Lu Li and David Shih won the 2015 OCPA Outstanding Young Researcher Award (Macronix Prize)

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Professor Lu Li (Department of Physics, University of Michigan) and Professor David Shih (Department of Physics, Rutgers University) are the co-winners of the 2015 Outstanding Young Researcher Award (Macronix Prize) of the International Organization of Chinese Physicists and Astronomers (OCPA).

The OYRA (Macronix Prize) is given each year to young ethnic Chinese physicists/astronomers outside of Asia in recognition of their outstanding achievements in physics. The Award carries a total cash prize of US $2,000 each and a certificate citing the awardee's accomplishments in research.

Prof. Shih received his A.B. degree in Physics and Mathematics from Harvard University in 2000, an M.Phil. in Physics and Astronomy from University of Cambridge in 2001, and his Ph.D. in Physics from Princeton University in 2006 under the supervision of Professor Nathan Seiberg. From 2006-2009 he was a postdoctoral fellow at Harvard University and then the Princeton Institute for Advanced Study. Since 2009 he has been a professor in the New High Energy Theory Center and the Department of Physics and Astronomy at Rutgers, The State University of New Jersey.

Prof. Shih has become the world leader in the analysis of theories of low energy supersymmetry breaking and their consequences for experiments at the Large Hadron Collider (LHC). Shih's work on these ideas has taken on enormous importance for LHC experiments and he is routinely consulted by both the CMS and Atlas experimental groups.

Prof. Shih's research in high energy theoretical physics started with a more formal approach as a student and postdoctoral associate, dealing with exact results in supersymmetric theories which extend our notions of space-time to include quantum dimensions. These theories are widely believed to be leading contenders in a proper description of nature at short distances and high energies. Since, he has evolved toward more phenomenological topics, motivated in part by the startup of the Large Hadron Collider (LHC) at CERN in 2010. Much of his recent work is concerned with the phenomenological connections of sypersymmetric theories to the ongoing experiments.

Prof. Shih has built on his earlier work on formal aspects of spontaneous supersymmetry breaking, to develop rigorous detailed models of general gauge-mediated (GGM) supersymmetry breaking. These theories provide a quantitatively rigorous framework, in which to evaluate observable effects. This capability represents an important qualitative step beyond previous theories that were limited to weakly-coupled perturbative regime. The GGM paradigm introduced by Shih has since become a standard framework used by theorists in the design and interpretation of tests for supersymmetry in LHC data, for the CMS and ATLAS collaborations.

In a different area, Prof. Shih was among the first to develop model-independent methods to characterize experimental signatures at the LHC, of wide classes of models. For

example, he identified an important, but previously overlooked, collider signature of gauge-mediated supersymmetry breaking. In collaboration with Rutgers experimentalists, Prof. Yuri Gershtein and Prof. Eva Halkiadadis, they designed the first search for a photon in association with a lepton and missing energy at the LHC. More recently, a major focus of Prof. Shih's work has centered on investigating the implications of the experimental value of the Higgs boson mass for supersymmetric theories.

The winner of OCPA's 2015 OYRA Award (Macronix Prize) was selected by the following panel of distinguished physicists (in alphabetical order):

Professor Moses Chan Pennsylvania State University
Professor Xiangdong Ji University of Maryland and Shanghai Jiaotong University
Professor Jen-Chieh Peng University of California, San Diego
Professor Lu Jeu Sham University of California, San Diego
Professor Yuen-Ron Shen University of California, Berkeley
Professor Zhenguo Zhao University of Science and Technology

The OCPA award activity is a continuing program and represents a long tradition of OCPA to recognize outstanding achievements of the members of the ethnic Chinese physics community. Previous OYRA winners include:

Shou-Cheng Zhang (1992, Stanford University)
Terence Tai-Li Hwa (1993, UC San Diego)
Zhi-Xun Shen (1993, Stanford University)
Xiao-Gang Wen (1994, MIT)
Gang Xiao (1994, Brown University)
Wai Mo Suen (1995, Washington University)
Hong Wen Jiang (1996, UCLA)
Rui Rui Du (1997, University of Utah)
Zi Qiang Qiu (1997, UC Berkeley)
Nai-Chang Yeh (1998, California Institute of Technology)
Wayne Hu (1999, University of Chicago)
Chung-Pei Ma (2000, University of Pennsylvania)
Zhen Yao (2001, University of Texas)
Pengcheng Dai (2002, University of Tennessee)
Hoi-Kwong Lo (2002, University of Toronto)
Kun Yang (2002, Florida State University)
Hui Cao (2003, Northwestern University)
Jonathan Feng (2003, University of California at Irvine)
Luming Duan (2005, University of Michigan)
Cheng Chin (2006, University of Chicago)
W. Vincent Liu (2007, University of Pittsburgh)
Ho Bun Chan (2008, University of Florida)
Feng Wang (2008, University of California, Berkeley)
Congjun Wu (2008, University of California, San Diego)

Chong-Yu Ruan	(2009, Michigan State University)
Dongping Zhong	(2009, Ohio State University)
QI, Xiaoliang	(2010, Stanford University)
XU, Cenke	(2011, University of California, Santa Barbara)
GAO, Xuan	(2012, Case Western Reserve University)
CHEN, Yulin	(2012, Oxford University)
FU, Liang	(2013, Massachusetts Institute of Technology)
HO, Shirley	(2014, Carnegie Mellon University)
NI, Kang-Kuen	(2014, Harvard University)