

Yulin Chen won the 2012 OCPA Outstanding Young Researcher Award (Macronix Prize)

Dr. Yulin Chen (Department of Physics, the University of Oxford) 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.

Dr. Chen received his B.S. degree in Physics from the University of Science & Technology of China in 2000 and Ph. D degree in Physics from Stanford University in 2008. Since then, he spent one year as a postdoctoral scholar (2008~2009), and then two years as associate staff Scientist (2009~2010) and staff scientist (2010~2011) at SLAC National Lab. He joined the University of Oxford in 2012 as a University Lecturer (Physics Department) and Fellow of Jesus College.

Dr. Chen's research interest lies in the area of experimental condensed matter physics; and specifically, in understanding the behavior of electrons in unconventional materials, such as topological quantum matters and strongly correlated systems. He is also interested in developing advanced instrumentation to explore critical information on condensed matter systems with new degrees of freedom. His doctoral thesis was based on both scientific projects and instrumentation developments. For the former, he worked on cuprate high transition temperature superconductors (HTSC) and his discovery of a novel self-doping high T_c superconductor ($Ba_2Ca_3Cu_4O_{8F_2}$) with many surprising and unconventional electronic properties posed important implication on current HTSC theories. For the latter, he developed various experimental instruments, including a laser based spin- and time-resolved photoemission spectrometer. Recently, he extended his research into new fields of topological quantum materials. He successfully realized one of the first single Dirac cone 3D topological insulators (Bi_2Te_3) and the insulating massive Dirac fermion states (in magnetically doped Bi_2Se_3), providing the materials base for the realization of many unique topological properties. With collaborators, he also explored the properties of low dimensional topological insulators (including nano-wires, nano-ribbons/plates and thin films), and demonstrated the Aharonov-Bohm effect, ambipolar gating and unusual optical transparency (while maintaining excellent electrical conductivity), which not only enriched the fundamental research of topological quantum materials, but also opened the door to their applications.

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

Professor Moses Chan
Professor Kam-Biu Luk

Pennsylvania State University
University of California, Berkeley

Professor Lu Jeu Sham
Professor Yuen-Ron Shen

University of California, San Diego
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)
Kenke Xu	(2011, University of California, Santa Barbara)