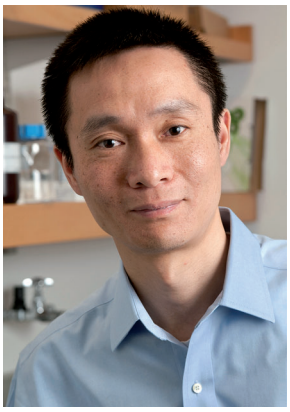

C. He

# Chuan He

**Date of birth**: February 25, 1972
**Position**: Professor, University of Chicago
**E-mail**: chuanhe@uchicago.edu
**Homepage**: http://chemistry.uchicago.edu/faculty/faculty/person/member/chuan-he.html
**Education**: 1994 BS, University of Science & Technology of China
2000 PhD supervised by Professor Stephen J. Lippard, Massachusetts Institute of Technology
2000–2002 Postdoctoral position with Professor Gregory L. Verdine, Harvard University
**Awards**: **2010** American Chemical Society Akron Section Award; Society of Biological Inorganic Chemistry Early Career Award; **2013** Howard Hughes Medical Institute Investigator
**Current research interests**: RNA/DNA methylation and demethylation; DNA repair; bacterial virulence regulation; selective metal recognition; chemical probes; live-cell imaging
**Hobbies**: Tea, National Football League (NFL), sports

*The author presented on this page has recently published his **10th article** in Angewandte Chemie in the last 10 years:*
"A Selective Fluorescent Probe for Carbon Monoxide Imaging in Living Cells": J. Wang, J. Karpus, B. S. Zhao, Z. Luo, P. R. Chen, C. He, *Angew. Chem.* **2012**, *124*, 9790–9794; *Angew. Chem. Int. Ed.* **2012**, *51*, 9652–9656.


*The work of C. He has been featured on the cover of Angewandte Chemie:*
"The AlkB Domain of Mammalian ABH8 Catalyzes Hydroxylation of 5-Methoxycarbonylmethyluridine at the Wobble Position of tRNA": Y. Fu, Q. Dai, W. Zhang, J. Ren, T. Pan, C. He, *Angew. Chem.* **2010**, *122*, 9069–9072; *Angew. Chem. Int. Ed.* **2010**, *49*, 8885–8888.

## In a spare hour, I … go swimming and watch sports.

**If I had one year of paid leave I would …** become an American football coach.

**If I could be any age I would be …** 12.

**My favorite time of day is …** the morning.

**I advise my students to be …** disciplined but also explorative.

**My favorite way to spend a holiday is …** to travel with my family.

**The secret of being a successful scientist is …** to be open-minded and willing to take risks.

**The natural talent I would like to be gifted with …** a quarterback arm (I think I have the brain part already).

**The greatest scientific advance of the last decade was …** our ability to collect and analyze genomic information quickly and efficiently.

**The biggest challenge facing scientists is …** to understand the molecular basis of intelligence.

**Chemistry is fun because …** the molecular mechanisms and pathways are the foundations for many other disciplines in science.

**Looking back over my career, I …** really appreciated the opportunities to learn both synthetic chemistry and aspects of biology when I was a student and a postdoc.

**If I could be anyone for a day, I would be …** Tom Brady in the Super Bowl (before 2005).

**The most important future applications of my research are …** the functional roles of reversible RNA and DNA methylation and their implications in human diseases.

**My 5 top papers:**

1. "*N*6-Methyladenosine in nuclear RNA is a major substrate of the obesity-associated FTO": G. Jia et al., *Nature Chem. Biol.* **2011**, *7*, 885–887. (RNA modifications can be reversible and may play important regulatory roles.)
2. "Base-Resolution Analysis of 5-Hydroxymethylcytosine in the Mammalian Genome": M. Yu et al., *Cell* **2012**, *149*, 1368–1380. (An accurate, genome-scale approach for sequencing 5hmC at single-base resolution.)
3. "Genome-wide Profiling of 5-Formylcytosine Reveals Its Roles in Epigenetic Priming": C.-X. Song et al., *Cell* **2013**, *153*, 678–691. (Two selective chemical methods for the effective detection and sequencing of 5fC in mammalian genomes.)
4. "Crystal structures of DNA/RNA repair enzymes AlkB and ABH2 bound to dsDNA": C.-G. Yang, C. Yi, E. M. Duguid, C. T. Sullivan, X. Jian, P. A. Rice, C. He, *Nature* **2008**, *452*, 961-965. (Active-site cross-linking can capture and stabilize labile protein/nucleic acid interactions.)
5. "Selective chemical labeling reveals the genome-wide distribution of 5-hydroxymethylcytosine": C.-X. Song et al., *Nature Biotechnol.* **2011**, *29*, 68–72. (The most efficient and robust chemical labeling and affinity purification method of 5hmC in mammalian genomic DNA reported to date.)

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