

BIOLS SEMINAR SERIES

北京生命科学研究院精品讲座

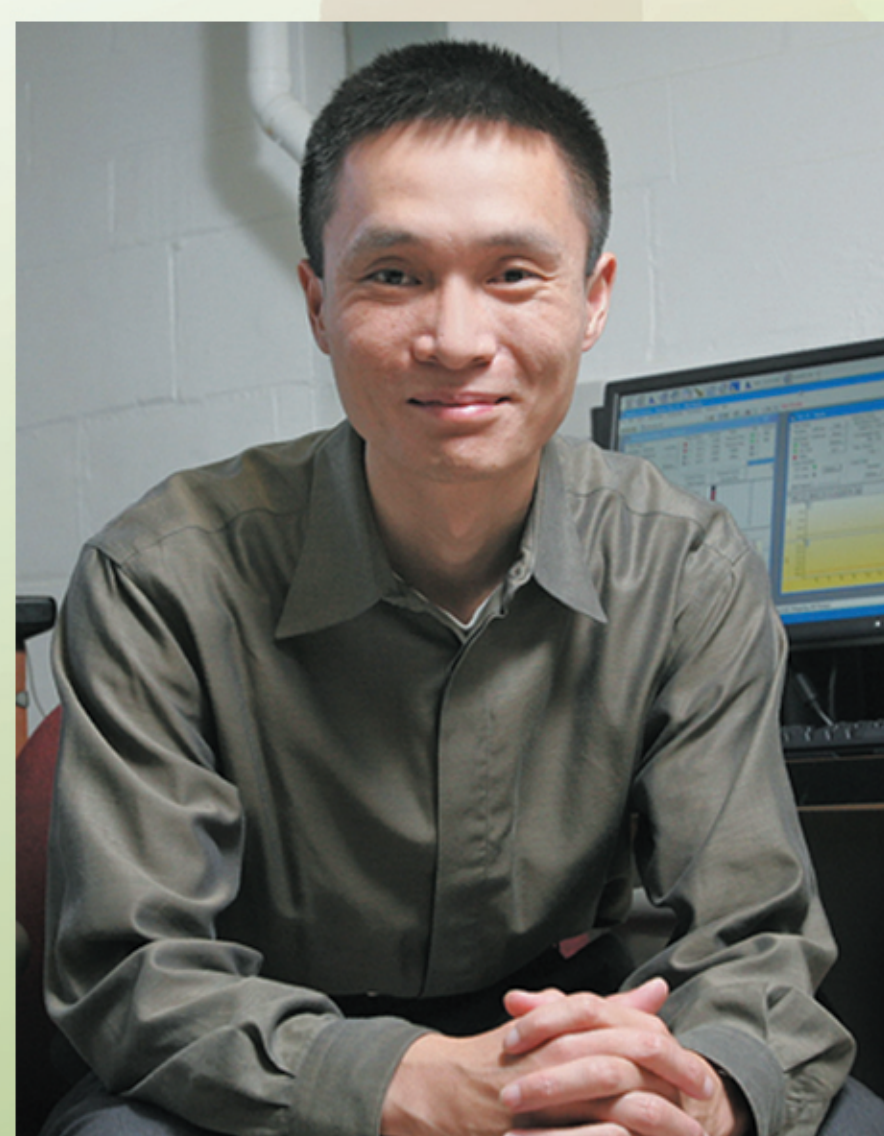
报告时间：2012年8月29日（星期三）上午10:00

报告地点：中国科学院生物物理所9501会议室

报告题目：Reversible epigenetic DNA and RNA methylation in mammalian cells.

报告人：Chuan He. Professor, Department of Chemistry. Director, Institute for Biophysical Dynamics. University of Chicago.

欢迎广大科研人员和研究生光临！



Prof. He received his Bachelor degree in 1994 from University of Science and Technology of China and received his Ph.D in 2000 at Massachusetts Institute of Technology. After finishing his Postdoctoral fellow in Harvard University, he has been working in Department of Chemistry, University of Chicago since 2002. He became Professor in 2008 and Director of the Institute for Biophysical Dynamics in 2012. He is also appointed the Guest Professor, University of Science and Technology of China; Guest Professor, Nanjing University of Technology; Joint Professor, Peking University. The research program of Prof. He's lab spans a broad range of chemical biology, nucleic acid chemistry and biology, epigenetics, cell biology, bioinorganic chemistry, structural biology, microbiology, and genomics. They probe the pathways and mechanisms of nucleic acids modification and demodification.

They study the virulence and antibiotic resistance regulation in human pathogens, as well as selective metal ion recognition and sensing by naturally occurring, engineered proteins, and live-cell imaging of metal ions and other small molecules such as H₂S, heme, and CO.

Prof. He's excellent work was published on many well-know journals, such as *Cell*, *Science*, *Nature*, *Nat. Struct. Mol. Biol.*, *Nat. Chem. Biol.*, *Nat. Biotechnol.*, *Nat. Methods.*, *Nat. Neurosci.*, etc. He was prized American Chemical Society Akron Section Award (2010), Society of Biological Inorganic Chemistry Early Career Award (2010), Burroughs Wellcome Fund Investigator in the Pathogenesis of Infectious Disease Award (2008) and so on.

Key Publications:

- 2012. Duplex interrogation by a direct DNA repair protein in search of base damage. *Nat. Struct. Mol. Biol.* 19, 671-676.
- 2012. Base-Resolution Analysis of 5-Hydroxymethylcytosine in the Mammalian Genome. *Cell* 149, 1-3.
- 2012. Thymine DNA glycosylase specifically recognizes 5-carboxylcytosine-modified DNA. *Nat. Chem. Biol.* 8, 328-330.
- 2012. Sensitive and specific single-molecule sequencing of 5-hydroxymethylcytosine. *Nat. Methods* 9, 75-77.
- 2011. 5-hmC-mediated epigenetic dynamics during postnatal neurodevelopment and aging. *Nat. Neurosci.* 14, 1607-1616.
- 2011. N6-Methyladenosine in nuclear RNA is a major substrate of the obesity-associated FTO. *Nat. Chem. Biol.* 7, 885-887.
- 2011. Selective chemical labeling reveals the genome-wide distribution of 5-hydroxymethylcytosine. *Nat. Biotechnol.* 29, 68-72.
- 2011. Tet proteins can convert 5-methylcytosine to 5-formylcytosine and 5-carboxylcytosine. *Science* 333, 1300-1303.
- 2010. Iron-catalysed oxidation intermediates captured in a DNA repair dioxygenase. *Nature* 468, 330-333.
- 2010. Grand Challenge Commentary: RNA epigenetics? *Nat. Chem. Bio.* 6, 863-865.
- 2008. Crystal structures of DNA-RNA repair enzymes AlkB and ABH2 bound to dsDNA. *Nature* 452, 961-965.
- 2008. A proteome chip approach reveals new DNA damage recognition activities in Escherichia Coli. *Nat. Methods* 5, 69-74.

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