

**PRESS RELEASE**

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## **Sixth Nano Research Award goes to Xinhe Bao and Omar M. Yaghi**

### **Tsinghua University Press and Springer Nature honor two of the world's leading experts in nanoscience and nanotechnology**

Two outstanding scientists have been awarded the annual Nano Research Award which is sponsored by Tsinghua University Press (TUP) and Springer Nature. Xinhe Bao is the Professor at the Dalian Institute of Chemical Physics, Chinese Academy of Sciences, and Adjunct Professor at University of Science and Technology of China. Omar M. Yaghi is the James and Neeltje Tretter Chair Professor of Chemistry at the University of California, Berkeley. Both winners have been invited to give keynote speeches at the 2019 Sino-US Forum on Nanoscale Science and Technology in Changsha, China.

Professor Xinhe Bao was selected for the award in recognition of his significant contributions to the development of the surface chemistry, catalytic basis and applied research, particularly the discovery of the enhanced effect of subsurface oxygen on the catalytic selective oxidation of metallic silver, revealing the regulation of surface catalysis by subsurface structure, the preparation of nanocatalysts with unique low temperature activity and selectivity which solved the problem of the poisoning inactivation of fuel cell electrode caused by trace CO in reformer hydrogen. Prof. Bao had discovered the synergistic confinement effect of nanocatalytic systems and developed the SiO<sub>2</sub> lattice confined single-center iron catalyst and oxide-zeolite composite nano-catalyst, which greatly improved the efficiency of direct conversion of methane and selective conversion of the coal-based syngas, and significantly reduced CO<sub>2</sub> emissions and water consumption.

Professor Omar M. Yaghi was selected for the award in recognition of his significant contributions to the development of the synthesis, structure and properties of inorganic and organic compounds and the design and construction of new crystalline materials, particularly the inventions of several extensive classes of new materials termed metal-organic frameworks (MOFs), covalent organic frameworks (COFs), and zeolitic imidazolate frameworks (ZIFs). Prof. Yaghi's pioneering research into MOFs, COFs, and ZIFs is the seed that has produced a new chemistry now sweeping the world, with hundreds of laboratories pursuing fresh applications for these porous materials. There are now more than 70,000 varieties of developed crystalline materials based on reticular chemistry, a new branch of chemistry which stitches molecules together by strong bonds into open frameworks.

The Nano Research Award, established by the journal *Nano Research* together with TUP and Springer Nature in 2013, is awarded for outstanding contributions to nano research by an individual scientist. The winner is selected by the Award Committee (the Editors-in-Chief, Associate Editors, representatives from TUP and Springer Nature) after receiving nominations from the members of the *Nano Research* Editorial Board. Prof. Charles M. Lieber of Harvard University, Prof. Paul Alivisatos and Prof. Peidong Yang, both of the University of California (UC) Berkeley, Prof. Yi Xie of University of

Science and Technology of China, Prof. Lei Jiang of Chinese Academy of Sciences, Prof. Chad Mirkin of Northwestern University were the first six recipients of the honor.