

Winners of Youth Innovation Awards of the Faculty of Information Technology, ZJU, 2017

Winner Zhang Minwei

The researcher focuses mainly on multi-functional micro/nano-scaled drug delivery systems and their preparation combining traditional and advanced manufacturing approaches. These include 3D printing, centrifugal printing, electrospraying and electrospinning methods. His most recent research contributions include development of 3D micro/nano-scaled stacked fibers with accurate patterning and spatial arrangement which has led to improved functionality, production rate and safety for greater personalized healthcare applications. More than 30 papers were published in high-quality journals such as ACS Appl. Mater. Interfaces, Chemical Engineering Journal, Scientific Reports, etc. The results received the Best Poster Award in China-Europe Symposium on Biomaterials in Regenerative Medicine, 2015.



Winner Zhong Caijun

The research interests of the awardee lie in the fundamental theory and key technology for 5G and beyond wireless communications systems. He has made a series of innovative contributions in the area of capacity theory of distributed MIMO systems, methods for simultaneous information and power transfer, and cooperative mechanisms in the presence of interference. He has published more than 70 papers, of which 6 were selected as high-cited papers by ESI. The papers have been cited more than 3100 times according to Google Scholar. Part of the research outcomes won the 2nd class prize of Science and Technology Award by the Chinese Institute of Electronics. He also won the 2013 IEEE ComSoc Asia-Pacific outstanding young researcher award and gained the Zhejiang Provincial Natural Science Foundation for Distinguished Young Scholars.



Winner Wu Zhengguang

The researcher mainly focuses on hybrid systems. The design methods of asynchronous controller and filter have been proposed based on hidden Markov model and nonhomogeneous Markov chain, respectively, and the design methods of control/filter for Markov jump systems have been realized in the unified frameworks. Three English monographs and 54 papers have been published. Two of those papers are selected as the Most Influential International Academic Papers in China in 2013 and 2014, respectively. All the published papers have been cited 2821 times in total by other SCI papers and the most one has been cited 219 times. The h-index of the applicant is 35 and 26 papers are selected as the Highly Cited Papers by ESI. The applicant is on the list of the Most Cited Chinese Researcher from 2014 to 2017 selected by Elsevier and the Highly Cited Researcher in 2017 selected by Clarivate Analytics.



Winner Ye Dexing

This honoree is mainly engaged in the design and application of artificial metamaterials, his principal achievements are as follows: 1) He proposed a constitution theory of perfectly matched invisible solid “electromagnetic free space”, and physically realized 2D, 3D omnidirectionally invisible microwave artificial materials; 2) He proposed the model of modified perfectly matched layer, and experimentally designed ultra-thin, ultra-wide band, omnidirectional perfectly matched absorbers; 3) He experimentally verified the realizability of negative index metamaterial with net gain. During the recent 5 years, more than 30 papers have been published in high impact journals such as Science, PNAS, Nature communications, PRL, etc..



Winner Wu Rengmao

The researcher mainly focuses on Freeform Optics and Imaging Systems Design. His research contributions include developing a Monge–Ampère method which is very effective in designing freeform illumination optics for zero-étendue light beam, and a direct design method which is very effective in designing aspherical illumination optics for nonzero-étendue light beam, as well as developing an optimization method for designing B-Spline freeform imaging optics. More than 30 papers have been published in some high-quality journals, such as *Laser and Photonics Reviews*, *Optica*, *Optics Letters*, *Optics Express*, etc. He received Jin Guofan Prize for Excellent Youth of China Instrument Society Scholarships in 2017.



Winner Zhu Qiuguo

The researcher mainly focuses on dynamic motion planning and control. His research contributions include proposing optimal control of coordinated between knee and ankle joints based on serial elastic actuator and torque profile control based on conservation of momentum to solve the high-efficiency and dynamic balance problems on the hopping and running robot and presenting the control method of reaction force to the ground of robot to realize fast locomotion. The researcher has taken charge of more than 10 projects like National Defense Innovation, National Science Foundation of China, *et al*, has more than 30 SCI/EI papers published, and more than 20 invention patents authorized, one of which is for American invention. Besides, the researcher gained the first class prize of Zhejiang Science and Technology Prize in 2013, the first class prize of Zhejiang Teaching Prize in 2014.

