

# Professor HE, YAO

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## Academic Qualification

B.S., M.S., and Ph.D. in Fudan University

## Teaching Area

Biological and biomedical imaging

Biochemical Analysis

Biosensors

## Research Area

Nanobiotechnology

Nanobiomedicine

## Working Experience

2007-2009, Postdoc, City University of Hongkong; 2015, Visiting scholar, Stanford University

2009- present, Professor, Soochow University, China

2020- present, Professor, Macau University of Science and Technology, Macau, China

## Academic Publication ( selected )

Yunmin Yang; Binbin Chu; Jiayi Cheng; Jiali Tang; Bin Song; Houyu Wang\*; Yao He\*; Bacteria eat nanoprobes for aggregation-enhanced imaging and killing diverse microorganisms, *Nature Communications*, 2022, 13, 1255

Mingyue Cui; Peiling Dai; Jiali Ding; Manjing Li; Rong Sun; Xin Jiang; Menglin Wu; Xueke Pang; Mingzhu Liu; Qiang Zhao; Bin Song\*; Yao He\*; Millisecond-range time-resolved bioimaging enabled through ultralong aqueous phosphorescence probes. *Angewandte Chemie International Edition* 2022, 61, e202200172

Mingyue Cui; Manjing Li; Jinhua Wang; Runzhi Chen; Zhaojian Xu; Jingyang Wang; Junfei Han; Guyue Hu; Rong Sun; Xin Jiang; Bin Song\*; Yao He\*; Hydrothermal synthesis of zinc-doped silica nanospheres simultaneously featuring stable fluorescence and long-lived room-temperature phosphorescence, *Angewandte Chemie International Edition*, 2021, 60: 15490-15496.

Jiali Tang; Binbin Chu; Jinhua Wang; Bin Song; Yuanyuan Su; Houyu Wang\*; Yao He\*; Multifunctional nanoagents for ultrasensitive imaging and photoactive killing of Gram-negative and Gram-positive bacteria, *Nature Communications*, 2019, 10: 4057.

Miaomiao Tang; Xiaoyuan Ji; Hua Xu; Lu Zhang; Airui Jiang; Bin Song; Yuanyuan Su; Yao He\*; Photostable and Biocompatible Fluorescent Silicon Nanoparticles-Based Theranostic Probes for Simultaneous Imaging and Treatment of Ocular Neovascularization, *Analytical Chemistry*, 2018, 90: 8188.

Binbin Chu; Bin Song; Xiaoyuan Ji; Yuanyuan Su; Houyu Wang\*; Yao He\*; Fluorescent Silicon Nanorods-Based Ratiometric Sensors for Long-term and Real-time Measurements of Intracellular pH in Live Cells. *Analytical Chemistry*, 2017, 89, 12152.

Bin Song; Yiling Zhong; Sicong Wu; Binbin Chu; Yuanyuan Su; Yao He\*. One-Dimensional Fluorescent Silicon Nanorods Featuring Ultrahigh Photostability, Favorable Biocompatibility and Excitation Wavelength-Dependent Emission Spectra. *Journal of American Chemistry Society*, 2016, 138, 4824-4831.

Sicong Wu; Yiling Zhong; Yanfeng Zhou; Bin Song; Binbin Chu; Xiaoyuan Ji; Yanyan Wu; Yuanyuan Su; Yao He\*. Biomimetic Preparation and Dual-Color Bioimaging of Fluorescent Silicon Nanoparticles. *Journal of American Chemistry Society*, 2015, 137, 14726-14732.

Houyu Wang, Yanfeng Zhou, Xiangxu Jiang, Bin Sun, Ying Zhu, Hui Wang, Yuanyuan Su, Yao He\*. Simultaneous Capture, Detection, and Inactivation of Bacteria as Enabled by a Surface-Enhanced Raman Scattering Multifunctional Chip. *Angewandte Chemie International Edition*, 2015, 54, 5132-5136.

Fei Peng, Yuanyuan Su, Yiling Zhong, Shuit-Tong Lee,\* Yao He\*. Silicon Nanomaterials Platform for Bioimaging, Biosensing, and Cancer Therapy. *Accounts of Chemical Research* 2014, 47, 612-623.

## Books

Silicon Nano-biotechnology》(ISBN 978-3-642-54667-9) ,2014 Springer, Chief-editor: Yao He, Associate-editor: Yuanyuan Su (In English)

## Patents ( selected )

何耀、汤佳丽、

王后禹; 专利名称: 一种荧光纳米探针及其制备方法; 专利授权号: ZL201910291426.X.

何耀、王后禹、史华意; 专利名称:

一种用于人工智能检测DNA的硅基SERS芯片DNA数据库构建和训练的方法; 专利授权号: ZL201810817521.4.

何耀、宋斌、崔明月; 专利名称: 室温磷光材料及其制备方法及应用

何耀、王后禹、汤佳丽; 专利名称: 一种纳米-

细菌的杂合体系的制备方法; 专利授权号: ZL202010532428.6

## Professional Certification and Awards

the National Science and Technology Leading Talent Award, 2012

National High-Level Talents Special Support Program, 2014

the First prize of Jiangsu Science and Technology Award, 2017

the Science and Technology Award for Chinese Youth, 2022

## Student Awards

N/A

## Professional Society Membership

Director, Suzhou Key Laboratory of Nanotechnology and Biomedicine

Vice director, Biomedical Photonics Branch, Chinese Society of Biomedical Engineering