HKMS Awards of 2018

The HKMS Young Scholar Award and the Best Thesis Award were presented in AGM of HKMS 2018 held in City University of Hong Kong University on May 26th.

The 2018 HKMS Young Scholar Awards were granted to Huai-Liang Chang of Hong Kong University of Sciences and Technology, Ronald Lok-Ming Lui of Chinese University of Hong Kong and Zhonghua Qiao of the Hong Kong Polytechnic University on the basis of recommendations 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.

Huai-Liang Chang works on the interface between algebraic geometry and mathematical physics. He has made significant contributions to Gromov-Witten theory which is a major component of modern string theory. He broke new grounds by introducing the notion of P-fields and later on mixed spin P-fields (MSP fields), thriving on the path of using algebraic geometry to study Gromov-Witten invariants for curves of all genera on classical Calabi-Yau manifolds such as smooth quintic threefolds. With collaborators he has established the foundation of the field theory for MSP fields, a theory which provides the mathematical basis for the study of newly developed Landau-Ginzburg models from quantum field theory.

Ronald Lok Ming Lui has made significant contributions in computational geometry and image processing. His work on using conformal or quasi-conformal mappings in image processing has opened a new avenue to treat image processing problems, including the surface registration and parameterization problem, fast and accurate numerical algorithms for conformal or quasi-conformal mapping, and the establishment of shape analysis models. His research, although in applied mathematics, brings into use deep theory that has been developed on conformal maps and Teichmueller theory, and contributes significantly to a vibrant interface between pure and applied mathematics.

Zhonghua Qiao has made significant contributions to numerical analysis and scientific computing, in particular to numerical methods for partial differential equations. He has designed and analyzed semi-implicit unconditionally energy stable numerical methods for solving Cahn-Hilliard equation in phase field models, for which the stability proof does not rely on assumptions of the nonlinearity or a priori bounds of the numerical solution. He has also made significant contribution in the design of efficient adaptive methods.

The 2018 HKMS Best Thsis Award was awarded to Hao Tang for his Ph. D.thesis "Some Research on Stochastic Transport Type Equations and Distribution Dependent Backward Stochastic Differential Equations" and Dong Wang for his Ph. D. thesis "Threshold Dynamics Method: Theories, Algorithms, and Applications'' on the basis of recommendations by a selection committee consisting of Jianghua Lu (HKU), Weiping Li (HKUST), Tao Luo (CityU) and Jun Zou (CUHK).

Hao Tang was from City University of Hong Kong under the supervision of Tong Yang, Dong Wang obtained his Ph. D from Hong Kong University of Science and Technology under the supervision of Xiao-Ping Wang.