

SCHOLARS

MHI 2018-19 PhD SCHOLARS

Each year, a select group of PhD students from the ECE Department are chosen as Ming Hsieh Institute Scholars. These students are carefully reviewed by a faculty committee on the basis of their research accomplishments and desire for an academic career. They assist MHI in carrying out its mission.



Jian Li
Advisor: Richard Leahy



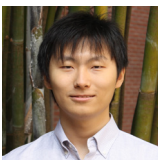
Sepideh Hassan Moghaddam
Advisor: Mihailo Javanovic



Debarghya Sarkar
Advisor: Rehan Kapadia



Ramy Tadros
Advisor: Peter Beerel



Qian Yu
Advisor: Salman Avestimehr

It takes more than just technical skill to be a holistically successful graduate student. That was the guiding principle for this year’s MHI Ph.D. Scholar cohort when developing their public program: *Enhance-Cultivate-Excel*. They decided to focus on personal and career development strategies for their peers. A series of 2-hour interactive seminars were organized:

- Effective Public Speaking* led by R. Steven Johnson
- Self-management, Decision Making, and Leadership* by Dr. Christopher Bresnahan
- Faculty Positions Application and Selection Process* by Dr. Gupta and Dr. Hashemi
- Research & Industry Grant Proposal* by Dr. Jovanovic, Dr. Mitra, and Dr. Nayak

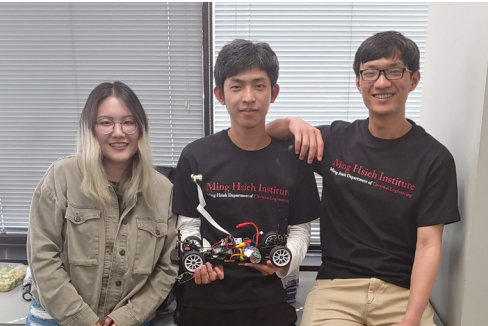
RACE ON COMPETITION

The competition was split in two races, progress check (non-mandatory) and final(mandatory). The progress check race was organized halfway through the competition. In total, 15 teams completed the progress check race, whereas the other teams could not attend due to mid-terms which were held around the same time.

On April 12, the day of the final race, 26 teams were ready to compete. The teams registered lap times ranging from 13.7 seconds to 39 seconds, although not every team succeeded in completing a lap without crossing the track boundaries. The top three teams were:

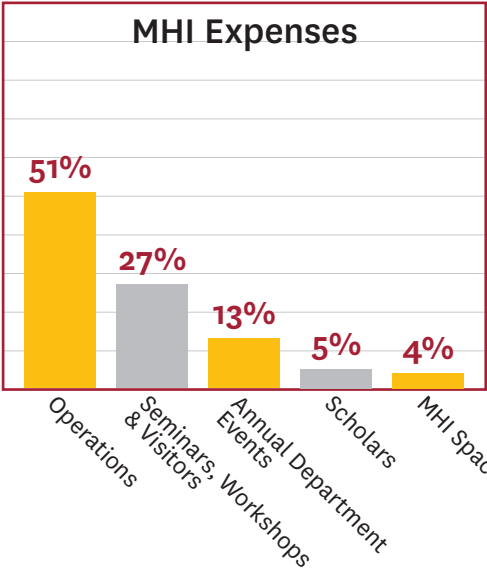
- Shanlin Sun, Hang Du, Peize Feng - 13.7 second lap time.
- Shatad Kolin Purohit, Pramod Chandra Samudrala, Bharath Chintamani - 14.9 second lap time.
- Justin Ly, Edison Siu - 19.4 second best lap time.

The Race On Comptition will continue in Fall of 2019.



MING HSIEH INSTITUTE

The Ming Hsieh Institute (MHI) is focused on enhancing academic and research programs within the Ming Hsieh Department of Electrical and Computer Engineering. Through supporting innovative activities and hosting leading researchers from around the globe, MHI helps position the department at the forefront of emerging fields within electrical and computer engineering.



51%	Operations Supported faculty & staff payroll
27%	Seminars, Workshops, and Visitors Enabled leading researchers from around the world to visit, give talks, and work with faculty and students
13%	Annual Department Events Developed & organized by MHI to encourage collaboration between faculty, students, and alumni
5%	Scholar Program Awards, travel funding, workshop and event support to MHI Ph.D. Scholars
4%	MHI Space Upgraded the recording systems in EEB132 and continue to provide collaborative space for the ECE community

MHI Leadership

Shri Narayanan, Director
Hossein Hashemi, Co-Director
Bhaskar Krishnamachari, Co-Director
Cathy Huang, Business Officer
Benjamin Paul, Communications Manager

2018-2019 Faculty Advisory Council

Salman Avestimehr
Rehan Kapadia
Mahta Moghaddam
Krishna Nayak
Antonio Ortega
Mike Chen
Mihailo Jovanovic

Ming Hsieh Institute
Department of Electrical and Computer Engineering
USC Viterbi School of Engineering
3740 McClintock Ave., EEB 131
Los Angeles, CA 90089
p: 213-740-2694 | e: info-mhi@ee.usc.edu
w: https://mhi.usc.edu



Ming Hsieh Institute

intelligent technologies to empower mankind



To the Frontier
Ming-Chang Chiu

ANNUAL REPORT

2018/2019

SEMINARS

MHI Industry Research and Technology Seminar

Developed in the Fall of 2016, this series focuses on inviting speakers from industry to share their technical expertise. Speakers and ECE students exchange ideas and brainstorm solutions. Industry speakers in 2018-19 included representatives from Savant Company Inc., Microsoft Research, Visualization and Interaction Research Group at Microsoft, and Alibaba Cloud.

MHI+Center for Cyber-Physical Systems & IoT Joint Seminar Series

The second edition of the Cyber-Physical Systems Seminar Series was especially active this year. Visitors from industry and leading universities participated in the Spring as part of class EE 598. Even more talks will be scheduled for Fall of 2019.

2018-19 Number of speakers: 30

2018-19 Budget: \$10,000

MHI Center for Systems and Control-CommNets Seminar Series

This series is a weekly seminar that brings together faculty and students in communications, networks and controls. One of the primary goals of the series is to expose students to the work taking place in other areas of engineering.

2018-19 Number of speakers: 26

2018-19 Budget: \$15,000

MHI Computer Engineering Research Seminar Series

This series offers an interdisciplinary perspective on the cutting-edge research and development in the field of computer engineering. Computer engineering deals with the design, development, testing, and evaluation of componenets, systems, and networks.

2018-19 Number of speakers: 6

2018-19 Budget: \$5,000 (with \$5,000 from 2017-2018)

MHI Integrated Systems Seminar Series

This series hosts researchers to cover topics related to integrated circuits, systems, and related devices in the context of diverse applications including communication, computation, networking, sensing and imaging. Speakers from academia and industry covered topics related to brain-inspired integrated circuits for computation and communications, silicon integrated circuits, and high-speed integrated transceivers.

2018-19 Number of speakers: 11

2018-19 Budget: \$10,000

MHI Medical Imaging Seminar Series

This series features lecturers from leading universities and medical institutions in the US and abroad on all topics related to the various aspects of medical imaging.

2018-19 Number of speakers: 3

2018-19 Budget: \$10,000

MHI Nano Materials and Devices Seminar Series

This series aims to expose students to cutting-edge research in the field of nanotechnology. In 2018-19, leaders in academia and industrial research institutes shared their most recent achievement in the diverse field of nanoscale materials, devices and systems.

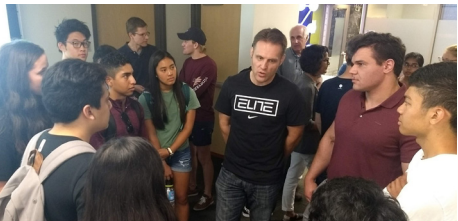
2018-19 Number of speakers: 11

2018-19 Budget: \$10,000

EVENTS

MHI Open House - Undergraduates

An Open House for all undergraduates that are new to ECE. Students were able to interact with professors and upper classmen casually to ask questions.



August 2018

9th Annual EE Research Festival

MHI welcomed the entire USC Viterbi community, alumni and engineering industry representatives to the showcase of current student research. There were 11 industry sponsors, 58 industry representatives, and 23 alumni attended.



November 2018

Prof. Scholtz’s Celebration of Service

MHI sponsored a dinner celebrating Bob Scholtz’s retirement. One of the most accomplished researchers in the field of electrical engineering, Scholtz spent fifty-six year at USC. Friends and former students came from all over the world to pay their respects to one of our best.



April 2019

Robotics Open House

MHI worked with Viterbi PK12 to show SoCal students from K-12 how Electrical and Computer Engineering plays a big part in the robotics world.



April 2019

ECE PhD Commencement Luncheon

ECE PhD graduates from the class of 2019 were invited to celebrate their accomplishments. Advisors spoke about their students’ time at the Department. Two of our faculty, Prof. Shanechi and Prof. Kapadia, graduated their first PhD students!



May 2019

Symposium on Blockchain (FAB 2019)

The second International Symposium on Foundations and Applications on Blockchain (FAB) brought together researchers and practitioners of blockchain to share and exchange research results. The program consisted of four exciting referred technical papers from around the world, a timely panel on the future of blockchain, and seven invited keynotes from academia and industry. The peer reviewed papers were provided with 3 to 4 reviews. This year, the evalutaion process included a one week rebuttal period for the authors to respond to reviewer comments.

36th SoCal Control Workshop

This bi-annual event brought together 130 researchers from Southern California universities to the USC Ming Hsieh Department of Electrical and Computer Engineering. Working in broad areas of systems and control, researchers at the one-day event enjoyed an informal collaborative setting. The objective was to provide a forum for graduate students to present their work, interact with peers and faculty, and network and establish connections for future collaboration.



New PhD Student Welcome Dinner

Hosted annually with ECE Student Services. MHI Scholars met with new PhD students to provide mentorship, share resources and have fun. A total of 48 new PhDs participated.

October 2018



Holiday Open House

The MHI Holidy Open House is the best way to end the year on a good note and show appreciation to all the faculty and staff for their help throughout the year.

December 2018



Race On

Initiated by our PhD students as a competition for graduate and undergraduate students. Race On rewards innovation, engineering skills, and teamwork, and allows students to apply what they have learned in the classroom to real world challenges.

April 2019



USC Makers Showcase

The Spring Showcase was the culmination of nine different student teams working throughout the school year on unique ECE projects. With a catered dinner and a talk from Adam Sadowsky, CEO of SYYN Labs, this event allowed Makers to demo their completed projects to the community.

April 2019

WORKSHOP, ACTIVITIES & VISITORS PROGRAM

Mr. Niels Reimers

Stanford University (Host: Martin Gunderson) Fall 2018

Mr. Reimers founded Stanford’s Office of Technology Licensing in 1968 when he achieved \$55,000 in licening income for the university. A permanent office was soon approved, with a staff made up of Niels and one office manager. Cumulative licensing income from his endeavor is expected to top \$2 billion by this year.

Dr. Schahram Dustdar

Vienna University of Technology (PI: Bhaskar Krishnamachari) Fall 2018

Dr. Dustdar is a world-renowned researcher in the area of Distributed Systems and Internet of Things. During his visit he gave two research talks, held research meetings and discussions with peer researchers and faculty, attended a meeting of the USC-led I3 consortium, and initiated some research dussions that may lead to technical collaborations related to cloud computing services, IoT and Blockchain

Dr. H. Vincent Poor

Princeton University (Host: Urbashi Mitra) Spring 2019

Dr. Poor is the Michael Henry Strater University Professor of Electrical Engineering at Princeton University. His research interests are in the areas of signal processing and information theory and their applications in wireless networks, energy systems, and related fields.