News Stories

Atsushi Asakura & Medical Student Mayank Verma Utilize Unique Method to Identify Stem Cells for Muscular Dystrophy Treatment
IEM Member Dr. Atsushi Asakura, Associate Professor of Neurology, and medical school student Dr. Mayank Verma, utilized 3D technology for the identification of stem cells optimal for transplanting into patients with muscular dystrophy. Drs. Asakura and Verma developed the three-dimensional technique that allowed them to study the vascular niche of muscle stem cells, which had not yet been studied. The technique allowed them to determine that muscle stem cells located near blood vessels likely had more long-term potency. “This could be very important for learning more about the role of these stem cells in aging and muscular dystrophy, and treatments in the future,” says Dr. Asakura. The research, entitled “Muscle Satellite Cell Cross-Talk with a Vascular Niche maintains quiescence via VEGF and Notch Signaling,” was published in Cell Stem Cell.

Theresa Reineke Awarded DuPont Nutrition & Health Science Excellence Medal
IEM Member Dr. Theresa M. Reineke, Professor of Chemistry, has been awarded the DuPont Nutrition & Health Science Excellence Medal “for her work in understanding the fundamentals of amorphous solid dispersions of poorly soluble drugs and identifying the next generation of excipients for solubility enhancement.” Medalists are scientists who are leaders in their fields who have “a remarkable record of achievement in advancing science and technology relevant to the future of food, nutrition and health.” Dr. Reineke was presented with the award at TechCon, an innovation conference hosted by DuPont, at the company’s headquarters in Wilmington, Delaware. The awards are funded by the Danisco Foundation, which established them in 2002 to help in the improvement of industrially-produced food products.

Researchers Use 3D Technology to Identify Optimal Stem Cells for Transplantation >

DuPont Nutrition & Health Honors 2018 Science Excellence and Microbiome Science award Medalists >
Kalpna Gupta Receives Pioneer Award; Mentee of Dr. Gupta Receives NIH K99/R00 Award for Research Initially Funded by IEM Seed Grant

IEM Member Dr. Kalpna Gupta, Professor of Medicine, received the Pioneer Award from the Sickle Cell Disease Association of America (SCDAA) at their 46th Annual National Convention in Baltimore, Maryland on October 12th. The Pioneer Award recognizes Dr. Gupta’s efforts in advancing pain research and advocating for improving pain treatment outcomes for sickle cell disease, globally. “Dr. Gupta has laid down the foundation for pain research in Sickle cell disease. Her approach is to do whatever it takes to find solutions to reducing pain in Sickle cell disease,” says SCDAA Director Dr. Lewis Hsu. Sickle cell disease is a genetically inherited condition affecting mostly African Americans and Hispanic populations in the United States. Patients can suffer or struggle with debilitating pain throughout their lives.

An IEM seed grant that was awarded to three IEM Members, including, Dr. Kalpna Gupta, Professor of Medicine, funding research that has led to an NIH K99/R00 grant awarded to Dr. Gupta’s mentee, Ying Wang, M.D., Ph.D., who has been working in Dr. Gupta’s laboratory for the past 4 years as a postdoctoral trainee on the NHLBI Excellence in Hemoglobinopathies Research Award (EHRA) UO1 grant. The new K99/R00 grant will fund a 5-year project entitled “Mechanisms to predict and potentiate acupuncture analgesia in sickle cell disease.” Dr. Gupta says that the award “is an accomplishment towards the goals of IEM for training future scientists to be independent investigators. It involves Engineering (MRI/MRS) and medical (pain) expertise from CSE and the Medical School.”

Start-Up Company that Emerged from the Earl E. Bakken Medical Devices Center Innovation Fellows is Honored at TCT

Aria CV, Inc, a company that evolved from the Class of 2010 Innovation Fellows at the IEM-affiliated Earl E. Bakken Medical Devices Center, received the highest honor and a $200,000 award in the Shark Tank Innovation Competition at the Transcatheter Cardiovascular Therapeutics (TCT) conference, which was held in San Diego, California in late September. During their fellowship, the team members developed the concept of treating a type of high blood pressure, called pulmonary hypertension, with an implantable balloon. “This is a tremendous unmet medical need. Pulmonary hypertension is still a deadly, progressive disease, despite the expensive prescription drugs” currently available for treating it, says Innovation Fellows Alumnus Dr. John Scandurra, Aria CV’s President and CEO. According to Dr. Scandurra, Aria CV has benefitted by being located in the fertile Twin Cities medical technology community. “We have maintained a small footprint and used a lot of contractors,” Scandurra said. “That is one thing about the Twin Cities — we do have a lot of access to cardiovascular expertise.”

Mitral Valve Device Developed by a Team Led by Former University of Minnesota Ph.D. Student Achieves Milestone of First Human Implant

A mitral valve device, developed by a team at Brooklyn Park-based 4C Medical Technologies, led by Dr. Saravana Kumar, a former Ph.D. student of IEM Director John C. Bischof, achieved the milestone of its first human implant in early September, at the University of Laval, Quebec City. The device, named AltaValve, described as a novel solution for the treatment of mitral regurgitation, resides within the left atrium and blocks leakage coming across the native mitral valve. Dr. Kumar’s journey in this quest began two years ago, when he began working with an interventional cardiologist on a mitral valve replacement technology, which achieved proof-of-concept in animals in early 2017. After joining 4C Medical Technologies full-time in November of 2017, Dr. Kumar assembled the development team at 4C Medical. Dr. Kumar says that the skills he developed as a Ph.D. student of Dr. Bischof helped to prepare him for this role, as he learned how to assemble a team and how to solve a complicated problem “by breaking it down into simple elements and attacking one challenge at a time.”
Announcements

Student Ambassadors Sought for High School Inspire Conference on Friday, November 16th - Excellent Outreach Opportunity for Students

IEM is seeking undergraduate, graduate and post doctoral students to serve as Student Ambassadors at the inaugural high school Inspire Conference, to be held on Friday, November 16th at the McNamara Alumni Center. The conference will seek to inspire high school students to consider careers in using STEM to research, treat and cure diseases, and for healthcare delivery. Each Ambassador will spend one and a half hours, during a breakfast shift (9:00 - 10:30 A.M.) or lunch shift (11:00 A.M. - 12:30 P.M.), hosting a group of 5-8 students and their chaperone from a particular school. Each Ambassador will sit with the high school students during talks in Memorial Hall, and can share with those students his or her own pathway from high school to becoming a student at the University of Minnesota. This is an excellent outreach opportunity for University of Minnesota students, and food and beverages will be available to the Ambassadors. Please have interested students contact Ken Rosen krosen@umn.edu for more information.

IEM Inspire Conference Program >