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Tsinghua University Press and Springer Nature Present the Sixth Nano Research Award

Xinhe Bao, the Professor at the Dalian Institute of Chemical Physics, Chinese Academy of Sciences, the University of Science and Technology of China, and Omar M. Yaghi, the James and Neeltje Tretter Chair Professor of Chemistry at the University of California, Berkeley, received the sixth Nano Research Award. Professors Hongjie Dai and Yadong Li (Editors-in-Chief of *Nano Research*), Professors Xiaogang Peng, Jie Liu, Xiangfeng Duan and Zhen Gu (Associate Editors) jointly presented the award plaques to Xinhe Bao and Omar M. Yaghi, while Dr. Yong Li, the Chairman of the Board of Tsinghua University Press and Dr. Joyce Li, Journal Publishing Director of Springer Nature for Greater China presented the award certificates. The award ceremony was held during the 2019 14th Sino-US Forum on Nanoscale Science and Technology on June, 23 in Changsha, China.

Professor Xinhe Bao was selected for the award in recognition of his significant contributions in the creation of new catalytic materials and the development of clean and efficient conversion processes for energy. He has achieved important research results in the development of basic theory of catalysis and the development and application of new catalysts. Prof. Bao discovered and expounded the association mechanism and interaction law between the structure, electronic characteristic and catalytic activity of the catalyst active center under nano-confined conditions, and firstly proposed the concept of “nano-confined catalysis” in the world. This concept has been expanded and improved in one-dimensional carbon nanotubes, two-dimensional interfaces and three-dimensional lattices, and a theoretical system has been initially formed. Guided by this concept, professor Bao led his team to develop a high-efficiency selective catalyst for carbon monoxide oxidation under low temperature, successfully solved the problem of the deactivation of fuel cell electrode caused by trace CO in hydrogen; created the lattice confined single-center iron catalyst, which achieved nonoxidative conversion of methane to olefins and high-value chemicals; pioneered oxide and zeolite nanocomposite catalysts and catalytic processes (OxZeo Process), overturned the traditional process which long-term dominated the coal chemical industry, successfully achieved one-step conversion of coal-based syngas which can directly and highly selective prepare the low-carbon olefins and chemicals, opened up new avenues for the efficient and clean use of carbon-based resources.

Professor Omar M. Yaghi was selected for the award in recognition of his pioneering reticular chemistry which is stitching molecular building blocks by strong bonds into crystalline open frameworks. This chemistry has led to his discovery and development of several new classes of structures termed metal-organic frameworks, covalent organic frameworks, zeolitic imidazolate frameworks, and molecular weaving having ultra-high porosity, and thermal and chemical stability. Prof. Yaghi pioneering research is the seed that has produced this new field of chemistry that is sweeping the world, with hundreds of laboratories working in this area and pursuing fresh applications such as carbon capture and conversion as well as harvesting water from desert air.

Both winners presented invited keynote speech at the 14th Sino-US Forum on Nanoscale Science and Technology.

Nano Research is an international academic journal sponsored by Tsinghua University and the Chinese Chemical Society, and is jointly published by Tsinghua University Press and Springer Nature. Its 2018 Impact Factor, which was just released by Thomson Reuters, is 8.515. The Nano Research Award, established by *Nano Research* along with Tsinghua University Press and Springer Nature in 2013, honors outstanding contributions to nano research by an individual scientist. The winner is selected by the Award Committee (Editors-in-Chief, Associate Editors, and representatives from Tsinghua University Press and Springer Nature) after receiving nominations from the members of the Editorial Board of *Nano Research*. 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.

Photo from left to right: Yong Li, Xiangfeng Duan, Jie Liu, Hongjie Dai, Omar M. Yaghi, Xinhe Bao, Yadong Li, Xiaogang Peng, Zhen Gu, Joyce Li

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包信和教授和 Omar M. Yaghi 教授获得第六届纳米研究奖

为表彰在纳米研究领域做出重大贡献、并推动纳米学科发展的杰出科学家，《纳米研究（英文版）》（*Nano Research*）编委会、清华大学出版社以及施普林格出版社于2013年共同设立了国际性的纳米研究奖。此奖项每年评选一次，候选人来自世界各个国家和地区，由《纳米研究（英文版）》编委会成员进行提名，评奖委员会决定最终人选。前五届获得者分别是：哈佛大学 Charles M. Lieber 教授 (2014)、加州大学伯克利分校 Paul Alivisatos 教授 (2015)、加州大学伯克利分校杨培东教授 (2016)、中国科学技术大学谢毅教授(2017)和中国科学院理化技术研究所江雷教授（2018）以及美国西北大学 Chad A. Mirkin 教授（2018）。

第六届纳米研究奖授予两位国际纳米科技领军人物：中国科学院大连化学物理研究所研究员、中国科学技术大学包信和院士以及美国加州大学伯克利分校 Omar M. Yaghi 院士。颁奖典礼于 2019 年 6 月 23 日在长沙举行的第十四届中美华人纳米论坛期间举行，由《纳米研究》主编戴宏杰教授和李亚栋教授、副主编刘杰教授、彭笑刚教授、段镶锋教授、顾臻教授颁发奖牌，由清华大学出版社党委书记兼董事长李

勇博士以及施普林格－自然出版集团大中华区期刊出版总监李娴女士颁发奖状。包信和教授和 Omar M. Yaghi 教授出席典礼并发表演讲。

2019 年第六届纳米研究奖获奖人介绍

包信和，中国科学院院士、发展中国家科学院院士、英国皇家化学会荣誉会士、中国科学院大连化学物理研究所研究员、中国科学技术大学校长。包信和长期从事新型催化材料的创制和能源清洁高效转化过程的研发，在催化基础理论的发展和新催化剂开发、应用等方面取得了重要研究成果。发现和阐述了纳米限域条件下催化剂活性中心的结构、电子特性和催化活性间的关联机制和作用规律，在国际上率先提出了“纳米限域催化”概念，并在一维碳管、二维界面和三维晶格中获得拓展和完善，初步形成了理论体系。以此概念为指导，带领团队发展出了低温条件下一氧化碳高效选择氧化催化剂，成功解决了重整氢气中微量 CO 造成燃料电池电极中毒失活的难题；创制晶格限域的单铁催化剂，实现了甲烷无氧转化直接制烯烃和高值化学品；首创氧化物和分子筛纳米复合催化剂和催化过程，颠覆了长期统治煤化

工领域的传统过程，成功实现煤基合成气一步转化直接高选择性制低碳烯烃和化学品，为碳基资源的高效、清洁利用开辟了新途径。

Omar M. Yaghi，美国国家科学院院士、沃尔夫奖获得者、美国加州大学伯克利分校化学系 James and Neeltje Tretter 讲座教授、伯克利全球科学研究所创始主任、Kavli 能源纳米科学研究所以及巴斯夫加州研究联盟联合主任。Omar M. Yaghi 院士获此奖项以表彰他开创了一个通过强键将分子结合在一起形成开放框架结构的全新化学分支——框架化学。在这一化学领域里，Yaghi 教授发现并发展了几类新型材料，它们被称为金属有机框架材料(MOFs)、共价有机框架材料（COFs）和沸石咪唑酯骨架结构材料（ZIFs），并且分子编织具有超高的孔隙率以及热稳定性和化学稳定性。Yaghi 教授的开创性研究成为一个得到全球关注的全新化学领域的起点，数百个实验室正在这一领域进行研究并探索这些多孔材料的全新应用，例如关于碳的捕获和转化以及从沙漠空气中收集水的研究。

包信和院士和 Omar M. Yaghi 院士应邀将在《纳米研究(英文版)》发表专题文章。《纳米研究（英文版）》是由清华大学和中国化学会

主办、清华大学出版社出版的优秀英文学术期刊，主要发表在纳米研究领域具有原创性的世界一流科研论文以及世界顶级科学家撰写的权威性、全面性的综述论文。2018 年最新影响因子为 8.515。

从左至右分别为李勇、段镶锋、刘杰、戴宏杰、Omar M. Yaghi、包信和、李亚栋、彭笑刚、顾臻、李娴