Xuan Gao won the 2012 OCPA Outstanding Young Researcher Award (Macronix Prize)

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Professor Xuan Gao (Department of Physics, Case Western Reserve University) is one of the two winners of the 2012 Outstanding Young Researcher Award (Macronix Prize) of the International Organization of Chinese Physicists and Astronomers (OCPA).

The former OYRA Award has been renamed to the present OYRA Award (Macronix Prize) in 2012 in recognition of a generous donation from the Macronix Education Foundation. The OYRA Award (Macronix Prize) is given each year to a young ethnic Chinese physicist/astronomer outside of Asia in recognition of his/her outstanding achievements in physics/astronomy. The Award carries a cash prize of US $2,000 and a certificate citing the awardee's accomplishments in research.

Prof. Xuan Gao was born in JiangXi province, China in 1978. He received his B.S. degree in Applied Physics at South China University of Technology in 1998. In 2003, he received his Ph.D. degree at Columbia University, under the supervisions of Prof. Aron Pinczuk (at Columbia) and Drs. Allen Mills and Arthur Ramirez (at Bell Labs). His Ph.D. thesis was awarded the Robert Simon Memorial Prize by the Dept of Applied Physics and Applied Math of Columbia University. Between 2003 and 2005, he was a Director's Funded postdoctoral fellow at Los Alamos National Lab, under the supervision of Dr. Greg Boebinger. Then he moved to Harvard University to extend his postdoc training, in Prof. Charles Lieber's group. In 2007, he joined Case Western Reserve University as an Assistant Professor in Physics.

Prof. Gao's research interests include emergent phases and phase transitions in low dimensional correlated electron systems, and the synthesis, understanding and engineering of functional nanomaterials/devices. In the field of strongly correlated two-dimensional (2D) electrons, he made important contributions to the understanding of an emergent 2D metallic state and the metal-insulator transition (MIT). For example, his research group (and collaborators) recently elucidated the 2D MIT in ultra clean gallium arsenide quantum wells with extreme interaction strength being an electron liquid to solid phase transition. In addition, Prof. Gao also made broad contributions to the physics and device applications of nanowire materials. Examples of recent work from his lab include: quantum transport studies of electrons in semiconductor nanowires, discovery of a linear magneto-resistance in topological insulator nanowires, and the elucidation of performance limits of nanowire based bio-sensors.

The winner of OCPA's 2012 OYRA Award was selected by following panel of distinguished physicists (in alphabetical order):

Professor Moses Chan	Pennsylvania State University
Professor Kam-Biu Luk	University of California, Berkeley
Professor Lu Jeu Sham	University of California, San Diego
Professor Yuen-Ron Shen	University of California, Berkeley

The OCPA award (Macronix Prize) activity is a continuing program and represents a long tradition of OCPA to recognize outstanding achievements of the members of the ethnic Chinese physics and astronomy 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)
Xiaoliang Qi	(2010, Stanford University)
Cenke Xu	(2011, University of California, Santa Barbara)