

HKMS Awards of 2019

The HKMS Young Scholar Award and the Best Thesis Award were presented in AGM of HKMS 2019 held in Hong Kong Polytechnic University.

The 2019 HKMS Young Scholar Award was awarded to Hongyu Liu of Hong Kong Baptist University and Zhian Wang of Hong Kong Polytechnic University on the basis of a recommendation by a selection committee consisting of Ngai-Ming Mok of Hong Kong University, Chi-Wang Shu of Brown University, Zhouping Xin of Chinese University of Hong Kong and Shou-Wu Zhang of Princeton University.

The text that follows contains the committee's citation for each award.

Hongyu Liu is cited for his significant contributions to the analysis and computations of inverse problems and imaging, which have wide applications in life science and technology. For inverse problems, he has obtained fundamental results to the Schiffer's problem and the transmission eigenvalue problem in inverse scattering theory. He is also a major contributor to the mathematical study of the regularized approximate invisibility cloaking. Furthermore, he has proposed very efficient reconstruction algorithms in wave imaging.

Zhian Wang is cited for his important contributions to many aspect of the mathematical theories related to chemotactic movements in biology. First, he and his collaborators proved the nonlinear asymptotic stability of traveling wave solutions to the Keller-Segel system with logarithmic sensitivity, which is an important case of a long standing open problem in the field. Second, he and his collaborators found periodic (in time) solutions to a system with competing effects of chemo-attractant and chemo-repellent, which confirm well with experimental observations. His other contributions such as boundary layer phenomena and large time asymptotic behavior for various chemotaxis models are important too.

The 2019 HKMS Best Thesis Award was awarded to Hao Liu for his thesis "Numerical methods for partial differential equations from geometry related problems", Tao Luo for his thesis : "Analysis of epitaxial growth and dislocation models at different scales" and Lei Yang for his "First-order splitting algorithms for nonconvex matrix optimization problems" on the basis of a recommendation by a selection committee consisting of Xiaoping Wang (HKUST), Tong Yang (CityU) and Jun Zou (CUHK).

Hao Liu obtained his Ph.D in 2018 from Hong Kong University of Science and Technology under the supervision of Shingyu Leung, Tao Luo obtained his Ph. D in 2017 from Hong Kong University of Science and Technology under the supervision of Yang Xiang, Lei Yang obtained his Ph.D in 2017 from Hong Kong Polytechnic University under the supervision of Xiaojun Chen and Ting Kei Pong.