

Pilot Project Program (PPP) Awardees

Winter-2022

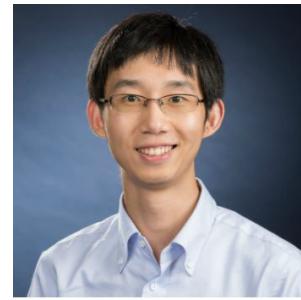
A major goal of the UMass Center for Clinical and Translational Science (UMCCTS) is to accelerate the translation of basic discoveries into practical, cost-effective solutions that improve human health. The PPP provides individual project awards (up to \$50,000 for 1 year) on a competitive basis.

As a result, the UMCCTS's Pilot Project Program (PPP) has funded 7 new projects starting in December 2021. Five of the seven projects include collaborations between UMass Chan Medical School and other institutions including UMass Memorial Healthcare, UMass Amherst, and Worcester Polytechnic Institute (WPI).

Congratulations to the Principal Investigators and their teams on a successful PPP application! We look forward to hearing about the next evolution in your research.

Project Title:

Automatic Wild-field Optical Imaging for Transplant Organ Viability Assessment



Dr. Yu Chen

Associate Professor
Department of Biomedical
Engineering, UMass Amherst
Adjunct Associate Professor
Department of Radiology
UMass Chan Medical School

Dr. Babak Movahedi

Assistant Professor
Dept. of Surgery
UMass Chan Medical School

Dr. Haichong Zhang

Assistant Professor
Dept. of Biomedical Engineering
Worcester Polytechnic Institute (WPI)

“

We're excited to get this support from the UMCCTS. This work will allow us to expand our work into a new area of robotic-assisted optical imaging of transplant organs to predict their viability. Without PPP funding it would be difficult to do this high risk, high reward translational research.”

CHEN PROJECT TEAM

Project Title:

STING Agonism for the Treatment of COVID-19



Dr. Kate Fitzgerald

Professor

Dept. of Medicine
UMass Chan Medical School

Dr. Fiachra Humphries

Instructor

Dept. of Medicine
UMass Chan Medical School

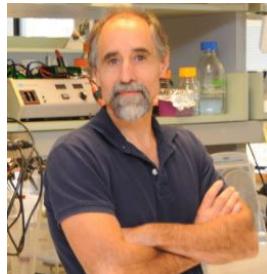
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We are delighted to receive this pilot award from the UMCCTS PPP program to advance our studies of a novel small molecule STING agonist against Sars-CoV2 infection.”

FITZGERALD PROJECT TEAM

Project Title:

Correction of Defective Splicing in Fragile X Syndrome with Therapeutic Potential



Dr. Joel Richter

Professor

Program in Molecular Medicine
UMass Chan Medical School

Project Title:

Isolated Single Islet Studies to Define the Factors Underlying the Heterogeneity of Islet and Peri-Islet Lymphocytic Infiltration in Human Type 1 Diabetes



Dr. David Harlan
William and Doris Krupp
Chair in Diabetes
Professor of Medicine
Division of Diabetes
Diabetes Center of
Excellence
UMass
Chan Medical School



Dr. Yihao Zheng
Assistant Professor,
Mechanical Engineering
Worcester Polytechnic
Institute (WPI)



Dr. Sally Kent
Professor of
Medicine, Diabetes
Division
Diabetes Center of
Excellence
UMass Chan Medical
School



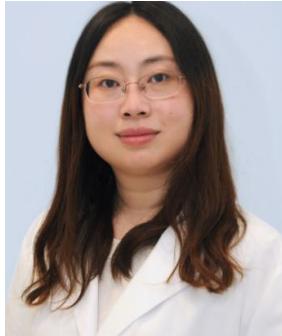
Dr. Sambra Redick
Senior Research
Scientist
Program in Molecular
Medicine
Diabetes Center of
Excellence
UMass Chan Medical
School

“ My WPI and UMass Chan Diabetes Center of Excellence colleagues are most excited to get this support from the UMCCTS. We have been exploring a question that has vexed type 1 diabetes (T1D) investigators for decades, i.e. why the immune system attacks some pancreatic insulin producing cells in individuals with T1D, and leaves other insulin producing cells unscathed. Our team has been working to develop tools that will allow us to address that critical question by studying the pancreas of donors who died with T1D, then from those organs, isolating unique and viable insulin producing cell clusters some of which are being attacked and others are not, to interrogate those cell cluster's function, precise cellular constituents, and those cells' gene expression. Without this PPP funding, continuing our high risk, high reward translational research would be practically impossible”.

HARLAN PROJECT TEAM

Project Title:

Dissecting Optical Coherence Tomography Features to Predict Risk of Future Advanced Age-related Macular Degeneration



Dr. Tianxiao Huan
Assistant Professor
Ophthalmology and Visual
Sciences
UMass Chan Medical School



Dr. Johanna Seddon
Professor
Department of
Ophthalmology and Visual
Sciences
UMass Chan Medical School



Dr. Yu Chen
Associate Professor
Department of Biomedical
Engineering, UMass Amherst
Adjunct Associate Professor
Department of Radiology
UMass Chan Medical School

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We're very happy to receive this support from the UMCCTS. This fund is very important for my early career research as an assistant professor. This work will allow us to expand our work to bridge [the] knowledge gap by linking clinical and genetic risk factors with retinal morphology of age-related macular degeneration (AMD). It provides us with the opportunity to conduct such high-risk and high-reward translational research. We will use this pilot funding to generate results and optimize our methods for large-scale retinal morphology – genetics study in the near future to explore the pathogenesis and develop new early diagnosis and treatment strategies for AMD. ”

HUAN PROJECT TEAM

Project Title:

A Deep Learning-Based Real-Time Vascular Anatomy Assessment Tool for Emergency Stroke Interventions



Dr. Anna Kuhn
Assistant Professor
Radiology
UMass Chan Medical School



Dr. Mohammed Salman Shazeeb
Assistant Professor
Department of Radiology
UMass Chan Medical School



Dr. Clifford Lindsay
Assistant Professor
Department of Radiology
UMass Chan Medical School

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We are deeply honored to receive this generous award from UMCCTS and grateful for the feedback from the anonymous reviewers. This PPP funding is essential for our project and without it we would not be able to expand this high-risk research into critically important stroke interventions. We believe the translational work has the potential to not only save lives but improve the long-term outcomes of stroke patients through facilitating more expedient neurointerventions.”

KUHN PROJECT TEAM

Project Title:

Tinnitus Characterization Using Reverse Correlation with Applications to Retraining Therapies



Dr. Adam Lammert

Assistant Professor
Biomedical Engineering
Worcester Polytechnic Institute (WPI)

Dr. Divya Chari

Assistant Professor
Otolaryngology
Head & Neck Surgery
UMass Chan Medical School

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We are thrilled that the UMCCTS saw value in our proposal, and has decided to fund the project. This support will allow us to validate a highly novel approach to characterizing tinnitus which has potential to become a clinical assay used to improve primary treatment options for the over 50 million people in US suffering from tinnitus. With PPP funding, we will be able to lay the necessary groundwork for pursuing a clinical trial by conducting the preclinical validation necessary to satisfy the NIH criteria of rigor and reproducibility.”

LAMMERT PROJECT TEAM