



哈尔滨工业大学研究生国际寒期学校
Global Winter School for Graduate Students of Harbin Institute
of Technology

纳米生物医学技术前沿

Frontiers in Nanobioengineering

2026年2月2日-11日

February 2-11, 2026



基本信息 GENERAL INFORMATION

现代生物医学的重大突破日益依赖于工程技术的革新。纳米技术作为前沿交叉的核心驱动力，正在为疾病诊断、靶向治疗和再生医学带来革命性的工具与范式变革。然而实现从“实验室发现”到“临床应用”的跨越，亟需打通生物医学需求与工程解决方案之间的壁垒。“纳米生物医学技术前沿”国际寒期学校，正是为有志于引领这一变革的未来学者打造的高端研习平台。本项目聚焦先进治疗技术、生物分子传感、医学影像探针、仿生生物材料等前沿方向，其核心是探索如何精准设计、操控纳米尺度物质，以解决活体检测、精准干预等关键生物医学问题。

Major breakthroughs in modern biomedicine increasingly rely on innovations in engineering and technology. Nanotechnology, as a core driver of cutting-edge interdisciplinary research, is bringing revolutionary tools and paradigm shifts to disease diagnosis, targeted therapy, and regenerative medicine. However, bridging the gap from "laboratory discovery" to "clinical application" urgently requires breaking down the barriers between biomedical needs and engineering solutions. The "Frontiers in Nanobiomedical Technology" International Winter School is a high-level learning platform specifically designed for future scholars aspiring to lead this transformation. This program focuses on advanced therapeutic technologies, biomolecular sensing, medical imaging probes, and biomimetic materials. At its core, it explores how to precisely design and manipulate nanoscale substances to address key biomedical challenges such as in vivo detection and precise intervention.

通过纳米生物医学领域课程学习和实践类活动，参与者可以了解纳米生物医学技术前沿动态与应用，纳米-生物相互作用，不同性质纳米颗粒的毒性分析，外泌体的免疫磁珠分离与膜受体分析。寒期学校为参与者提供了与国内外北极生态环境领域专家进行学术交流、结识全球学术伙伴的机会。

Through coursework and hands-on activities in the field of nanobiomedicine, participants will gain insights into the latest advancements and applications of nanobiomedical technologies, nano-bio interactions, toxicity analysis of nanoparticles with different properties, and the immunomagnetic isolation of exosomes and analysis of their membrane receptors. The winter school provides participants with the opportunity to engage in academic exchanges with experts in the field of Arctic ecological environment from both China and abroad, and to forge academic links with peers worldwide.

报名要求 ATTENDANCE REQUIREMENTS

本次寒期学校项目招收国内外各高校热爱并关注纳米生物、有志于深入了解纳米生物医学知识的研究生，欢迎不同专业背景的研究生报名参与。申请者应怀有促进各国学生间的理解与友谊的热情，并具备较好的英语口语与书面知识能力，以满足学术研究需求。

This Winter School invites master's and doctoral students from universities worldwide who love and care about the nanobiotechnology and intend to acquire relevant scientific knowledge of the nanobiomedicine. This program is open to graduate students of all academic backgrounds. The student should be motivated to enhance understanding and friendship among students from different countries. Applicants must possess sufficient proficiency in English (both oral and written) to engage in academic activities.

讲座与研讨安排（暂定） LECTURES AND SEMINARS (Tentative)

本次寒期学校英文授课，将安排一门核心课程和四场学术报告。我们特别邀请了来自俄罗斯、澳大利亚、韩国及中国顶尖机构的专家学者作为主讲人，包括俄罗斯人民友谊大学、澳大利亚莫纳什大学、韩国仁荷大学等。

The winter school will feature one core course and four academic seminars in English. We have invited distinguished experts and scholars from top institutions in Russia, Australia, South Korea, and China, including People's Friendship University of Russia, Monash University of Australia, Inha University of South Korea.

| Content | 课程题目 Topic (preliminary) | 学时 Duration (50 min/unit) |
|-----------------------------------|---|------------------------------|
| Courses | 纳米生物医学技术前沿 | 24 |
| laboratory course (Select one) | Gold nanoparticle: light interactions and colloidal stability | 8 |
| | 单细胞转录组测序与分析综合实践 | 8 |

| Content | 课程题目 Topic (preliminary) | 学时 Duration (50 min/unit) |
|----------|---|---------------------------|
| Lectures | Modulating Nano-bio Interaction for Biomedical Application | 2(seminar) |
| Lectures | Immunomagnetic isolation of exosomes and analysis of exosome membrane | 2(seminar) |
| Lectures | Single-cell RNA sequencing and analysis | 2(seminar) |
| Lectures | Autoimmune diseases of the thyroid gland | 2(seminar) |

授课教师 TEACHING FACULTY



Kwangsoo Shin
韩国仁荷大学



Alexander Vladimirovich Zubkov
俄罗斯人民友谊大学
俄罗斯医学科学院梅奇尼科夫疫苗与
血清研究所



Alexey Yashchenok
斯科尔科沃科学技术研究
院



John Song
澳大利亚莫纳什大学



Tianyi Zhao
哈尔滨工业大学



Liangcan He
哈尔滨工业大学

报名信息 CONTACT INFORMATION

报名时间截止至2026年1月15日。请注意，日程和时间可能会根据实际情况而变化。有问题可以发邮件，邮箱：hitlife28@163.com。有意向报名的学员填写如下麦克表单<https://atr0nmpy8kon9wgs.mikecrm.com/4Fa2w07>

本届寒期学校将提供食宿补助，具体标准在报名群中沟通。



Registration Deadline: January 15th, 2026. Please note that the program schedule is subject to change based on actual circumstances. For further inquiries, please contact: hitlife28@163.com. Interested applicants are requested to fill out the following MikeCRM form: <https://atr0nmpy8kon9wgs.mikecrm.com/4Fa2w07>

Accommodation and meal subsidies will be provided for participants of this winter school. Detailed standards will be communicated within the registration WeChat group.