrogate woman. How the uterus transiently transforms into a receptive state for an embryo to implant is far from well-understood. Understanding uterine factors in embryo implantation has been the main focus of my research.

What do you hope to achieve through the Ferring Innovation Grants program?
Excessive intrauterine fluid at the time of embryo implantation is a uterine factor that is associated with embryo implantation failure in both women and mice. Through this Ferring Innovation Grant, I hope to identify non-hormonal chemicals that regulate intrauterine fluid resorption prior to embryo implantation in a mouse model.

Most exciting thing about your research project?
It will provide critical information for drug discovery to treat infertility caused by excessive intrauterine fluid.

Most challenging part of your research project?
Since the uterus is under dynamic hormonal controls *in vivo* and it is only transiently receptive for embryo implantation, no *in vitro* system so far could closely mimic the *in vivo* environment for studying uterine functions in embryo implantation.

How would you describe yourself in 3 words?
Grateful, caring, persistent.

Interesting fact about yourself?
A proud “mousey grandma”.

Anything else you’d like to add?
Thank you Ferring for supporting this type of fundamental but underfunded research.