

Special topic for “single-molecule, single-particle and single-cell bioimaging”

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Revealing the behavior of single molecules in single live cells provides a fundamental approach to understand cellular organization and dynamics. With the rapid merging of biotechnology and nanotechnology in recent years, single plasmonic nanoparticle sensors have endowed a new dimension to the imaging scale given their comparable size to biomolecules such as nucleic acids or antibodies. Single-particle method thus presents a promising tool for interrogating how biological events occur at the single-molecule level both *in vitro* and *in vivo*. These new technological developments will drive the discovery of new principles of cellular and molecular biology, and set the stage for developing clinical applications in the near future.

During the past decade, we have also seen rapid rise in bioimaging research in China. In this special topic for “Sin-

gle-Molecule, Single-Particle and Single-Cell Bioimaging” in *Science China Chemistry*, we invited leading experts in this area to contribute 7 articles including reviews and research papers. Such a collection of articles will, as we hope, provide an overview on recent advances of single-molecule, single-particle and single-cell bioimaging research. We should stress that the original idea of compiling this special topic comes from Professor Hongyuan Chen at Nanjing University, a pioneer in Analytical Chemistry for Life Sciences, which was immediately applauded and approved by Professor Li-Jun Wan, the Editor-in-Chief.

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Chunhai Fan obtained his B.S. and Ph.D. from the Department of Biochemistry at Nanjing University in 1996 and 2000, respectively. After his postdoctoral research at University of California, Santa Barbara, he became a professor at Shanghai Institute of Applied Physics, Chinese Academy of Sciences in 2004. He is a fellow of Royal Society of Chemistry and an elected fellow of the International Society of Electrochemistry. He serves as an Associate Editor of *ACS Applied Materials & Interfaces*. His research interest lies in biosensors and bioimaging, DNA nanotechnology and biophotonics.



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