2025

HARBIN INSTITUTE OF TECHNOLOGY

GLOBAL SUMMER SCHOOL (HITGSS)

College of International Education
Tel: +86-451-86418461
E-mail: StudyatHIT@hit.edu.cn

HIT Undergraduate College
Contact Person: Qian Wang (Program Coordinator)
Tel: + 86-451-86415676
E-mail: jwcjlk@hit.edu.cn

哈爾濱工業大學
HARBIN INSTITUTE OF TECHNOLOGY

About HITGSS

The Harbin Institute of Technology Global Summer School (HITGSS), hosted by Harbin Institute of Technology (HIT), provides a premier international education platform for students around the globe. Over the past nine years, the program has welcomed more than 1,800 students from over 22 countries and regions.

A wide range of courses with 18 themes is available for both domestic and international students on campus. Students may select one theme to focus on and will receive an official transcript from HIT upon successful completion of the program.

About HIT

Harbin Institute of Technology (HIT) was established in 1920 in Harbin, Heilongjiang, China. In 1954, HIT became one of China's first six leading universities.

Presently HIT is a member of China's top nine University Union (C9). It is a National Key University with science and engineering as its core and has developed with management, liberal arts, economy, law and other disciplines. Renowned as "the cradle of engineers", the university has many firsts. HIT established the first School of Astronautics in China. It was the first Chinese university to independently develop and launch small satellites (smallsats and microsats) into the moon's orbit. HIT was also the first to achieve satellite ground laser communication link communications.

Additionally, HIT developed the first computer to play chess and talk with people and it is the first university to produce arc- and spot welding robots. HIT was the first university to reveal the virulent factor of the HIV virus. It was also the first university to achieve a major breakthrough in supporting structure development for the largest radio telescopes. The first human–machine in orbit maintenance experiments on a space operator was also developed by HIT.

Since its foundation, HIT has always had a strong international background. Now HIT has signed academic cooperation agreements with 278 universities from 39 countries. These collaborations include student and faculty exchange programs, joint academic conferences, and scientific research cooperation. Together with Weihai campus and Shenzhen campus, HIT forms the pattern of "One University, Three Campuses". HIT is steadily moving towards the goal of becoming a world-class university.

Program Details

No.	Theme	Contact Information	Remark
A	Mechanics Exploration and Future Aerospace Vehicles	lizhonggang2001@163.com	★Mechanics
B	A New Generation of Intelligent Information and Communication Technology	lihongzhi2014@hit.edu.cn	
C	Intelligent Robot	gengyanquan@hit.edu.cn	
D	Chasing Future: Advanced Optoelectronic Information Materials	yongzhang@hit.edu.cn	
E	Smart Low-Carbon Energy and Aerospace Power	yujianyang@hit.edu.cn	
F	Electrical Intelligence: Driving the Future	dingyl90@163.com	
G	Precise Measurement, Precise Future	hityqxybk@126.com	
H	Mathematics and Artificial Intelligence	fei.ywang@hit.edu.cn	★Mathematics
I	Physics and Future Technology Changes	physics_summer_sch@163.com	★Physics
J	Digital Economy and Intelligent Decision	andyzhang@hit.edu.cn	
K	Training Camp: Talents for International Organizations	wangsusanhit@126.com 549560770@qq.com	
L	Intelligent Civil Engineering and Intelligent Construction	gsr33resume@163.com	
M	Arctic Environment and Ecosystem	IAS_HIT@163.com	
N	Imprint Harbin·City Trace-Architectural Design Camp	liuying01@hit.edu.cn	
O	Smart Transportation, Digital Future	xiaowei_hu@hit.edu.cn	
P	Artificial Intelligence: Leading the Frontier	601697682@qq.com	★Computer Science
Q	Chemistry Empowering Health	muwei@hit.edu.cn	★Chemistry
R	Advanced Progress of Biology and Medicine	nancy0481@hit.edu.cn	★Biology

★with a focus on fundamental science
Please visit https://hitgss.hit.edu.cn/main.htm for more details of each theme.

Requirements

Eligibility: Open to Undergraduate, Master, and Ph.D. students from cooperative universities or institutions.
Language Proficiency: Applicants must be fluent in English.
Field of Interest: Preference will be given to those with an interest in science and engineering-related fields.

Application Deadline May 26th, 2025
Registration Information Limit: 20 students per theme
Registration Process
Step 1: Log into the HIT Online Application System for the project.
Note: The online application system is available at https://hit.at0086.cn/StuApplication/Login.aspx.
Step 2: Upload all necessary application documents as required.
Note: All applications will be reviewed, and applicants will be notified of acceptance or rejection by May 30th, 2025.

Costs Registration fees and tuition fees are waived for this program. Participants are responsible for their own transportation, meals, and other personal expenses.

Global Summer School

A

Mechanics Exploration and Future Aerospace Vehicles

Jul 7th – Jul 19th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: lizhonggang2001@163.com

General Information

Mechanics serves as a bridge between basic science and future technology. This summer school focuses on the latest advancements in mechanics, particularly in the research, design, and applications of new space vehicles. Participants will be enriched specifically in the fields of integrated design of space structures, dynamics and control, high performance materials for flight missions, and health monitoring of structures, through both theoretical instruction and group research projects. It is an excellent opportunity for participants to gain access to the frontiers of mechanics, to collaborate on challenging problems, and to build a global network of academic friends.

Attendance Requirements

Participants should be at the undergraduate level, with a background in mechanics, aerospace engineering, mechanical engineering, materials science, applied mathematics, or related fields. Proficiency in English is required, though some lectures will be given in Russian or Chinese with translation provided.

Lectures and Talks (Tentative)

The summer school offers three lectures and four seminar talks. Lecturers and speakers are invited from top institutions in Russia and China, including Lomonosov Moscow State University, Samara State University, Chinese Academy of Sciences, Harbin Institute of Technology, Tongji University, South China University of Technology, and Xiamen University.

Lecturer/Speaker	Institution	Topic (preliminary)	Units (50 mins/unit)
Prof. B.M.Морозов	Lomonosov Moscow State University, Russia	Stability of time-varying systems	8 (lecture)
Prof. A.B.Самсонов	Lomonosov Moscow State University, Russia	Dynamics and kinematic stability of multibody systems	8 (lecture)
Prof. A.П.Алексеев	Samara State University, Russia	Design of aircraft structures	8 (lecture)
Prof. B.M.Морозов	Lomonosov Moscow State University, Russia	Kinematic stability analysis of certain time-varying systems	2 (talk)
Prof. A.B.Самсонов	Lomonosov Moscow State University, Russia	Kinematic stability analysis of rigid flexible coupled orbiting spacecraft systems	2 (talk)
Prof. A.П.Алексеев	Samara State University, Russia	Stability analysis of Spacecraft orbit in coupled multi-physics	2 (talk)
Prof. Junzhi Cui	Chinese Academy of Sciences, China	Advanced computational methods and engineering applications	2 (talk)

Group Research Project

Participants will be divided into teams of 7-10 members to work on a project focused on the structural design and safety assessment of space vehicles using composite materials. Each team will choose from one of four areas: general design of space vehicles, structural dynamics and control, computation of strength and service life, or structural health monitoring of space vehicles.

Program Dates and Times

<table>
<tr><th></th><th colspan="6">Week 1 (7.7—7.13)</th><th colspan="6">Week 2 (7.14—7.19)</th></tr>
<tr><th></th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thur</th><th>Fri</th><th>Sat</th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thur</th><th>Fri</th><th>Sat</th></tr>
<tr><td>AM</td><td colspan="2">Seminar</td><td colspan="2">Group Research</td><td rowspan="2">Lecture/ Tour</td><td rowspan="2">Tour</td><td colspan="2">Group Research</td><td colspan="2">Seminar</td><td rowspan="2">Defense</td><td rowspan="2">Poster</td></tr>
<tr><td>PM</td><td colspan="2">Group Research</td><td colspan="2">Seminar</td><td colspan="2">Seminar
Group Research</td><td colspan="2">Group Research</td></tr>
</table>

(Registration: July 6th, 2025)
Please note that the program schedule is subject to change based on actual circumstances.

A New Generation of Intelligent Information and Communication Technology

Jul 7th – Jul 19th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: lihongzhi2014@hit.edu.cn

General Information

The theme of this global summer school is "A New Generation of Intelligent Information and Communication Technology", focusing primarily on cutting-edge technologies in 5G, artificial intelligence, cloud computing, edge computing, and related fields. The program aims to guide undergraduate students in understanding the latest developments and future trends in advanced information and communication technology through lectures and courses led by world-class scholars. It seeks to deepen students' understanding of intelligent information technology, new-generation communication technology, and the Internet of Things. The summer school explores the increasingly intelligent information and communication technology within the context of intelligent manufacturing, artificial intelligence, and its profound impact on global patterns (political, economic, cultural, etc.) and human lifestyles. The program also aims to stimulate students' innovative thinking and enthusiasm for learning, fostering their interest in the future of information and communication technology and related interdisciplinary research areas, and to lay a solid foundation for their future work and research in these fields.

Program Dates and Times

The global summer school is tentatively scheduled from Jul 7th to Jul 19th, 2025. However, the final dates are subject to change based on actual conditions.

Attendance Requirements

Participants should be at the undergraduate level, with a background in electronic information engineering, communication engineering, Internet of Things engineering, or related fields. Proficiency in English is essential, as lectures and courses will be conducted in English and Chinese. Participants are encouraged to bring their own scientific and technological innovation projects to share and exchange during the global summer school.

Courses and Lectures (Tentative)

This global summer school offers a structured program comprising three stages: academic lectures, classroom teaching, and innovative practice. The detailed content of each stage is shown in the table below.

Module	Content	Class Hours	Credit
Academic Lectures	Four academic lectures cover 5G/6G, artificial intelligence, edge computing, and other related fields.	4*4	
Course Teaching	International cutting-edge technologies for 3D video signal compression and communication	16	1
Practical Innovation	Radio signal source design and practice	24	1
Total credit hours		Total credit	
56		2	

Group Research Project

① International cutting-edge technologies for 3D video signal compression and communication
Commencing with an exploration of the developmental history and application scenarios of 3D video, we will explain the technical intricacies involved in the collection, encoding, transmission, rendering, and quality evaluation of 3D video in accessible terms. Through this course, students will gain insight into the evolution and compression standards of 3D videos, understand the compression process, and acquire proficiency in fundamental 3D video compression methods.

② Radio signal source design and practice
Tailored for students pursuing electronic information majors, this course combines teacher-led lectures with hands-on practical sessions, aimed at fostering students' engineering acumen and innovation mindset. By integrating software and hardware applications, students will develop competencies in areas such as radio knowledge, communication modulation, programming, and analytical thinking. The course encompasses requirement analysis, data retrieval, scheme demonstration, design refinement, indicator testing, analysis, and synthesis, culminating in the design and implementation of a radio frequency signal source based on radio direction finding.

Other Activity Arrangements

Museum Visits: Explore the University Museum and Space Museum to gain insights into the history and development of science and technology.
Lab Visits: Visit and engage with professional laboratories on campus to experience cutting-edge research and innovation firsthand.
Project Sharing: Participate in the sharing and exchange of outstanding scientific and technological innovation projects to foster collaboration and inspire new ideas.
Networking Sessions: Connect with peers, faculty, and industry professionals through structured networking events to expand your professional network.
Outdoor Activities: Engage in outdoor activities to promote teamwork, relaxation, and a balance between academic and recreational experiences.

Intelligent Robot

Jul 14th – Jul 25th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: gengyanquan@hit.edu.cn

General Information

The theme of this summer school is "Intelligent Robot". Throughout the program, a variety of teaching content and activities will revolve around this theme. Technical topics include "Frontiers of Robotics", "Robotics and Artificial Intelligence", "Micro and Nano fluid Mechanical systems". The summer school will leverage the resources provided by the National Key Laboratory of Robotics Technology and System at HIT and will collaborate extensively with overseas scholars to maximize its unique strengths and advantages. In addition, a key feature of this summer school is the practical activities involving robot design and competition. Led by domestic and foreign tutors, these activities will allow students to gain a deep understanding of the core aspects of robot technology. By combining theoretical learning with hands-on design practice, students will appreciate the application prospects of robotics in the field of mechanical engineering and related interdisciplinary disciplines. The program aims to ensure that every student achieves significant learning outcomes.

Attendance Requirements

Participants should be at the undergraduate or graduate level and have a background in mechanics, aerospace engineering, mechanical engineering, materials science, applied mathematics, or related fields. All participants must have a good command of English. Some lectures will be given in Chinese, with translation provided.

Lectures and Talks (Tentative)

The summer school offers one lecture and four seminar talks. Lecturers and speakers are invited from top institutions in Europe and China, including Cardiff University, Heriot-Watt University, Harbin Institute of Technology, and the University of Nottingham.

Lecturer/Speaker	Title	Institution	Topic (preliminary)	Units (50 mins/unit)
Kenneth T V Grattan	Professor, Fellow of the Royal Academy of Engineering	London Metropolitan University	Optical fiber sensing system	16
Hegao Cai	Academician of Chinese Academy of Engineering, Professor	School of Mechanical and Electrical Engineering, Harbin Institute of Technology	The development of intelligent robots	4
Zhirong Liao	Associate professor	University of Nottingham	Advanced manufacturing technology	4
Emmanuel Brousseau	Professor	Cardiff University	Ultra-precision and micro-nano manufacturing	4
Xianwen Kong	Professor	Watt University	Parallel robot	4
Shaoyang Zeng /Jianan Liu	Engineer	School of Mechanical and Electrical Engineering, Harbin Institute of Technology	Robot design and competition	4

Group Research Project

Participants will be divided into 6 or more teams, each consisting of 7-10 members, to work on a project focusing on the structural design and safety assessment of space vehicles made from composite materials. Each group can choose one area from four options: general design of space vehicles, structural dynamics and control, computation of strength and service life, or structural health monitoring of space vehicles.

Program Dates and Times

<table>
<tr><th></th><th colspan="5">Week 1 (7.14–7.18)</th><th colspan="5">Week 2 (7.22–7.25)</th></tr>
<tr><th></th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thur</th><th>Fri</th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thur</th><th>Fri</th></tr>
<tr><td>AM</td><td colspan="4">Lecture</td><td>Seminar</td><td rowspan="2" colspan="2">Training</td><td rowspan="2" colspan="2">Competition</td><td>Competition</td></tr>
<tr><td>PM</td><td colspan="4">Seminar</td><td>Tour</td><td>Award ceremony</td></tr>
</table>

(Registration: July 13th, 2025)
Please note that the program schedule is subject to change based on actual circumstances.

Chasing Future: Advanced Optoelectronic Information Materials

Jul 7th – Jul 18th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: yongzhang@hit.edu.cn

General Information

Optoelectronic information materials are materials that generate, transmit, convert, detect, store, modulate, process, and display information. They are utilized in photoelectric devices by leveraging their photonic and electronic properties and are the cornerstones of modern information society and the forefront of the information technology revolution. With the theme of "Chasing Future: Advanced Optoelectronic Information materials", the Global Summer School invites experts and scholars from high-level scientific research institutes home and abroad. The goal is to expand students' knowledge and understanding of optoelectronic information materials through courses, cutting-edge academic lectures, and innovative experiments. The program focuses on key scientific issues in the field of optoelectronic information materials and the interlinking of multiple sciences. Based on the "New Engineering" major in Optoelectronic Information Materials and Devices at the School of Materials Science and Engineering, the summer school aims to meet the demand for talent in emerging fields and enhance students' abilities in scientific research innovation, knowledge integration, and interdisciplinary skills.

Attendance Requirements

Undergraduate students majoring in materials science, physics, chemistry, electronics, and related fields are eligible to participate. All participants must have a good command of English. Some lectures will be in Chinese with translation provided.

Lectures and Talks (Tentative)

The summer school offers four lectures and eight seminar talks. Lecturers and speakers are invited from top institutions in Russia, Sweden, South Korea, the United Kingdom, the United States, and China (including Hong Kong), including City University of Hong Kong, Russian Academy of Sciences, Korea Institute of Science and Technology, University of Surrey (UK), Linkoping University (Sweden), Uppsala University (Sweden), Chalmers University of Technology(Sweden), and Jackson State University (U.S.).

Lecturer/Speaker	Institution	Topic (preliminary)	Units (50 mins/unit)
Prof. Alex Jen	City University of Hong Kong, Hong Kong	Advanced optoelectronic materials and devices	4 (lecture)
Prof. Leonid Kulik	Russian Academy of Sciences, Russia	Advanced optoelectronic materials and devices	4 (lecture)
Prof. Bumjoon J. Kim	Korea Institute of Science and Technology, Korea	Advanced optoelectronic materials and devices	4 (lecture)
Prof. Wei Zhang	University of Surrey, UK	Advanced optoelectronic materials and devices	4 (lecture)
Prof. Alex Jen	City University of Hong Kong, Hong Kong	Intergrated Material, Interface, and Process Engineering for Highly Efficient Organic, Perovskite, and Hybrid Devices	2 (talk)
Prof. Leonid Kulik	Russian Academy of Sciences, Russia	Optoelectronic materials design and characterization by EPR	2 (talk)
Prof. Xianjie Liu	Linkoping University, Sweden	The interfacial energy barrier in photovoltaic devices	2 (talk)
Prof. Wei Zhang	University of Surrey, UK	Manipulating interfaces in perovskite optoelectronic devices	2 (talk)
Prof. Jiefang Zhu	Uppsala University, Sweden	The specific application of in-situ XRD in battery research	2 (talk)
Prof. Ergang Wang	Chalmers University of Technology, Sweden	Synthesis of conjugated polymer materials and their applications in solar energy conversion	2 (talk)
Prof. Bumjoon J. Kim	Korea Institute of Science and Technology, Korea	Design of electroactive polymers with high mechanical properties for intrinsically-stretchable polymer solar cells	2 (talk)
Prof. Qilin Dai	Jackson State University, USA	Perovskite film passivation and precursor engineering for high performance devices	2 (talk)

Group Research Project

Practical projects include innovative experiments and academic competitions focused on optoelectronic information materials and devices. The innovative experimental section aims to guide students in combining basic knowledge with practical experiment results by preparing solar cell materials and devices, as well as photoelectric detection materials and devices. The academic competition on optoelectronic information materials and devices will feature 2-3 topics, conducted by students in teams. Through independent learning and guidance from tutors, students will collect knowledge on relevant topics, prepare competition materials, and participate in the competition. This process will help students develop skills in academic summarization, academic innovation, and team cooperation.

Program Dates and Times

<table>
<tr><th colspan="6">Week 1 (7.7—7.11)</th><th colspan="5">Week 2 (7.14—7.18)</th></tr>
<tr><th></th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thur</th><th>Fri</th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thur</th><th>Fri</th></tr>
<tr><td>AM</td><td>Introduction</td><td colspan="2">Lecture</td><td>Group Research</td><td>Seminar</td><td rowspan="2">Group Research</td><td>Group Research</td><td>Lecture</td><td rowspan="2">Lecture</td><td>Lecture</td></tr>
<tr><td>PM</td><td>Tour</td><td>Seminar</td><td>Group Research</td><td>Lecture</td><td>Group Research</td><td>Lecture</td><td>Seminar</td><td>Graduation ceremony</td></tr>
</table>

(Registration: July 6th, 2025)
Please note that the program schedule is subject to change based on actual circumstances.

Smart Low-Carbon Energy and Aerospace Power

Jul 7th – Jul 19th, 2024
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: yujianyang@hit.edu.cn

General Information

The Summer School on "Smart Low-Carbon Energy and Aerospace Power", hosted by the School of Energy Science and Technology, serves as a platform for young students in the field of energy and power to exchange ideas. The program focuses on cutting-edge issues and research hotspots in energy and power, aiming to provide participants with an understanding of the current status and development trends of world energy science and technology. By attending the summer school, participants will gain insights into international frontier dynamics and major scientific issues in this field, broaden their academic horizons, enrich their academic experience, enhance their professional qualities, stimulate innovative thinking, and strengthen their innovation capabilities.

The two-week program will feature various forms of teaching, including lectures, project-based learning, and practical sessions. These elements are designed to introduce students with a strong quantitative background (such as those in energy and power, theoretical physics, computer science, and engineering) to emerging fields in smart energy and advanced power. The summer school envisions a collaborative learning environment where teachers and students engage in in-depth discussions on cutting-edge topics in energy and power, exploring advanced mathematical methods, modeling techniques, and practical approaches.

Attendance Requirements

Participants should be currently at the undergraduate or graduate level, with a background in energy science, power and mechanical engineering, mechanics, aerospace engineering, materials science, applied mathematics, or related disciplines. All participants must have a good command of English. Lectures will be given in English/Chinese.

Lectures and Talks (Tentative)

The summer school offers four lectures and four seminar talks. Lecturers and speakers are invited from top institutions around the world, including the United States, France, Germany, Australia, Spain, and China. Notable institutions represented include California Institute of Technology, Institut National des Sciences Appliquées de Lyon, University of Western Australia, Universidad de Sevilla, and Harbin Institute of Technology.

Lecturer/Speaker	Institution	Topic (preliminary)	Units (50 mins/unit)
Prof. Nicolas Riviere	Universidad de Sevilla, Seville	Principles and Applied Technologies of Solar Photovoltaic Power Generation Systems	8 (lecture)
Prof. Iranzo Alfredo	Institut National des Sciences Appliquées de Lyon, France	Principles and Applied Technologies of Solar Photovoltaic Power Generation Systems	8 (lecture)
Prof. Yan Kleissl	California Institute of Technology, United States	Fluid Dynamics Computation and Flow Control	8 (lecture)
Prof. Tongming Zhou	University of Western Australia, Australia	Fluid Dynamics Computation and Flow Control	8 (lecture)
Prof. Oskar Haidn	Deutsches Zentrum für Luft- und Raumfahrt, Germany	Key Technologies in the Research Field of Liquid Rocket Engines	2 (talk)
Prof. Nicolas Gascoin	Institut National des Sciences Appliquées, France	Challenges of propulsion for a scramjet engine	2 (talk)
Prof. Daren Yu	Harbin Institute of Technology, China	Overview of the Development of Electric Propulsion in Space	2 (talk)
Prof. Jianmin Gao	Harbin Institute of Technology, China	Overview of Advances in Energy Storage Technologies	2 (talk)

Group Research Project

Participants will be divided into 6 or more teams, with 5-7 members in each team, to work on the Rotor UAV Practical Project. Under the guidance of instructors, either online or offline, each group will complete practical exercises focused on the "Supercapacitor/Battery Practical Project".

Program Dates and Times

	Week 1 (7.7—7.12)						Week 2 (7.14—7.19)					
	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat
AM	Lecture		Lecture		Lecture	Tour	Lecture		Seminar	Group Research	Defense	Poster
PM	Seminar		Seminar		Seminar		Group Research		Group Research	Group Research		

(Registration: July 6th, 2025)
Please note that the program schedule is subject to change based on actual circumstances.

Electrical Intelligence: Driving the Future

Jul 7th – Jul 19th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: dingyi90@163.com

General Information

The "Electrical Intelligence: Driving the Future" Global Summer School at Harbin Institute of Technology aims to provide a platform for undergraduates majoring in electrical engineering and related fields home and abroad to understand the most cutting-edge developments and applications in the electrical engineering discipline. The program offers opportunities for students from around the world to exchange ideas and learn from each other, fostering an atmosphere of international professional study and exchange. The project highlights the characteristics of smart manufacturing, smart energy, and smart cities, demonstrating the social significance and international influence of "Electrical Intelligence: Driving the Future".

Attendance Requirements

The summer school is open to undergraduate and graduate students with backgrounds in Electrical Engineering, Electrical Machines, Power Electronics and Power Drives, Power Systems and Automation, Electrotechnical Theory, and New Technologies. All participants must have a good command of English. Some lectures will be given in Chinese with translation provided.

Lectures and Talks (Tentative)

The summer school offers 2 lectures and 4 seminar talks. Lecturers and speakers are invited from top institutions in China and Europe.

Lecturer/Speaker	Institution	Topic (preliminary)	Units (50 mins/unit)
Prof. José Marcos Alonso Alvarez	University of Oviedo, Spain	Introduction to Lighting Drive Technology	16 (lecture)
Prof. Denis Sidorov	Harbin Institute of Technology, China	Design of Power Supply in Special Equipment	16 (lecture)
Prof. Dianguo Xu	Harbin Institute of Technology, China	Electrical Frontier Technology	1 (talk)
Prof. Liyi Li	Harbin Institute of Technology, China	National Science Project	1 (talk)
Prof. Yong Li	Harbin Institute of Technology, China	Typical Applications of Micro Motors	1 (talk)
Prof. Ying Xu	Harbin Institute of Technology, China	Renewable Energy Grid	1 (talk)

Program Dates and Times

	Week 1 (7.7—7.12)						Week 2 (7.14—7.19)					
	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat
AM	Opening ceremony	Lecture			Group Research	Tour	Lecture		Seminar		Defense	Closing ceremony
PM	Lecture		Seminar				Group Research		Group Research	Seminar		

(Registration: July 6th, 2025)
Please note that the program schedule is subject to change based on actual circumstances.

Precise Measurement Precise Future

Jul 7th – Jul 16th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: hityqxybk@126.com

General Information

The Summer School offers an intensive program tailored for students and professionals seeking to explore the latest advancements in metrology and instrumentation. Participants will delve into key concepts, including precision sensing techniques, the design of measurement instruments, and the importance of accurate data in scientific research and industrial applications. The curriculum combines theoretical lectures with real-world case studies, focusing on topics such as optical measurement systems, sensor technologies, and calibration methods. Through this program, attendees will gain a deep understanding of the challenges and solutions involved in achieving high-precision measurements, equipping them with valuable skills for careers in engineering, research, and technology development. Additionally, the Summer School provides a unique platform for networking and collaboration with leading experts in the field.

Attendance Requirements

The program is open to undergraduate and graduate students, with backgrounds in engineering, instrument science, electrical engineering, mechanical engineering, physics, or related fields. While a strong interest in precision measurement, sensor technologies, and instrumentation is recommended, it is not mandatory. All participants should have a good command of English.

Lectures and Talks (Tentative)

The summer school offers four seminar talks and lectures. Lecturers and speakers are invited from top institutions in German, the U.K., and China, including Physikalisch-Technische Bundesanstalt (PTB), University of Bristol, and Harbin Institute of Technology.

Topic (preliminary)
Ultrasonic Nondestructive Measuring technology
Position Measurement Interferometry
Advanced Electronics for Precision Measurement
Advanced Weighing technology
Smart Algorithms Upgrade Fluorescence Microscopy
High-performance Textured Piezoelectric Ceramics

Group Research Project

Participants will be divided into several teams, each consisting of 7-10 members, to work on a research project addressing an assigned case study or technical problem. Each team will present their findings in the form of a speech or poster. Teams may choose one of the following research areas:

1.Application of precision measurement technology in future industries
2.Technical challenges and breakthroughs in nano-scale measurement
3.Design and application of new sensors and measuring equipment

Program Dates and Times

<table>
<tr><th></th><th colspan="6">Week 1 (7.7—7.13)</th><th colspan="3">Week2 (7.14—7.16)</th></tr>
<tr><th></th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thur</th><th>Fri</th><th>Sat</th><th>Mon</th><th>Tue</th><th>Wed</th></tr>
<tr><td>AM</td><td colspan="2">Seminar</td><td colspan="2">Lecture</td><td rowspan="2">Group Research</td><td rowspan="2">Tour</td><td colspan="2">Lecture</td><td>Seminar</td></tr>
<tr><td>PM</td><td colspan="2">Lecture</td><td colspan="2">Seminar</td><td colspan="2">Seminar
Group Research</td><td>Group Research</td></tr>
</table>

(Registration: July 6th, 2025)
Please note that the program schedule is subject to change based on actual circumstances.

Mathematics and Artificial Intelligence

Jul 14th – Jul 25th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: fei.y.wang@hit.edu.cn

General Information

Mathematics and artificial intelligence play crucial roles in today's world, intertwining to drive the advancement of science and technology. Mathematics, as a fundamental science, provides a solid theoretical foundation and methodological support for the development of artificial intelligence. The algorithms, models, and technologies of artificial intelligence are deeply rooted in various branches of mathematics, including linear algebra, probability theory, and optimization theory. Meanwhile, the rapid development of artificial intelligence brings new challenges and opportunities to the field of mathematics. The demand for artificial intelligence drives innovation in mathematics, prompting mathematicians to explore new theories and methods to address increasingly complex and diverse application scenarios. The upcoming summer school provides participants with an excellent opportunity to acquire cutting-edge knowledge in mathematics and artificial intelligence, collaborate on tackling challenges, and engage in academic exchanges with scholars worldwide.

Attendance Requirements

Participants should have a bachelor's degree-level background in mathematics, computer science, geophysics, or related fields. All participants must have a good command of English. Some lectures will be given in English/Chinese, with translation provided.

Program Dates and Times

	Week 1 (7.14—7.19)						Week 2 (7.21—7.25)				
	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri
AM	Seminar				Poster	Tour	Seminar				Poster
PM	Lecture						Lecture				

(Registration: July 13th, 2025)
Please note that the program schedule is subject to change based on actual circumstances.

Physics and Future Technology Changes

Jul 14th – Jul 25th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: physics_summer_sch@163.com

General Information

The Global Summer School on "Physics and Future Technology Changes" at Harbin Institute of Technology is designed to provide undergraduate students majoring in physics and related fields, both domestically and internationally, with a platform to understand the latest developments and applications of physics. It also aims to foster opportunities for academic exchange and learning among students from diverse backgrounds, create an environment conducive to the acquisition and enhancement of professional English language skills, and encourage students in related fields to deepen their understanding of the discipline, thereby inspiring greater research interest among young scholars.

Attendance Requirements

Participants at the undergraduate or graduate level, with a background in general physics, are welcome to participate. Proficiency in English is required for all participants.

Lectures and Talks (Tentative)

The summer school comprises 2 lectures and 4 seminar talks delivered by distinguished speakers invited from top institutions in Russia, Singapore, and China.

Lecturer/Speaker	Institution	Topic	Units (50 mins/unit)
Prof. Rybin Mikhai	Ioffe Physical-Technical Institute of the Russian Academy of Sciences	L1: Advanced Photonics	16 (lecture)
Prof. Chu Xiangqiang	City University of Hong Kong	L2: Introduction to Quantum Physics	16 (lecture)
Prof. Rozanov Nikolai	Ioffe Physical-Technical Institute of the Russian Academy of Sciences	T1: Ultrafast Optics	4 (talk)
Prof. Liangcai Cao	Tsinghua University	T2: Intelligent Holographic Photonics	4 (talk)
Prof. Yimu Chen	Harbin Institute of Technology (Shenzhen)	T3: Optoelectronic Semiconductor Metal Halide Perovskite Materials and Devices	4 (talk)
Prof. Venediktov Vladimir	Saint Petersburg State University	T4: Introduction to Modern Optics	4 (talk)

Group Research Project

In alignment with the International Young Physicists' Tournament (IYPT), a prestigious event that challenges students to research and discuss physics problems, our summer school offers a group research project component. Eight research topics have been carefully chosen for their practicality, interest, and profound physical insights. These topics cover a range of areas including mechanics, thermodynamics, optics, and quantum physics. Students are encouraged to sign up voluntarily, forming teams of 3-4 members. Each group will be mentored by a team of professors from our School of Physics, who will provide guidance, support, and expert advice throughout the project.

Program Dates and Times

	Week 1 (7.14-7.20)							Week 2 (7.21-7.25)				
	Mon	Tue	Wed	Thur	Fri	Sat	Sun	Mon	Tue	Wed	Thur	Fri
AM	L1	L1	L1	L1	T3	VL	VL	L2	L2	L2	L2	T4
	L1	L1	L1	L1	T3	VL	VL	L2	L2	L2	L2	T4
PM	T1	T1	T2	T2								

(Registration: July 13, 2025. "VL" is the abbreviation for "visiting learning")
Please note that the program schedule is subject to change based on actual circumstances.

Digital Economy and Intelligent Decision

July 9th – July 15th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: andyzhang@hit.edu.cn

General Information

The Global School of Digital Economy and Intelligent Decision will be hosted by the School of Management, Harbin Institute of Technology (HIT SoM), one of China's four earliest management schools. Focusing on the core subjects of digital economy and Intelligent decision, this program will feature renowned senior scholars and industry professionals as lecturers from fields such as big data, data analysis, financial technology, and related areas worldwide. The program will provide foundational courses in digital economy and intelligent decision-making and explore the future directions of this field. Its mission is not only to share knowledge and enhance student skills but also to build a platform for undergraduate students and university teachers to learn and communicate with each other, thereby promoting the healthy development of the digital domain.

Attendance Requirements

This program welcomes undergraduate students worldwide, including those from HIT's cooperation projects, such as the QTEM and the Lyon Business School Joint Education Program.

Lectures and Talks (Tentative)

The global summer school offers seven lectures. Lecturers are invited from top institutions in America and China, including the University of Miami, Arizona State University, the University of Georgia, Georgia State University, and Harbin Institute of Technology.

Program Dates and Times

	7.9	7.10	7.11	7.12	7.13	7.14	7.15
AM	Lecture		Lecture		Lecture	Seminar	Tour
PM	Lecture		Lecture		Seminar	Group Research	

(Registration: July 8th, 2025)
Please note that the program schedule is subject to change based on actual circumstances.

Training Camp: Talents for International Organizations

July 8th – July 18th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact:
Wang Yang: wangsusanhit@126.com / Xu Rui: 549560770@qq.com

General Information

The Talent Training Camp for International Organizations, hosted by the Faculty of Humanity and Social Sciences at HIT, adopts a module-based approach, incorporating courses, lectures, and hands-on practices. The camp focuses on international relations and global development, exploring contemporary interrelationships among nations with professional guidance in international relations and organizations. Through theoretical instruction and practical exercises, students will enhance their understanding of international operational mechanisms, as well as the fundamental principles of international relations, politics, and economics. The program aims to develop students' language proficiency, cross-cultural communication skills, global governance awareness, and critical thinking abilities.

Attendance Requirements

Students from China or overseas, regardless of their majors, are welcome to participate. Preference will be given to Chinese students with English proficiency equivalent to CET 6 or above.

Lectures and Talks (Tentative)

The training camp features sessions led by former UN officials, current officials from international organizations, as well as scholars, professors, and researchers from renowned Chinese universities. These sessions include short courses, lectures, and training activities covering topics related to international relations and organizations.

Lecturer/Speaker	Institution	Topic	Units (50 mins/unit)
Edwin R. McDaniel (U.S.A)	San Diego State University	Communication in the Global Society: Intercultural Communication Across International Contexts	16 (course)
Hans Willmann (Germany)	World Health Organization	"Working for an International Organization" (of the UN Common System)	16 (course)
Su Hao (China)	China Foreign Affairs University	A Battle of Structural Contradictions between China and USA	4 (lecture)
Li Donglin (China)	International Labour Organization	International negotiation skills and some typical case studies	4 (lecture)
Meng Wenting (China)	(Interned at) UN Headquarters in New York; (Interned at) UN Development Programme Office in China; UNESCO Joint Programme Office	Training Activities: 1. Internship Writing Activity for International Organizations 2. United Nations SDGs (Sustainable Development Goals) Keynote Speech Training Activity 3. Applications for Cooperation Projects with Relevant International Organizations and Related Test-taking Skills 4. Workshop: Experience Sharing on Internships at International Organizations — "How to Be an International Civil Servant"	4 units / training
Song Langrun (China)	(Interned at) Natural Sciences Sector, UNESCO Regional Office for Eastern Africa		
Zhang Naiqian (China)	(Interned at) the Strategic Planning Department at ITU headquarters in Geneva		
Su Chang (China)	(Interned at) UN Headquarters in New York		
Gao Xuan (China)	(Served at) UN Global Service Centre in Italy		

Group Research Project

At our summer school, we offer a unique learning experience through a collaborative group research project. Participants will be divided into groups of 5-6 members, with the goal of completing a comprehensive team project. Each group will present their findings in English, covering topics such as international relations, international organizations, and cross-cultural communication. This project not only deepens participants' knowledge but also enhances their teamwork and presentation skills.

Program Dates and Times

	Week 1 (7.8-7.11)					Week 2 (7.14-7.18)				
	Mon	Tue	Wed	Thur	Fri	Mon	Tue	Wed	Thur	Fri
AM	Register	Lecture	Lecture	Lecture	Lecture	Training Activity 1	Training Activity 2	Training Activity 3	Training Activity 4	Team Project Presentation
		Course A	Course A	Course A	Course A	Course A	Course A	Course A	Course A	
PM		Course B	Course B	Course B	Course B	Course B	Course B	Course B	Course B	Departure

(Registration: July 7th, 2025)
Please note that the program schedule is subject to change based on actual circumstances.

Intelligent Civil Engineering and Intelligent Construction

Jul 7th – Jul 16th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: gsr33resume@163.com

General Information

The development of information technology and artificial intelligence (AI) has endowed civil engineering with a new connotation. Traditional civil engineering is evolving toward an advanced orientation characterized by big data and AI. Implementing big data and AI technology to support the transformation and upgrading of infrastructure has become a significant national demand. In-depth research on critical scientific issues related to intelligent civil engineering can contribute to solving problems of human survival and development.

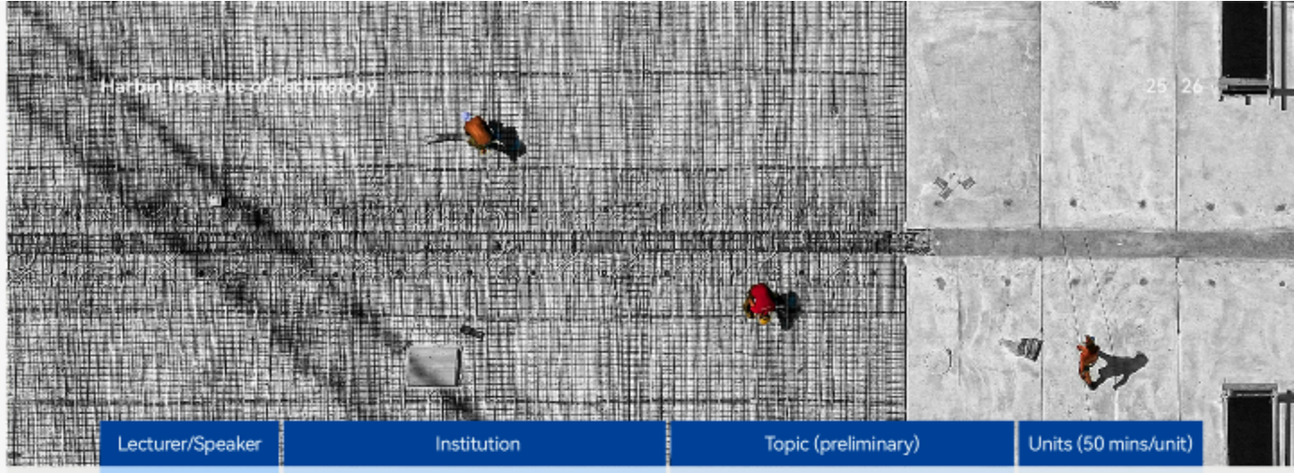
Therefore, focusing on the original theories and key technologies of civil engineering, the following topics will be covered in this summer school:
(1) Urban and Engineering Structure Resilience Theory
(2) Implementation of Computer Vision and Deep Learning in Civil Engineering
(3) Application of Intelligent Materials in Civil Engineering
(4)Polar and Cold Region Ice Disaster Prevention and Control Theory, Frozen Soil Disaster Prevention and Control Theory

Attendance Requirements

We plan to recruit approximately 20 outstanding undergraduates from overseas universities:
- Majors: Civil engineering or related science and engineering fields
- Levels: Sophomores or above

Lectures and Talks (Tentative)

The summer school offers 2 lectures and 4 seminar talks. Lecturers and speakers are invited from top institutions, including Aalborg University, Far Eastern Federal University, Leibniz University Hannover, University of North Texas, and Harbin Institute of Technology.



Lecturer/Speaker	Institution	Topic (preliminary)	Units (50 mins/unit)
Prof. Michael Havbro Faber	Aalborg University, Denmark	Risk and Safety	2 (talk)
Prof. Bekker Alexander Tevievich	Far Eastern Federal University, Russia	Marine hydraulic engineering and marine glaciology	2 (talk)
Prof. Michael Beer	Leibniz University Hannover, Germany	AI in Hazard Mitigation and Transportation Engineering	8 (lecture)
Prof. Zhenhua Huang	University of North Texas, USA	Numerical solution of the Fourier Series	8 (lecture)
Prof. Hui Li	Harbin Institute of Technology, China	Chinese intelligent civil engineering and intelligent construction research frontier lecture series 1	2 (talk)
Prof. Wenli Chen	Harbin Institute of Technology, China	Chinese intelligent civil engineering and intelligent construction research frontier lecture series 2	2 (talk)

Group Research Project

Participants will be divided into 6 teams or more, each consisting of 7-10 members, to work on a project related to structural design and safety assessment. Each group can choose one area from four options: general design of buildings, structural dynamics analysis, computation of strength. Instructors will be available online or offline.

Program Dates and Times

	Mon	Tue	Wed	Thur	Fri	Sat	Sun	Mon	Tue	Wed
AM	Seminar		Lecture		Lecture Seminar	Seminar	Tour	Seminar	Seminar	Defence
PM	Lecture		Seminar		Group Research	Group Research	Free time	Group Research	Group Research	Poster

(Registration: July 6th, 2025)
Please note that the program schedule is subject to change based on actual circumstances.

Arctic Environment and Ecosystem

Jul 7th – Jul 19th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: IAS_HIT@163.com

General Information

The Arctic is one of the most stunning yet fragile ecosystems on Earth, once characterized by its vast expanses of pristine ice and snow. However, the relentless march of climate change is transforming these landscapes at an unprecedented pace. Rising temperatures, melting glaciers, and shifting weather patterns are triggering a cascade of ecological disruptions with far-reaching consequences. Once introduced into the environment, Persistent Organic Pollutants (POPs) and Contaminants of Emerging Arctic Concern (CEACs) disperse into air, water, soil, and sediments in the Arctic, and can be absorbed by Arctic biota. Many of the processes that determine the environmental fate of POPs and CEACs, as well as their potential for uptake and bioaccumulation in food webs, can be influenced by climate change. Participants will gain in-depth knowledge specifically in the fields of carbon emissions and the carbon cycle under the backdrop of climate change in cold regions. This is an excellent opportunity for participants to access cutting-edge knowledge in Arctic environment and ecosystem, collaborate in tackling challenges, and foster academic friendships worldwide.

Attendance Requirements

This Summer School invites undergraduate students and graduate students from universities worldwide who are passionate about the Arctic and seek to gain relevant scientific knowledge about it. This program is open to students of all academic backgrounds. Participants should be motivated to enhance understanding and build friendships among students from different countries. Proficiency in English, both oral and written, is essential for academic participation.

Lectures and Talks (Tentative)

he summer school offers one lecture and four seminar talks. Lecturers and speakers are invited from top institutions in Russia, Norway, Canada, and China, including North-Eastern Federal University, the Norwegian University of Life Sciences, Harbin Institute of Technology, the Chinese Research Academy of Environmental Sciences, the China Institute for Innovation & Development Strategy, and the Research Center for Eco-Environmental Sciences.

Lecturer/Speaker	Institution	Topic (preliminary)	Units (50 mins/unit)
Prof. Roland Kallenborn	Norwegian University of Life Sciences, Norway	Pollution of the Arctic Ecological Environment	10 (lecture)
Prof. Yifan Li	Harbin Institute of Technology, China	Pollution of the Arctic Ecological Environment	8 (lecture)
Prof. Anatoly N. Nikolaev	North-Eastern Federal University, Russia	Pollution of the Arctic Ecological Environment	6 (lecture)
Prof. Fengchun Zhang	Chinese Research Academy of Environmental Sciences	Introduction to Biodiversity in China	2 (talk)
Prof. Qingchao Xu	China Institute for Innovation & Development Strategy, Chinese Academy of Sciences, China	China in the Arctic: Identity, Interests, Challenges, and Strategy	2 (talk)
Prof. Qinghua Zhang	Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, China	Persistent Organic Pollutants in Polar Regions	2 (talk)
Prof. Li Chen	Heilongjiang Meteorological Buieau	Methods for detecting pollutants in the atmosphere	2 (talk)

Group Research Project

Participants will be grouped into 8 or more teams, each consisting of 6-8 members, to collaborate on projects related to carbon emissions and the carbon cycle under the backdrop of climate change in cold regions, Arctic air pollution, Arctic water pollution, and ecological environments. Each group is expected to conduct discussions and deliver presentations together as a team.

Program Dates and Times

<table>
<tr><th colspan="7">Week 1 (7.7—7.12)</th><th colspan="6">Week 2 (7.17—7.19)</th></tr>
<tr><th></th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thur</th><th>Fri</th><th>Sat</th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thur</th><th>Fri</th><th>Sat</th></tr>
<tr><td>AM</td><td>Opening Ceremony</td><td colspan="4" rowspan="2">Lecture</td><td rowspan="3">Tour</td><td colspan="2">Lecture</td><td rowspan="3">Internship at Monitoring Station</td><td rowspan="3">Group Research</td><td>Group Research</td><td rowspan="3">Tour</td></tr>
<tr><td rowspan="2">PM</td><td rowspan="2">Lecture</td><td colspan="2">Talk</td><td rowspan="2">Group Research</td><td colspan="2">Talk</td><td rowspan="2">Graduation ceremony</td></tr>
<tr><td colspan="2">Group Research</td><td colspan="2">Group Research</td></tr>
</table>

(Registration: July 6th, 2025)
Please note that the program schedule is subject to change based on actual circumstances.

Imprint Harbin · City Trace-Architectural Design Camp

Jun 29th – Jul 10th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: liuying01@hit.edu.cn

General Information

Since its launch in 2016, the Global Summer School "Imprint Harbin · City Trace - Architectural Design Camp" has received positive feedback and results from universities both domestically and internationally. It has evolved into a dynamic platform fostering cooperation and coordination across various specialties and fields. Students from diverse academic backgrounds have the unique opportunity to gain professional insight and cognitive understanding of Harbin, a city rich in history and culture in northern China.

In the summer of 2025, the 10th Global Summer School at HIT eagerly anticipates your participation in the picturesque and vibrant city of Harbin!

Part I. The Theme of the Architectural Design Camp: Imprint Harbin · City Trace

Centered around architectural design workshops, the global summer school will feature renowned professors from overseas institutions such as University College London and Pennsylvania State University, together with accomplished domestic instructors as workshop tutors. Focused on the historic districts of Harbin, this workshop aims to explore the architectural splendor of the city's northern landscape while integrating innovative design practices facilitated by emerging technologies. Moreover, students will benefit from a diverse array of perspectives and expertise shared by lecturers from international universities, enriching their professional acumen and broadening their global outlook.

Part II. Course Content

The curriculum of this summer school comprises three main components: lectures, design workshops, and research.

The lecture series will feature presentations by distinguished experts and scholars, including Professor Jian Kang from University College London, Chen Shouheng of the MIT Computation Group and Chief Architect of SHDT Shouheng Design, and Sun Wei, co-founder of Shaper3d and head of the China Technical Support and Promotion Center.

The design workshop component will consist of 4 co-designed sessions tailored to accommodate varying levels of expertise and thematic interests, each led by a faculty group known for their distinctive approach.

The research component will delve into the city's development and associated factors through the lens of architecture, informed by a comprehensive exploration of Harbin's history, culture, architecture, and daily life.

Part III. Specific Arrangements

1. The summer school is scheduled to take place from June 29th to July 10th, 2025. Please refer to the following table for details.

Courses	Contents	Teachers	Class Hours	Credits
Lecture	Survey of world architecture	Professor Jian Kang from University College London Chen Shouheng, an expert from the MIT Computation Group and the Chief Architect of SHDT Shou Heng Building Professor Wenshao Zhang from the University of Lincoln Professor Sun Cheng, a Changjiang Scholar	8	/
Design	"Heritage Restoration"	Students are grouped for design purposes, with faculty advisors listed in the following directions.	24	1.5
	"Digital Innovation"			
	"Environment Simulation"			
	"Open-source Blocks"			
Research	City Discover	Expert in Urban Design and Historic Building Conservation	8	0.5

Smart Transportation Digital Future

Jul 14th – Jul 25th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: xiaowei_hu@hit.edu.cn

General Information

Transportation Science and Engineering is a multidisciplinary field that bridges foundational science and advanced technologies. The Global Summer School in Transportation Engineering offers a variety of lectures and seminars covering cutting-edge research, design, and applications in the domain. Participants will gain expertise in areas such as intelligent infrastructure management, sustainable transportation systems, advanced materials for transportation structures, and disaster prevention technologies for cold regions. Through theoretical learning and collaborative research projects, this program provides a platform to explore the frontiers of transportation science, solve complex challenges, and build an international network of academic and professional peers.

Attendance Requirements

Participants at the undergraduate or graduate level with backgrounds in transportation engineering, civil engineering, mechanical engineering, materials science, geotechnical engineering, or related fields are encouraged to apply. A good command of English is required for all participants. Some lectures may be delivered in Chinese or other languages with translation services provided to ensure accessibility for all attendees.

Lectures and Talks (Tentative)

The summer school offers three lectures and three seminar talks. Lecturers and speakers are invited from top institutions worldwide, including Lehigh University, Waseda University, Lund University, Lancaster University, Technical University Dresden, and Polytechnic University of Turin.

Lecturer/Speaker	Institution	Topic (preliminary)	Units (50 mins/unit)
Prof. Dan M. Frangopol	Lehigh University, United States	Reliability of Engineering Structures	8 (lecture)
Prof. Mitsuyoshi Akiyama	Waseda University, Japan	Structural Safety	8 (lecture)
Prof. Aliaksei Laurenshyn	Lund University, Sweden	Safe System Approach	2 (talks)
Prof. Jiang Yu	Lancaster University, United Kingdom	Artificial Intelligence for Traffic Optimization	2 (talks)
Prof. Michael Kaliske	Technical University Dresden, Germany	Advanced Computational and Civil Engineering Structural Studies	2 (talks)
Prof. Alberto CARPINTERI	Polytechnic University of Turin, Italy	Introduction of Fracture mechanics	8 (lecture)

Group Research Project

Participants will be organized into teams of 6-10 members to collaboratively work on research projects addressing key challenges in transportation science and engineering. Each team will select a topic from four focus areas: intelligent design and performance optimization of transportation infrastructure, structural dynamics and disaster resilience, advanced materials for infrastructure durability, and health monitoring of transportation structures. Expert instructors will provide guidance, ensuring a comprehensive and interactive research experience for all participants.

Program Dates and Times

<table>
<tr><th></th><th colspan="6">Week 1 (7.14—7.19)</th><th colspan="6">Week 2 (7.21—7.25)</th></tr>
<tr><th></th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thur</th><th>Fri</th><th>Sat</th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thur</th><th>Fri</th><th>Sat</th></tr>
<tr><td>AM</td><td colspan="2" rowspan="2">Seminar</td><td colspan="2" rowspan="2">Lecture</td><td rowspan="2">Group Research</td><td rowspan="2">Tour</td><td colspan="2">Lecture</td><td>Seminar</td><td>Seminar</td><td rowspan="2">Defense</td><td rowspan="2">/</td></tr>
<tr><td>PM</td><td colspan="2">Seminar</td><td rowspan="2">Group Research</td><td rowspan="2">Group Research</td><td rowspan="2">Group Research</td></tr>
</table>

(Registration: July 13th, 2025)
Please note that the program schedule is subject to change based on actual circumstances.

Artificial Intelligence: Leading the Frontier

Jul 7th – Jul 18th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: 601697682@qq.com

General Information

In an era defined by rapid technological evolution, artificial intelligence (AI) stands at the forefront of innovation, driving transformative changes across industries and disciplines. The "Artificial Intelligence: Leading the Frontier" Global Summer School offers an immersive and enriching educational experience for those eager to explore the vast possibilities within AI.
This interdisciplinary program explores the latest advancements and applications of AI across various fields. Through a combination of lectures, hands-on workshops, and dynamic discussions led by renowned experts and researchers, participants will gain a comprehensive understanding of AI theories, methodologies, and their real-world implementations.
Additionally, the summer school serves as a unique opportunity for global collaboration, bringing together students, academics, and professionals from around the world to exchange ideas, share insights, and build meaningful connections. This transformative experience will provide participants with the knowledge and inspiration to navigate the future of AI. Join us on this exciting journey to discover the frontiers of artificial intelligence and unlock its immense potential to shape the world of tomorrow.

Attendance Requirements

We invite undergraduate and graduate students with backgrounds in Computer Science, Artificial Intelligence, Data Science, Information Technology, Cognitive Science, Mathematics, and other fields focused on AI applications to apply for an immersive learning experience at the forefront of AI research and innovation. Proficiency in English is required for all participants.

Lectures and Talks (Tentative)

The summer school offers a selection out of three comprehensive lectures, each spanning 16 hours, with a primary focus on computer science and artificial intelligence. In addition, there will be four cutting-edge seminar talks addressing the latest trends and advancements in contemporary research within these fields. The instructors and guest speakers are esteemed professionals from prestigious institutions worldwide, including Edith Cowan University, The Hong Kong Polytechnic University, University of Rochester, University of Macau, Harbin Institute of Technology, and more.

Group Research Project

Participants will be divided into teams, with each team potentially consisting of 4–7 members, and will work together on a project focused on artificial intelligence. Each group can choose between two areas: Medical Imaging Analysis or Computer Vision.

Program Dates and Times

	Week 1 (7.7-7.13)						Week 2 (7.14-7.18)				
	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri
AM	Lecture		Seminar		Group Research	Tour	Lecture	Seminar	Lecture		Defense
PM	Seminar		Lecture				Group Research	Lecture	Group Research		Closing Ceremony

(Registration Date: July 6th, 2025)

Chemistry Empowering Health

Jul 14th – Jul 20th, 2025
Harbin Institute of Technology, Harbin, P.R. China

Contact Information
For further inquiries, please contact: muwei@hit.edu.cn

General Information

Chemistry serves as the foundation of modern science and acts as a bridge connecting various disciplines. The theme of the Global Summer School is Chemistry Empowering Health, with an emphasis on showcasing the remarkable contributions of interdisciplinary fields to life and health. The summer school offers a variety of cutting-edge courses, laboratory sessions, and lectures in areas such as chemical biology, biomedical materials, bioanalytical chemistry, biosensing technology, and artificial intelligence. It is a great opportunity for participants to engage with the forefront of chemistry, collaborate in hands-on laboratory work, and build academic connections with peers worldwide. Participants can choose to attend either online or in-person.

Attendance Requirements

Participants should be at the undergraduate or graduate level, with a background in chemistry, life sciences, materials science, or related fields. A good command of English is required for all participants.

Lectures and Talks (Tentative)

The Summer School offers one course (16 class hours), four LAB sessions, and six lectures. The program features professors and speakers from top universities, including Tsinghua University, Aarhus University in Denmark, The University of Tokyo, St. Petersburg State University, the Institute of Metallurgy of the Russian Academy of Sciences, Harbin Institute of Technology, Jilin University, and Nanjing University. Students are required to attend all cutting-edge courses, 6 lectures, and choose 2 lab sessions from the four innovative experiments offered throughout the summer school.

Program Dates and Times

Jul 14th – Jul 20th, 2025							
	Mon	Tue	Wed	Thur	Fri	Sat	Sun
AM	Sign in/ Opening Ceremony	Courses	Courses	Courses	Lecture	Lecture	Lecture
PM	Courses	LABS	LABS	Lecture	Lecture	Lecture	Closing Ceremony

(Registration: July 13th, 2025)

Advanced Progress of Biology and Medicine

Jul 7th- Jul 16th, 2025
Harbin Institute of Technology, Harbin, P.R. China

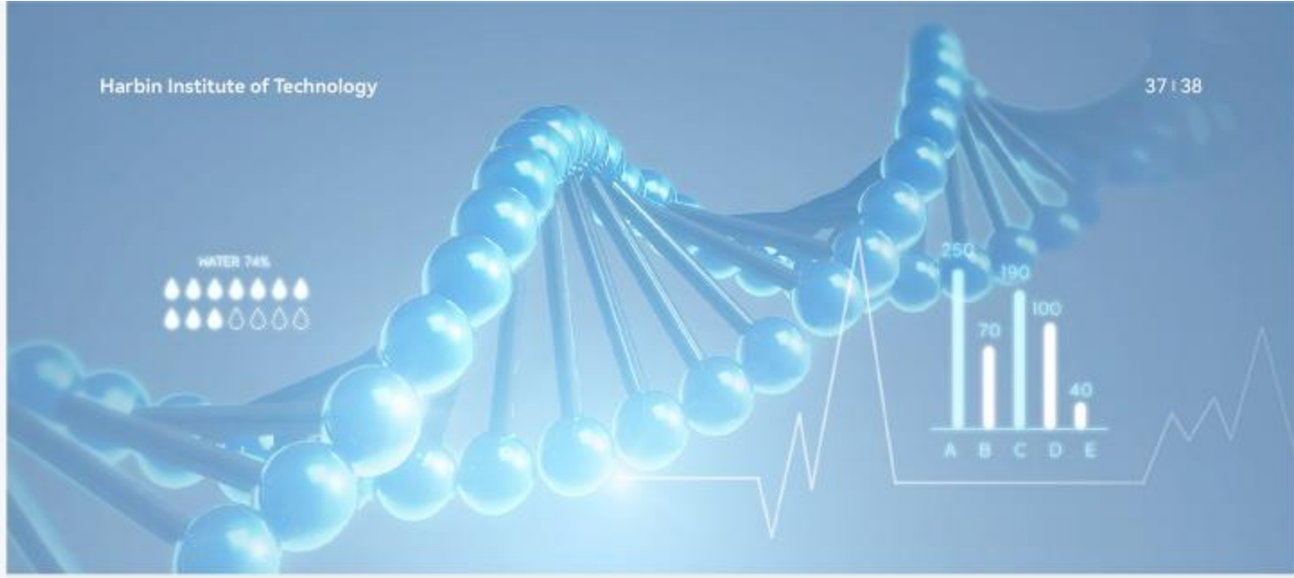
Contact Information
For further inquiries, please contact: nancy0481@hit.edu.cn

General Information

The biomedical industry is a strategic emerging industry crucial to national livelihood and security. It serves as an important cornerstone in achieving China's national strategy of "Healthy China". In recent years, the state has continuously increased its support for policies in the field of biomedicine, encouraging the development and innovation of the biopharmaceutical industry, and providing guidance for the future development planning of China's pharmaceutical and biotechnology sectors. Biomaterials, due to their unique properties and functions, are widely used in the medical field for applications such as biomarker detection, tissue regeneration engineering, and more. They provide essential tools and means for disease diagnosis, treatment, and prevention. As basic research in life sciences continues to deepen, biomaterials will bring more breakthroughs to the fields of life sciences and medicine.
The Faculty of Life Science and Medicine focuses on topics related to biology and medicine, with a particular emphasis on the research and application of biomaterials in the pharmaceutical industry. We invite experts from both domestic and international fields to establish a series of courses, lectures, discussions, and experimental projects. By combining a foundation in local culture with an expansion of international perspectives, we provide students with a platform for learning, communication, and practical experience.

Attendance Requirements

This program is designed for undergraduate students who have a keen interest in the field of life sciences. Participants should demonstrate a genuine enthusiasm for life sciences, showing a proactive approach towards learning and engaging with the subject matter. It is essential for attendees to be proficient in the English language. They should be able to fluently write, converse, and present reports in English, as the program will be conducted primarily in this language.



Lectures and Talks (Tentative)

Content	Detailed information	Credit	Class Hour
Global Perspectives in Biomaterials	Research and application of biomaterials in the pharmaceutical industry	0.5	8
Advanced Research Lectures	Metabolic biology, tissue engineering frontier lectures, etc	-	-

Research Projects

Content	Detailed information	Credit	Class Hour
Hands-on Projects (Choose One)	Immunofluorescence labeling of cellular structures	0.5	12
	Analysis of protein structure using cryo-electron microscopy and nuclear magnetic resonance (NMR)	0.5	8
	Screening and analysis of differentially expressed genes in tumors using bioinformatics databases	0.5	8
Discussion and Interaction	1. Teacher-student communication and discussion sessions to address questions and clarify doubts. 2. Symposium on student future planning and career guidance. 3. Informal socializing activities after class to foster connections and collaboration.	-	-
Visiting and Studying	1. Tour of the School of Life Sciences and Life Center research laboratories, showcasing the latest research achievements and outcomes in life sciences. 2. Visit to the History Museum and Space Museum of Harbin Institute of Technology.	-	-