北京理工大学 BEIJING INSTITUTE OF TECHNOLOGY　远光软件

共探智算技术
赋能行业应用

# ISCIIA 2026

## 2026年国际计算智能与工业应用研讨会
## 暨先进计算智能中日双边研讨会

2026 International Symposium on Computational Intelligence and Industrial Applications (ISCIIA 2026)
& China-Japan Bilateral Symposium on Advanced Computational Intelligence

# Conference Programme

October 30 - November 2, 2026 | Beijing, China

### Organizing Entities

**Host:**
Beijing Association of Automation

**Organizers:**
Beijing Institute of Technology
YGSoft Co., Ltd.

**Supporting Organizations:**
International Fuzzy Systems Association (IFSA)
Japan Society for Fuzzy Theory and Intelligent Informatics (SOFT)
Chinese Society of Educational Development Strategy
IEEE Computational Intelligence Society
IEEE-IES Human Factors Technical Committee
IEEE Systems, Man, and Cybernetics Society (IEEE SMC)
Professional Committee on Intelligent Systems Engineering, Chinese Association for Artificial Intelligence (CAAI)
Professional Committee on Resource Planning Simulation and Decision, Chinese Association for System Simulation
Zhuhai Association of Automation
Springer
Fuji Technology Press
China Electric Space (Beijing) Technology Co., Ltd.
Suzhou Inovance Technology Co., Ltd.
Beijing Huahong Data Technology Co., Ltd.
International Young Talent Exchange Program to China



# Organizers

北京理工大學
BEIJING INSTITUTE OF TECHNOLOGY

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# Supporters



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# Welcome to ISCIIA 2026

The 2026 International Symposium on Computational Intelligence and Industrial Applications (ISCIIA 2026), with China-Japan Bilateral Symposium on Advanced Computational Intelligence, will be held from Oct. 29 to Nov. 2, 2026 in Beijing, China. The pre-conference registration and China-Japan Bilateral Symposium sessions will take place from October 29 to 30, while the main conference will be held from October 30 to November 2. On behalf of the organizing committee of ISCIIA, we would like to express our warmest welcome to all participants.

During the past years, supported by the researchers and scientists all over the world, ISCIIA has been actively developing their domestic and international scientific and technical exchanges, which is influential and considerable especially in the Asia area.

ISCIIA 2026 is sponsored by Beijing Association of Automation (BAA) under the guidance of Beijing Association for Science and Technology, and organized by Beijing Institute of Technology and YGSOFT INC. Additionally, the conference is supported by Zhuhai Association of Automation, CEC Space (Beijing) Technology Co., Ltd., Suzhou Inovance Technology Co., Ltd., Beijing Huahong Digital Technology Co., Ltd., and the International Youth Talents Exchange Program for China Visit.

With the great support of many researchers and scholars, and Springer, the world-leading academic publisher, ISCIIA 2026 continuously contributes to the development of advanced computational intelligence and information technology as well as their various applications. It has no suspicion that the exchanges about Computational Intelligence, Information Technology, and their applications are quite favorable not only for the Universities but also for the close relationship between Industry and Academy.

Dear Friends, ISCIIA 2026 closely relies on your support, while the development of Computational Intelligence also ties up our participation. ISCIIA 2026 is an important occasion that could give a general comment of the recent years' global science and technology, and we can also expect to see that ISCIIA 2026 will indicate us the future development directions. May we join together to contribute more to develop Computational Intelligence, Information Technology and their applications, to advance both the theory and application for endeavor to create the brilliant future.

Thanks again for your attendance to ISCIIA 2026.

From


Kaoru Hirota


Jian Sun


Fang Deng


Yuan Xu


Yuning Wang


Liqun Han


Zhanchuan Cai

and all other and all other organizing committee members.





# Greetings from General Chairs


Bin Xin


Kazuhiko Kawamoto

It is our great pleasure to welcome you to the 2026 International Symposium on Computational Intelligence and Industrial Applications (ISCIIA 2026). As the General Chairs, Prof. Bin Xin and Prof. Kazuhiko Kawamoto, we would like to express our warmest welcome to all the participants.

The highlights of ISCIIA 2026 include keynotes by overseas top-notch researchers – Jie Lu, Peter Sincak, Masahiro Inuiguchi, Yasufumi Takama, Takanori Shibata, and so on; keynotes by Chinese top-notch researchers – Ling Wang, Guibin Bian, Yun Feng, Ye Tian and so on; multiple groups of parallel sessions and an AI challenge contest. The conference covers more than 30 technical topics. More than 300 experts and scholars from home and abroad will jointly explore the cutting-edge directions of AI.

Apart from the technical programs, participants are also cordially invited to attend various social events, such as welcome reception, banquet, round table discussion, etc. As the symposium will be held at the beginning of November, the weather in the duration will be very nice and you can enjoy beautiful scenes of Beijing comfortably.

We sincerely thank all keynote speakers, the authors, reviewers, members of the organizing com mittee, and volunteers for your great support of ISCIIA 2026. Wish every participant enjoy a lot from ISCIIA 2026.

# Greetings from Advisory Board


Toshio Fukuda


Witold Pedrycz


Qinglin Wang


Yaping Dai


Xiangdong Liu

The great success of ISCIIA has been witnessed by the previous successful holdings. ISCIIAprovides a very good opportunity to exchange ideas among researchers and scholars who are dedicated to computational intelligence, intelligent informatics and their applications. They are getting more and more influential and considerable especially in the Asia area.

We believe that this time, ISCIIA 2026, with the great effort of the organizing committee and the contribution of all authors and presenters, would be an excellent occasion for exchanging academic ideas and developing and promoting friendships. Thank you for your contribution to ISCIIA 2026. We hope that ISCIIA 2026 would be a wonderful memory to you.





# Greetings from Beijing Association of Automation


Yuan Xu


Yang Zhang

On behalf of Beijing Association of Automation, we are pleased to organize the 2026 International Symposium on Computational Intelligence and Industrial Applications (ISCIIA 2026), jointly with China-Japan Bilateral Symposium on Advanced Computational Intelligence, with Beijing Institute of Technology and Beijing Institute of Technology (Zhuhai). We need to express our sincere welcome to all attendees of ISCIIA 2026 and we hope our collaboration can make you enjoy a pleasant trip to Beijing.

First of all, we would like to express our sincere gratitude to everyone who made contributions and various support to this symposium, especially the teams of BIT and BITZH who have done hard work which makes this great event possible. We would provide our continuous support with the growth of this event as well as the growth of our association.

As co-organizer of this great event, we would also like to thank all sponsors. Your support to this symposium adds the value of this symposium and helps to promote this event as a platform for academic exchange.

Besides, we would also like to give our special thanks to Springer Press, which helps to improve the impact of our symposium. And sincere thanks to Fuji Technology Press for their continuous great support to our past conferences.

And we welcome the members of Beijing Association of Automation, for your attendance and continuous support to this symposium.

We hope that this symposium will be successful and fruitful with all your great efforts and time. Thank you again for your cooperation and participation for ISCIIA 2026.

# Greetings from Program Committee Chairs


Hongbin Ma


Jinhua She


Naoyuki Kubota


Yu Kang


Zeng Zeng

On behalf of the program committee of the 2026 International Symposium on Computational Intelligence and Industrial Applications (ISCIIA 2026), with China-Japan Bilateral Symposium on Advanced Computational Intelligence, we would like to express our gratitude to all those who submitted research papers and to volunteer reviewers who took on hard reviewing work for the symposium. Undoubtedly, their great efforts and contributions are critical for the success of the symposium.

We received numerous submissions from over 110 research institutions. Each submitted paper has been reviewed by at least two reviewers in terms of originality, importance, presentation, English usage, and overall quality. According to suggestions of Springer, the program committee has finally accepted 137 papers from 241 submissions. To address the emerging challenges of rapid developing artificial intelligence techniques, we also organize 4 special sessions covering AI education for mathematics and engineering, AI contests for gaming, AI roadshows for industrial applications, and one committee Symposium on resources optimization.The Springer press will be in charge of later work of EI indexing. The technical program includes 23 sessions that cover a broad range of topics related to computational intelligence and intelligent informatics.

We hope that the symposium will provide a great opportunity for exchanging research activities and fostering research collaboration in the future.

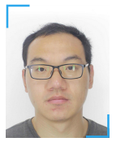
Thank you again for your cooperation and participation for ISCIIA 2026.





# Greetings from Local Organizing Members


Yang Zhang


Sijie Yin


Yuan Li


Qing Wang


Zhiyang Jia


Miao Wang


Fengmiao Chen

On behalf of the local organizing members of the 2026 International Symposium on Computational Intelligence and Industrial Applications (ISCIIA 2026), with China-Japan Bilateral Symposium on Advanced Computational Intelligence, we would like to express our gratitude to all those who submitted research papers and to volunteer reviewers who took on hard reviewing work for the symposium. Undoubtedly, their great efforts and contributions are critical for the success of the symposium.

We hope that the symposium will provide a great opportunity for exchanging research activities and fostering research collaboration in the future.

Thank you again for your cooperation and participation for ISCIIA 2026.

# Organization

## Honorary Chair



**Kaoru Hirota**
BIT, China; Tokyo Tech, Japan



**Jian Sun**
BIT, China



**Fang Deng**
SMBU, China

## General Chairs



**Bin Xin**
BIT, China



**Kazuhiko Kawamoto**
Chiba Univ., Japan

## Collaboration Chair



**Yuan Xu**
BUCT, China



**Yuning Wang**
Intelligent Systems Engineering Committee, CAAI, China



**Liqun Han**
CSEDS, BTBU, China



**Zhanchuan Cai**
MUST, China

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NU, Japan



**Witold Pedrycz**
UA, Canada



**Qinglin Wang**
FEAP， China



**Yaping Dai**
BITZH, China



**Xiangdong Liu**
BIT, China

## Program Committee Chairs



**Hongbin Ma**
BIT, China



**Jinhua She**
TUT, Japan



**Naoyuki Kubota**
TMU, Japan



**Yu Kang**
USTC, China



**Zeng Zeng**
YGSOFT, China





## Organized Session Chairs



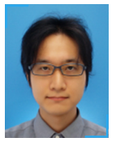
**Xiaoyan Zhao**
USTB, China



**Lan Cheng**
TYUT, China



**Syoji Kobashi**
U. Hyogo, Japan



**Seiki Ubukata**
OMU, Japan



**Meng Xu**
BIT, China

## Local Organizing Chairs



**Yang Zhang**
BUCT, China



**Sijie Yin**
BIT, China



**Yuan Li**
BIT, China

## Publication Chairs



**Qing Wang**
BIT, China



**Jiande Yu**
MUST, China



**Jianguo Chen**
SYSU, China

## Registration Chairs



**Zhiyang Jia**
BIT, China



**Miao Wang**
BIT, China

## Competition Chairs



**Minling Zhu**
BISTU, China



**Guiping Lu**
BITZH, China

## General Affairs



**Fengmiao Chen**
BITZH, China

# Program Committee

(Alphabetical Order)

AN Jianqi
ARAKAWA Takahiro
BAI Yongqiang
CAI Tao
CAO Weihua
CAO Ye
CAO Yongzhi
CAO Zhigang
CHEN Ge
CHEN Hui
CHEN Jie
CHEN Kewei
CHEN Luefen
CHEN Luefeng
CHEN Shouyan
CHEN Wenbai
CHEN Xin
CHEN Youdong
CHEN Zhen
CHENG Daizhan
Lan Cheng
CHENG Long
DADIOS Elmer
DAI Shilu
DAN Jingpei
DENG Fang
DENG Zhenhua
DING Yulong
DONG Fangyan
DONG Haobin
DONG Kaifeng
DUAN Xingguang
FANG Hao
FEI Qing
FENG Bo
FENG Jun-E
FUJIMOTO Katsushige
FUKUSHIMA E. Fumihiko
GAN Minggao
GAO Hui
GENG Lina
GENG Qingbo
GENG Zhiqiang
GUO Xiaoyong
GUO Zhan
HAN Liqun
HAN Yongming
HAN Zhongjie
HASHIMOTO Tomomi
HATAKEYAMA Yutaka
HE Long
HE Xiao
HE Yan
HIROTA Kaoru
HORIGUCHI Yukio
HOSHINO Yukinobu
HU Jie
HU Wenkai
HUA Mingang
HUAN Xintao
HUANG Kai
IKOMA Norikazu
INUIGUCHI Hisao
INUIGUCHI M
ISHIBUCHI H
IWASAKI Makoto
IYATOMI Hitoshi
JIA Zhiyang
JIN Xuebo
KACPRZYK Janusz
KAWATA Seiichi
KECSKEMETHY A
KIM Donggyun
KIM Donghwa
KOBASHI Syoji
KOBAYASHI Ichirou
KUROKAWA Hiroaki
LAI Ru
LI Changhe
LI Chanying
LI Feng
LI Gongfa
LI Haitao
LI Huifang
LI Juan
LI Shan
LI Weibing
LI Weixing
LI Yongfu
LI Yuan
LI Zhiwen
LIAO Xiaozhong
LIU Feng
LIU Hao
LIU Kangzhi
LIU Ning
LIU Xiangdong
LIU Zhentao
LIU Zhixin
LU Chengda
LU Guiping
LU Nannan
LU Pingli
LUO Man
LUO Xueshan
LUO Zhongming
MA Zhongjing
MASUTA Hiroyuki
MATSUO Y
MONIWA M
MU Xiaowu
MU Yifen
NAKAGAWA Yukiko
NAKANISHI Yosuke





FURUHASHI T
FURUI Mitsuaki
NITTA Katsumi
NODA Ryusuke
NOJIMA Yusuke
NYIRENDA Clement
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OHKUBO T
OHNISHI Kouhei
OHNO S
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PAN Feng
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QI Bo
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SUN Jian
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WANG Gao
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WANG Junmin
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WANG Lin
WANG Miao
WANG Qing
WANG Qinglin
WANG Rui
WANG Xin
WANG Yanhui
WANG Yanni
WANG Yanwu
WANG Yingchun
WANG Youqing
WANG Yu
WANG Yutang
WOO Jinseok
WU Fan
WU Han
WU Jundong
NI Wancheng
NIE Zhigen
WU Min
WU Yingnian
WU Yuqiang
WU Zhiqiang
XIA Yuanqing
XIAO Liang
XIE Guoqi
XIN Bin
XIN Jianbin
XIN Xin
XIONG Yonghua
XU Bin
XU Li
XU Meng
XU Yuan
YAMAGUCHI T
YAMANOI Takahiro
YAMASHITA Takashi
YAMAZAKI Youichi
YAN Fei
YAN Liping
YANG Chen
YANG Chenguang
YANG Guanghong
YANG Guangyu
YANG Qingkai
YANG Xiaofei
YANG Xiaoguang
YI Jianqiang
YIN Sijie
YOKOYAMA Ryuichi
YOSHIDA Kaori
YOSHIDA Shinichi
YOSHIKAWA Tomohiro
YU Hua
YU Li
YU Yinfeng
ZENG Zhifeng
ZHANG Binchao

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**ZHANG Chaohui**
**ZHANG Chuanke**
**ZHANG Chunmei**
**ZHANG Guoying**
**ZHANG Jia**
**ZHANG Jianlin**
**ZHANG Pingwen**
**ZHANG Xinghong**
**ZHANG Yanshuo**
**ZHANG Yanxia**
**WU Liqiang**
**ZHANG Yifei**
**ZHANG Zhaohui**
**ZHANG Zhengqiang**
**ZHANG Zuowei**
**ZHAO Linhui**
**ZHAO Xiaoyan**
**ZHAO Zhijia**
**ZHENG Zhi**
**ZHOU Funa**
**ZHOU Jing**
**ZHANG Changfan**
**ZHOU Miaolei**
**ZHOU Tianwei**
**ZHU Guohun**
**ZHU Guoqing**
**ZHU Minling**
**ZHU Quanmin**
**ZHU Qunxiong**
**ZONG Xiaofeng**
**ZOU Weidong**



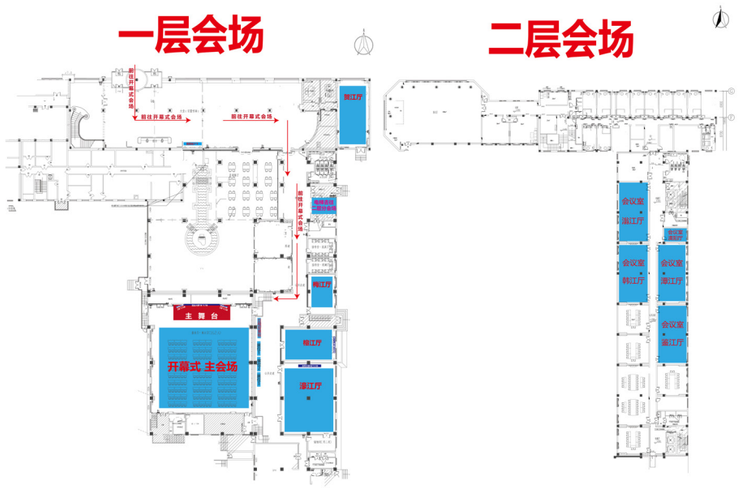


# Conference Venue

Dear ISCIIA 2026 Participants:

First of all, thank you very much for your contribution to ISCIIA 2026. For the convenience of some keynote speakers, ISCIIA 2026 will be held in hybrid form, i.e. online (mainly by Zoom) and offline in Beijing during Oct. 29–Nov. 2. The details are posted on the official website of this symposium (https://isciia.iaci-global.com/). Please pay close attention.




Chenmao Nanyueyuan Hotel, Beijing

ISCIIA2026 Organizing Committee

# Conference Introduction

The International Symposium on Computational Intelligence and Industrial Applications (ISCIIA 2026) together with the China-Japan Bilateral Symposium on Advanced Computational Intelligence will be held in Beijing in 2026. Guided by the Beijing Association for Science and Technology, co-organized by the International Association for Computational Intelligence (IACI) and Beijing Association of Automation, and undertaken by Beijing Institute of Technology, the conference will run alongside the bilateral symposium jointly organized by universities and research institutions from China and Japan.

Founded in 2004 by Professor Kaoru Hirota, a recipient of the Chinese Government Friendship Award, ISCIIA is held biennially, and the 2026 event marks its 12th edition. The conference aims to build a high-level international academic exchange platform, bringing together global experts, young researchers and industrial representatives to discuss the latest advances and future trends of artificial intelligence. Its topics cover core areas including fuzzy systems and soft computing, neural networks, evolutionary computation, intelligent control and robotics, as well as their applications in intelligent manufacturing and smart systems, with a special focus on cutting-edge directions such as large models.

A dedicated Sino-Japanese bilateral exchange session will also be arranged, inviting scholars from both countries to discuss fundamental theories, key technologies and research frontiers of advanced computational intelligence, so as to deepen bilateral academic collaboration and promote joint research and talent cultivation.

All accepted papers will be compiled into conference proceedings published by Springer in the Communications in Computer and Information Science (CCIS) series, and submitted for indexing in EI Compendex and Scopus. Outstanding papers will be recommended for publication in the special issue of the Journal of Advanced Computational Intelligence and Intelligent Informatics (JACIII). In addition, special sessions on AI education exchange, project roadshows and academic contests will be organized.

Technical topics of the conference include but are not limited to:

| | | | | | |
|---|---|---|---|---|---|
| Neural Networks | Fuzzy Systems | Evolutionary Computing | Emotion Computing | Soft Computing | Large Language Models |
| Artificial Intelligence | Machine Learning | Deep Learning | Reinforce Learning | Multi-agent Systems | Multimodal Fusion |
| Adaptive Systems | Data Mining | Data Fusion | Intelligent Systems | Network Security | Embodied Intelligence |
| Signal and Image Processing | Control Theory and Applications | Motion Control | Intelligent Control | Network-based Control | Humanoid Robots |
| Human-Computer Interface | Robotics | Mechatronics | Integrated Circuits | Unmanned Systems | Applications of AI |





# Organizing Entities

**Host:**

Beijing Association of Automation

**Organizers:**

Beijing Institute of Technology

YGSoft Co., Ltd.

**Supporting Organizations:**

International Fuzzy Systems Association (IFSA)

Japan Society for Fuzzy Theory and Intelligent Informatics (SOFT)

Chinese Society of Educational Development Strategy

IEEE Computational Intelligence Society

IEEE-IES Human Factors Technical Committee

IEEE Systems, Man, and Cybernetics Society (IEEE SMC)

Professional Committee on Intelligent Systems Engineering, Chinese Association for Artificial Intelligence (CAAI)

Professional Committee on Resource Planning Simulation and Decision, Chinese Association for System Simulation

Zhuhai Association of Automation

Springer

Fuji Technology Press

China Electric Space (Beijing) Technology Co., Ltd.

Suzhou Inovance Technology Co., Ltd.

Beijing Huahong Data Technology Co., Ltd.

International Young Talent Exchange Program to China

# Program At a Glance

## Thursday, October 29, 2026 Beijing Chenmao Nanyueyuan Hotel

| Time | Presentation / Activity | Registration |
|---|---|---|
| 13:00-20:00 | Registration | Registration: Yue Cao |

## China-Japan Bilateral Symposium on Advanced Computational Intelligence

### Registration and Opening Ceremony

Beijing Chenmao Nanyueyuan Hotel Zhujiang Hall, 1F

| Time | Presentation / Activity | Speaker / Affiliation |
|---|---|---|
| 08:00-08:30 | Registration | Registration: Yue Cao |
| 08:30-08:35 | Opening and Introduction of Guests | Bin Xin<br>Beijing Institute of Technology, China |
| 08:35-08:55 | Opening Addresses | |
| 08:55-09:00 | Group Photograph | |

Friday, October 30, 2026

Beijing Chenmao Nanyueyuan Hotel Zhujiang Hall, 1F

| Time | Presentation / Activity Speaker / Affiliation |
|---|---|
| 09:00-09:30 | **Data-Driven Intelligent Optimization Scheduling**<br>**Ling Wang** Tsinghua University, China<br>Moderator:Bin Xin,Beijing Institute of Technology, China |
| 09:30-10:00 | **Embedding control theory into rehabilitation robots improves system performanceEmbedding control theory into rehabilitation robots improves system performance**<br>**Jinhua She** Tokyo University of Technology, Japan<br>Moderator:Bin Xin,Beijing Institute of Technology, China |
| 10:00-10:30 | **Intelligent Microsurgical Robots**<br>**Guibin Bian** Institute of Automation, Chinese Academy of Sciences<br>Moderator:Bin Xin,Beijing Institute of Technology, China |
| 10:30-10:50 | Coffee Break |
| 10:50-11:20 | **Non-Invasive Healthcare Monitoring Using Wearable Biosensors and Volatile Organic Compound Imaging Systems**<br>**Takahiro Arakawa** Tokyo University of Technology, Japan<br>Moderator:Bin Xin,Beijing Institute of Technology, China |
| 11:20-11:50 | **Modeling and Diagnosis of Complex Spatiotemporal Dynamic Systems**<br>**Yun Feng** Hunan University, China<br>Moderator:Bin Xin,Beijing Institute of Technology, China |
| 11:50-12:20 | **Uncertainty, Topology, and Graphs in Prototype-Based Learning: From Soft Clustering to Objective-Based Structure Learning**<br>**Seiki Ubukata** Osaka Metropolitan University, Japan<br>Moderator:Bin Xin,Beijing Institute of Technology, China |
| 12:20-14:00 | Lunch |
| 14:00-14:30 | **Bifurcation Analysis via Parallel Nested-Layer PSO**<br>**Hiroaki Kurokawa** Tokyo University of Technology, Japan<br>Moderator:Bin Xin,Beijing Institute of Technology, China |
| 14:30-15:00 | **Automated Design of Artificial Intelligence Algorithms**<br>**Ye Tian** Anhui University, China<br>Moderator:Bin Xin,Beijing Institute of Technology, China |
| 15:00-15:30 | **Direct Generation of Laser Light from Sunlight: Progress in Solar-Pumped Laser Research**<br>**Tomomasa Ohkubo** Tokyo University of Technology, Japan<br>Moderator:Bin Xin,Beijing Institute of Technology, China |
| 15:30-15:50 | Coffee Break |
| 15:50-16:20 | **Multimodal Intelligent Perception and Understanding for Embodied AI Systems**<br>**Luefeng Chen** China University of Geosciences, Wuhan, China<br>Moderator:Yaping Dai,Beijing Institute of Technology, China |
| 16:20-16:50 | **Hierarchical optimal control and estimation for multi-agent systems and its applications**<br>**Daisuke Tsubakino** Nagoya University, Japan<br>Moderator:Yaping Dai,Beijing Institute of Technology, China |
| 16:50-17:20 | **Vector-field-based Motion Planning for Nonholonomic Robots**<br>**Xiaodong He** University of Science and Technology Beijing, China<br>Moderator:Yaping Dai,Beijing Institute of Technology, China |
| 17:20-17:50 | **Roundtable Forum:**<br>**Theme: Evolution of AI: From Computational Intelligence to Embodied Intelligence**<br>Moderator: Ma Hongbin,Beijing Institute of Technology<br>Panelists: Prof. Yun Feng,Hunan University<br>Prof. Hiroaki Kurokawa,Tokyo University of Technology<br>Prof. Ye Tian,Anhui University<br>Assoc. Prof. Seiki Ubukata,Osaka Metropolitan University<br>Prof. Luefeng Chen,China University of Geosciences, Wuhan<br>Assoc. Prof. Daisuke Tsubakino,Nagoya University |
| 17:50-18:00 | Closing Remarks |

## 2026 International Symposium on Computational Intelligence and Industrial Applications (ISCIIA 2026)

### Saturday, October 31, 2026 Beijing Chenmao Nanyueyuan Hotel

| Time | Presentation / Activity | Speaker / Affiliation |
|---|---|---|
| 08:00-08:30 | Registration | Registration: Yue Cao |
| 08:30-08:35 | Opening and Introduction of Guests | Bin Xin<br>Beijing Institute of Technology, China |
| 08:35-08:55 | Opening Addresses | |
| 08:55-09:00 | Group Photograph | |

### Keynote Session

Saturday, October 31, 2026
Beijing Chenmao Nanyueyuan Hotel Zhujiang Hall, 1F
Chairs: Bin Xin,Beijing Institute of Technology; Kazuhiko Kawamoto,Chiba University

| Time | Presentation / Activity Speaker / Affiliation |
|---|---|
| 09:00-09:30 | **Algorithmic Developments of Neurosymbolic Machine Learning**<br>**Witold Pedrycz** University of Alberta, Canada<br>Moderator:Kaoru Hirota,Beijing Institute of Technology, Zhuhai |
| 09:30-10:00 | **Data-driven optimization of complex systems assisted by small and large models**<br>**Yaochu Jin** Westlake University, China<br>Moderator:Yaping Dai,Beijing Institute of Technology |
| 10:00-10:30 | **Embodied Intelligence: A Synergy of Morphological and Behavior**<br>**Huaping Liu** Tsinghua University, China<br>Moderator:Qingkai Yang,Beijing Institute of Technology |
| 10:30-10:50 | Coffee Break |
| 10:50-11:10 | **The Soul of Software in the Age of Artificial Intelligence**<br>**Hua Guo** Deputy General Manager YGSoft Co., Ltd<br>Moderator:Hongbin Ma,Beijing Institute of Technology, China |
| 11:10-11:40 | **Towards general evolutionary computing optimization methods: from algorithm recommendation, hyperparameter optimization to algorithm generation**<br>**Xingyi Zhang** Anhui University, China<br>Moderator:Bin Xin,Beijing Institute of Technology |
| 11:40-12:10 | **Continual and Generalizable Face Forgery Detection**<br>**Zhen Lei** Macau University of Science and Technology<br>Moderator:Kazuhiko Kawamoto,Chiba University |
| 12:10-14:00 | Lunch |





## Forum on Resource Planning, Simulation and Decision-Making

Saturday, October 31, 2026
Beijing Chenmao Nanyueyuan Hotel Haojiang Hall, 1F
Chairs: Bin Xin,Beijing Institute of Technology

| Time | Presentation / Activity Speaker / Affiliation |
|---|---|
| 14:00-14:10 | **Opening Remarks by the Committee Chair**<br>**Hongyan Sang** Liaocheng University, China<br>Moderator:Bin Xin,Beijing Institute of Technology |
| 14:10-14:30 | **Advances in Evolutionary Multitasking Optimization**<br>**Wenyin Gong** China University of Geosciences, Wuhan, China<br>Moderator:Lining Xing,Jiangsu University of Technology, China |
| 14:30-14:50 | **Methods for Collaborative Multi-Ground-Radar Task Planning in Space Target Observation**<br>**Min Hu** Space Engineering University, China<br>Moderator:Lining Xing,Jiangsu University of Technology, China |
| 14:50-15:10 | **Research on Collaborative Scheduling Optimization for Intelligent Manufacturing and Transportation**<br>**Hongyan Sang** Liaocheng University, China<br>Moderator:Lining Xing,Jiangsu University of Technology, China |
| 15:10-15:30 | **Intelligent Mission Planning for Heterogeneous Unmanned Systems**<br>**Jianmai Shi** National University of Defense Technology, China<br>Moderator:Lining Xing,Jiangsu University of Technology, China |
| 15:30-15:40 | Coffee Break |
| 15:40-16:00 | **“REMS”: A General-Purpose Modeling and Intelligent Optimization Platform for Discrete Optimization Problems**<br>**Guohua Wu** Central South University, China<br>Moderator:Libao Deng,Harbin Institute of Technology, Weihai |
| 16:00-16:20 | **Intelligent Resource Planning: The Evolutionary Path from “Silos” to an “Ecosystem”**<br>**Feng Yao** National University of Defense Technology, China<br>Moderator:Libao Deng,Harbin Institute of Technology, Weihai |
| 16:20-16:40 | **Intelligent Planning Technology for Multi-Source Heterogeneous Sensing Tasks Oriented toward Complex Cognitive Tasks**<br>**Lining Xing** Jiangsu University of Technology, China<br>Moderator:Libao Deng,Harbin Institute of Technology, Weihai |

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|---|---|
| 16:40-17:30 | **Roundtable Forum:**<br>**Theme: Human-AI Collaborative Resource Planning and Decision-Making — Modeling, Optimization, and Validation**<br>Moderator:Bin Xin,Beijing Institute of Technology, China<br>Guest: Prof. Ling Wang,Tsinghua University<br>Prof. Hongyan Sang,Liaocheng University<br>Prof. Wenyin Gong,China University of Geosciences, Wuhan<br>Prof. Min Hu,Space Engineering University<br>Prof. Jianmai Shi,National University of Defense Technology<br>Prof. Guohua Wu,Central South University<br>Prof. Feng Yao,National University of Defense Technology<br>Prof. Lining Xing,Jiangsu University of Technology<br>Prof. Libao Deng,Harbin Institute of Technology, Weihai<br>Prof. Zhou Fang,Beijing University of Chemical Technology |
| 17:30-17:40 | Closing Remarks and Outlook<br>Moderator:Hongyan Sang,Liaocheng University;Ling Wang,Tsinghua University, China |

## Forum on AI in Education

Saturday, October 31, 2026
Beijing Chenmao Nanyueyuan Hotel Rongjiang Hall, 1F
Chairs: Hongbin Ma,Beijing Institute of Technology, China

| Time | Presentation / Activity Speaker / Affiliation |
|---|---|
| 14:00-14:05 | **Opening Remarks & Guest Introduction**<br>**Liqun Han** Beijing Technology and Business University<br>Moderator:Liqun Han,Beijing Technology and Business University |
| 14:05-14:25 | **Game-Based Simulation and AI-Supported Feedback for Engineering Education**<br>**Hongbin Ma** Beijing Institute of Technology, China<br>Moderator:Liqun Han,Beijing Technology and Business University |
| 14:25-14:45 | **The Impact of AI on the Cultivation of Artificial Intelligence Technology Professionals**<br>**Guiping Lu** Beijing Institute of Technology, Zhuhai, China<br>Moderator:Liqun Han,Beijing Technology and Business University |
| 14:45-15:05 | **From "Tool Assistance" to "Symbiosis of Thinking": The Practical Shift and Systematic Construction of AI-Empowered University Mathematics Education**<br>**Jianlin Zhang** Zhongyuan University of Technology, China<br>Moderator:Liqun Han,Beijing Technology and Business University |
| 15:05-15:25 | **System evolution and regulation in repeated games between human and machine**<br>**Yifen Mu** Academy of Mathematics and Systems Science, Chinese Academy of Sciences<br>Moderator:Liqun Han,Beijing Technology and Business University |





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|---|---|
| 15:25-15:45 | **Industrial AI Practices and Talent Cultivation at Inovance Technology**<br>**Wang Lijun** Director of Event Operation and Ecosystem Cooperation Industrial-Education Ecosystem Development Department Inovance Technology<br>Moderator:Liqun Han,Beijing Technology and Business University |
| 15:45-15:55 | Coffee Break |
| 15:55-16:25 | **A control-theoretic view of autonomous mobility**<br>**Alessandro Astolfi** Imperial College London, United Kingdom<br>Moderator:Hongbin Ma,Beijing Institute of Technology, China |
| 16:25-16:45 | **Value Reconstruction of Engineering Professional Knowledge in the Era of Generative AI**<br>**Yang Zhang** Beijing University of Chemical Technology, China<br>Moderator:Hongbin Ma,Beijing Institute of Technology, China |
| 16:45-17:05 | **Research on the Optimization of the Assessment System for Innovation and Entrepreneurship Practice Courses in Automation Major under Emerging Engineering Education**<br>**Yunling Shi** Harbin University of Science and Technology, China<br>Moderator:Hongbin Ma,Beijing Institute of Technology, China |
| 17:05-17:50 | **Roundtable Forum:**<br>**Theme: The Rise of Intelligent Revolution, Reflections on the Path of Education**<br>Moderator:Hongbin Ma,Beijing Institute of Technology, China<br>Guest: Prof. Jianlin Zhang,Zhongyuan University of Technology<br>Assoc. Research Fellow Yifen Mu,Academy of Mathematics and Systems Science, Chinese Academy of Sciences<br>Assoc. Prof. Yang Zhang,Beijing University of Chemical Technology<br>General Manager Hua Luo,Beijing Huahong Shuke Technology Co., Ltd.<br>Lijun Wang, Director of Competition Operations and Ecosystem Cooperation Industry-Education Ecosystem Development Department, Inovance Technology |
| 17:50-18:00 | Closing Remarks |

## Towards Controlled Autonomy: Decision-Making, Execution and Governance of Intelligent Systems (Special Session of Yuanguang Software)

Saturday, October 31, 2026
Beijing Chenmao Nanyueyuan Hotel Hejiang Hall
Chairs: Lu Jing,Yuanguang Software Co., Ltd.

| Time | Presentation / Activity Speaker / Affiliation |
|---|---|
| 14:00-14:10 | **About YGSoft Inc. and YGSoft Research Institute**<br>**Lu Jing** Yuanguang Software Co. Ltd<br>Moderator:Lan Cheng,Taiyuan University of Technology |
| 14:10-14:40 | **Embodied Intelligent Robot Technology with Safety and Restricted Constraints**<br>**En Li** Institute of Automation, Chinese Academy of Sciences<br>Moderator:Lan Cheng,Taiyuan University of Technology |

| | |
|---|---|
| 14:40-15:10 | **Data-Driven Identification, Quantification, and Control of Flexibility from Distributed Energy Resources**<br>**Yi Guo** Beijing Institute of Technology<br>Moderator:Lan Cheng,Taiyuan University of Technology |
| 15:10-15:40 | **Enterprise Ontology-Driven Intelligent Analytics and Governance: Power Grid Enterprise Management and Look-Through Supervision in Practice**<br>**Jing Tang** Yuanguang Software Co. Ltd<br>Moderator:Lan Cheng,Taiyuan University of Technology |
| 15:40-15:50 | Coffee Break |
| 15:50-16:20 | **Applications of Artificial Intelligence in New-Type Power Systems — A Case Study of Large-Scale Energy Storage Stations**<br>**Juncheng Liu** North China Electric Power University<br>Moderator:Lan Cheng,Taiyuan University of Technology |
| 16:20-16:50 | **LLM–Driven Enterprise Transformation: Mechanisms, Practical Constraints, and Implementation Pathways**<br>**Shihong Wu** Yuanguang Software Co. Ltd<br>Moderator:Lan Cheng,Taiyuan University of Technology |
| 16:50-17:50 | **Roundtable Forum:**<br>**Theme: Roundtable Discussion — Three Questions on Operationalizing Controlled Autonomy: Autonomous Decision-Making, Closed-Loop Execution, and Governance Boundaries**<br>Moderator:Lan Cheng,Taiyuan University of Technology<br>Guest: Prof. Yi Guo, Beijing Institute of Technology<br>Dr. Jing Tang, YGSOFT Inc.<br>Research Fellow En Li, Institute of Automation, Chinese Academy of Sciences<br>Dr. Jing Lu, YGSOFT Inc.<br>Associate Prof. Juncheng Liu, North China Electric Power University<br>Dr. Shihong Wu, YGSOFT Inc. |
| 17:50-18:00 | Closing Remarks |
| 14:00-18:00 | **Innovative Product Roadshow** — Meijiang Hall, 1F |
| 14:00-18:00 | **AI Challenge Finals** — Wengjiang Hall |
| 18:30-20:30 | Banquet — Xiangjiang Hall, 2F |

## Registration and Keynote Session

Sunday, November 1, 2026

Beijing Chenmao Nanyueyuan Hotel Zhujiang Hall, 1F

Chairs: Bin Xin,Beijing Institute of Technology; Kazuhiko Kawamoto,Chiba University

| Time | Presentation / Activity | Speaker / Affiliation |
|---|---|---|
| 08:30-09:00 | **Registration** | Registration: Yue Cao |





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|---|---|
| 09:00-09:30 | **Advanced Machine Learning for Decision Support in Complex Environments**<br>**Jie Lu** University of Technology Sydney, Australia<br>Moderator:Yaping Dai,Beijing Institute of Technology, China |
| 09:30-10:00 | **Fundamental Problems and Recent Progresses of Quantized Systems: From Parameter Identification to Adaptive Controls**<br>**Jifeng Zhang** Academy of Mathematics and Systems Science, Chinese Academy of Sciences<br>Zhongyuan University of Technology<br>Moderator:Bin Xin,Beijing Institute of Technology, China |
| 10:00-10:30 | **Quo Vadis, Open Multimodal Neural Networks? Architectures, Adaptation and Experimental Perspectives**<br>**Peter Sincak** Technical University of Kosice, Slovakia<br>Moderator:Kazuhiko Kawamoto,Chiba University, Japan |
| 10:30-10:50 | Coffee Break |
| 10:50-11:20 (Online) | **Multiple Criteria Decision Analysis via Visualizing Hesitation: An Interval Priority Weight Estimation Approach**<br>**Masahiro Inuiguchi** Osaka University, Japan<br>Moderator:Jinhua She,Tokyo University of Technology |
| 11:20-11:50 | **Synthetic Data Generation for Recommender Systems**<br>**Yasufumi Takama** Tokyo Metropolitan University, Japan<br>Moderator:Kaoru Hirota,BIT, China; Tokyo Tech, Japan |
| 11:50-12:20 (Online) | **Person-Centered Care Using a Therapeutic Robot**<br>**Takanori Shibata** PARO Robots<br>Moderator:Hongbin Ma,Beijing Institute of Technology, China |
| 12:20-14:00 | Lunch |

## Conference Closing Session

Beijing Chenmao Nanyueyuan Hotel Zhujiang Hall / Pearl River Hall

| Time | Presentation / Activity | Speaker / Affiliation |
|---|---|---|
| 17:00-17:15 | Conference Summary | Bin Xin<br>Beijing Institute of Technology, China |
| 17:15-17:45 | Award Ceremony | |
| 17:45-18:00 | Announcement / Preview of Next Year's Conference | Hongbin Ma<br>Beijing Institute of Technology, China |

Monday, November 2, 2026

To be confirmed

| Time | Agenda | Person-in-charge |
|---|---|---|
| 9:00–12:00 | Enterprise Visit | Chen Fengmiao |

# China-Japan Bilateral Symposium on Advanced Computational Intelligence (Keynote)



王凌 教授
（清华大学）

**报告题目** 09:00-09:30

Data-Driven Intelligent Optimization Scheduling

数据驱动型智能优化调度



Jinhua She 教授
（东京工科大学）

**报告题目** 09:30-10:00

Embedding control theory into rehabilitation robots improves system performance

将控制理论嵌入康复机器人，可提升系统性能



边桂彬 研究员
（中国科学院自动化研究所）

**报告题目** 10:00-10:30

Intelligent Microsurgical Robots

智能显微外科机器人



Takahiro ARAKAWA 教授
（东京工科大学）

**报告题目** 10:50-11:20

Non-Invasive Healthcare Monitoring Using Wearable Biosensors and Volatile Organic Compound Imaging Systems

基于可穿戴生物传感器与挥发性有机物成像系统的无创健康监测



冯运 教授
（湖南大学）

**报告题目** 11:20-11:50

Modeling and Diagnosis of Complex Spatiotemporal Dynamic Systems

复杂时空动态系统建模与诊断



Seiki UBUKATA 副教授
（大阪公立大学）

**报告题目** 11:50-12:20

Uncertainty, Topology, and Graphs in Prototype-Based Learning: From Soft Clustering to Objective-Based Structure Learning

基于原型学习中的不确定性、拓扑与图：从软聚类到基于目标的结构学习



Hiroaki KUROKAWA 教授
（东京工科大学）

**报告题目** 14:00-14:30

Bifurcation Analysis via Parallel Nested-Layer PSO

基于并行嵌套层粒子群优化的分岔分析







田野 教授
（安徽大学）

**报告题目** 14:30-15:00

Automated Design of Artificial Intelligence Algorithms

人工智能算法的自动设计方法



Tomomasa OKUBO 教授
（东京工科大学）

**报告题目** 15:00-15:30

Direct Generation of Laser Light from Sunlight: Progress in Solar-Pumped Laser Research

太阳光直接产生激光：太阳能泵浦激光研究进展



陈略峰 教授
（中国地质大学（武汉））

**报告题目** 15:50-16:20

Multimodal Intelligent Perception and Understanding for Embodied AI Systems

面向具身智能系统的多模态智能感知与理解



Daisuke TSUBAKINO 副教授
（名古屋大学）

**报告题目** 16:20-16:50

Hierarchical optimal control and estimation for multi-agent systems and its applications

多智能体系统的分层最优控制与估计及其应用



贺晓东 副教授
（北京科技大学）

**报告题目** 16:50-17:20

Vector-field-based Motion Planning for Nonholonomic Robots

基于向量场的非完整机器人运动规划

# 2026 International Symposium on Computational Intelligence and Industrial Applications (Keynote)

## 10月31日（上午）



Witold Pedrycz 院士
(加拿大阿尔伯塔大学)

**报告题目** 09:00-09:30

Algorithmic Developments of Neurosymbolic Machine Learning
神经符号机器学习的算法开发



金耀初 院士
(西湖大学)

**报告题目** 09:30-10:00

Data-driven optimization of complex systems assisted by small and large models
大小模型协同辅助下复杂系统的数据驱动优化



刘华平 会士
(清华大学)

**报告题目** 10:00-10:30

Embodied Intelligence: A Synergy of Morphological and Behavior
具身智能：形态与行为的协同



郭华 副总经理
(远光软件股份有限公司)

**报告题目** 10:50-11:10

The Soul of Software in the Age of Artificial Intelligence
人工智能时代，软件的灵魂



张兴义 会士
(安徽大学)

**报告题目** 11:10-11:40

Towards general evolutionary computing optimization methods: from algorithm recommendation, hyperparameter optimization to algorithm generation
面向通用进化计算优化方法：从算法推荐、超参优化到算法生成



雷震 会士
(澳门科技大学)

**报告题目** 11:40-12:10

Continual and Generalizable Face Forgery Detection
持续可泛化的人脸伪造检测





## 11月1日（上午）



Jie Lu 会士
(悉尼科技大学)

**报告题目** 09:00-09:30

Advanced Machine Learning for Decision Support in Complex Environments
面向复杂环境决策支持的高级机器学习



张纪峰 院士
(中国科学院数学与系统科学研究院)

**报告题目** 09:30-10:00

Fundamental Problems and Recent Progresses of Quantized Systems: From Parameter Identification to Adaptive Controls
量化系统的基础问题与最新进展：从参数辨识到自适应控制



Peter Sincak 教授
(斯洛伐克科希策技术大学)

**报告题目** 10:00-10:30

Quo Vadis, Open Multimodal Neural Networks?
Architectures, Adaptation and Experimental Perspectives
开放多模态神经网络向何处去？架构、适应性和实验视角



Masahiro Inuiguchi 教授
(大阪大学)

**报告题目** 10:50-11:20

Multiple Criteria Decision Analysis via Visualizing Hesitation: An Interval Priority Weight Estimation Approach
基于犹豫度可视化的多准则决策分析 —— 区间优先级权重估计方法



Yasufumi Takama 教授
(东京都立大学)

**报告题目** 11:20-11:50

Synthetic Data Generation for Recommender Systems
面向推荐系统的合成数据生成



Takanori Shibata 教授
(帕洛机器人)

**报告题目** 11:50-12:20

Person-Centered Care Using a Therapeutic Robot
基于治疗机器人的以人为中心照护

# Forum of the Special Committee on Resource Planning, Simulation and Decision-Making



**论坛的主持人** 14:00-14:10

辛斌 教授
(北京理工大学)



龚文引 教授
(中国地质大学（武汉）)

**报告题目** 14:10-14:30

Advances in Evolutionary Multitasking Optimization
进化多任务优化研究进展



胡敏 教授
(航天工程大学)

**报告题目** 14:30-14:50

Methods for Collaborative Multi-Ground-Radar Task Planning in Space Target Observation
空间目标观测多地基雷达协同任务规划方法研究



桑红燕 副校长
(聊城大学)

**报告题目** 14:50-15:10

Research on Collaborative Scheduling Optimization for Intelligent Manufacturing and Transportation
智能制造与运输协同调度优化研究



石建迈 研究员
(国防科技大学)

**报告题目** 15:10-15:30

Intelligent Mission Planning for Heterogeneous Unmanned Systems
异构无人系统智能任务规划



伍国华 教授
(中南大学 )

**报告题目** 15:40-16:00

“RuiSi”: A General-Purpose Modeling and Intelligent Optimization Platform for Discrete Optimization Problems
“睿思”离散优化问题通用建模与智能优化平台



姚锋 研究员
(国防科技大学)

**报告题目** 16:00-16:20

Intelligent Resource Planning: The Evolutionary Path from “Silos” to an “Eco-system”
资源智能规划—从“烟囱”到“生态”的演进之路



邢立宁 教授
(江苏理工学院 )

**报告题目** 16:20-16:40

Intelligent Planning Technology for Multi-Source Heterogeneous Sensing Tasks Oriented toward Complex Cognitive Tasks
面向复杂认知任务的多源异构感知任务智能筹划技术





# AI Education Forum



**论坛的主持人**

韩力群
(北京工商大学)



马宏宾 教授
(北京理工大学)

**报告题目** 14:05-14:25

Game-Based Simulation and AI-Supported Feedback for Engineering Education
基于游戏的仿真与人工智能支持下的工程教育



卢桂萍 教授
(北京理工大学（珠海）)

**报告题目** 14:25-14:45

The Impact of AI on the Cultivation of Artificial Intelligence Technology Professionals
AI对人工智能技术专业人才培养的影响



张建林 教授
(中原工学院)

**报告题目** 14:45-15:05

From "Tool Assistance" to "Symbiosis of Thinking": The Practical Shift and Systematic Construction of AI-Empowered University Mathematics Education
从“工具辅助”到“思维共生”：AI赋能大学数学教育的实践转向与体系构建



穆义芬 副研究员
(中国科学院数学
与系统科学研究院)

**报告题目** 15:05-15:25

System evolution and regulation in repeated games between human and machine
人与机器重复博弈中的系统演化与调控



王立军
赛事运营与生态合作总监
(汇川技术产教生态发展部)

**报告题目** 15:25-15:45

Industrial AI Practices and Talent Cultivation at Inovance Technology
汇川技术工业AI实践与人才培养



Alessandro Astolfi 院士
(英国帝国理工学院)

**报告题目** 15:55-16:25

A control-theoretic view of autonomous mobility
自主移动的控制理论视角



张洋 副教授
(北京化工大学)

**报告题目** 16:25-16:45

Value Reconstruction of Engineering Professional Knowledge in the Era of Generative AI

生成式AI时代工程专业知识的价值重构



史云玲 硕导
(哈尔滨理工大学)

**报告题目** 16:45-17:05

Research on the Optimization of the Assessment System for Innovation and Entrepreneurship Practice Courses in Automation Major under Emerging Engineering Education

新工科背景下自动化专业创新创业实践课程考核体系优化研究





# Towards Controlled Autonomy: Decision-Making, Execution and Governance of Intelligent Systems (YGSOFT Session)



**论坛的主持人**

程兰 教授
(太原理工大学)



鲁静 博士
(远光软件股份有限公司)

**报告题目** 14:00-14:10

About YGSoft Inc. and YGSoft Research Institute

远光软件及远光科研院介绍



李恩 研究员
(中国科学院自动化研究所)

**报告题目** 14:10-14:40

Embodied Intelligent Robot Technology with Safety and Restricted Constraints

安全受限约束下的具身智能机器人技术



郭毅 教授
(北京理工大学)

**报告题目** 14:40-15:10

Data-Driven Identification, Quantification, and Control of Flexibility from Distributed Energy Resources

数据驱动的海量分布式资源灵活性识别、量化与控制方法研究



唐静 博士
(远光软件股份有限公司)

**报告题目** 15:10-15:40

Enterprise Ontology-Driven Intelligent Analytics and Governance: Power Grid Enterprise Management and Look-Through Supervision in Practice

企业本体驱动的智能分析与治理——电网企业管理与穿透式监管实践



刘俊承 副教授
(华北电力大学)

**报告题目** 15:50-16:20

Applications of Artificial Intelligence in New-Type Power Systems — A Case Study of Large-Scale Energy Storage Stations

人工智能在新型电力系统中的应用-以大型储能电站为例

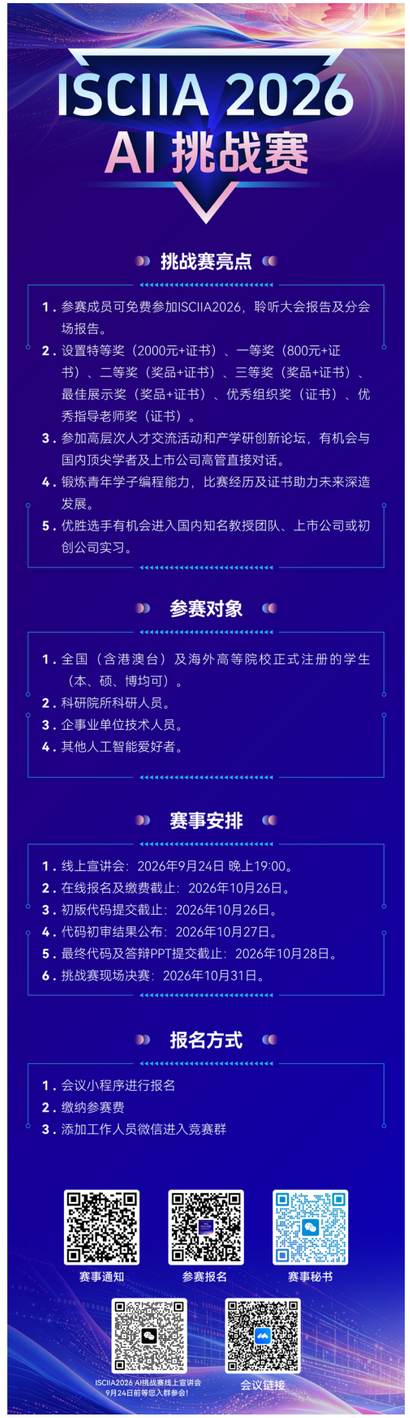


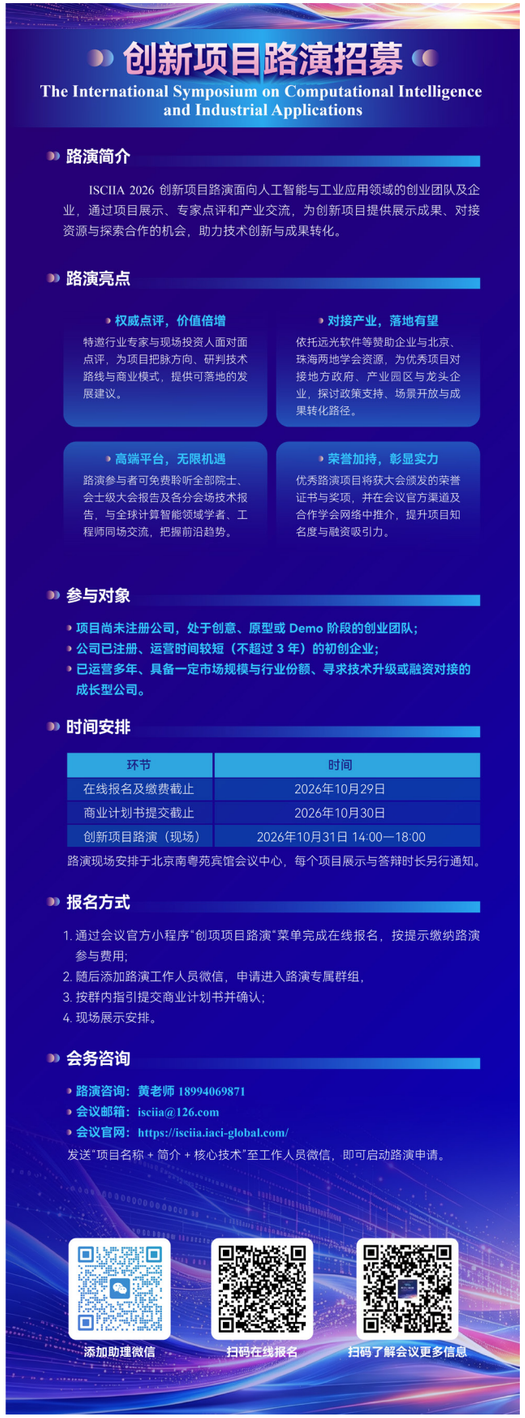
吴士泓 博士
(远光软件股份有限公司)

**报告题目** 16:20-16:50

LLM–Driven Enterprise Transformation: Mechanisms, Practical Constraints, and Implementation Pathways

大语言模型驱动企业智能化转型：作用机制、现实约束与实现路径








## Contributed-Paper Sessions

### Paper Sessions 1 : Vision-Based Industrial Inspection and Precise Positioning

**Saturday, October 31 14:00-15:15** — **Hanjiang Hall, 2F（韩江厅）**

Session Chair:Zhiyang Jia,Beijing Institute of Technology, China

| | |
|---|---|
| 14:00-14:15 | **An Underwater Crack Detection Algorithm Based on MAC-Lookup and YOLOv8**<br>*Yixiang Zhang; Yuehang Jiang; Haojie Wang; Zhuo Zhu; Xiaorui Liu; Jing Yan* |
| 14:15-14:30 | **Optimization of Image Preprocessing Algorithms for Vision-Based Positioning Systems in PCB Laser Welding Machines**<br>*Jiaqi Lu; Jianping Jing; Cunji Zhang* |
| 14:30-14:45 | **Orientation-Support Coverage Mitigates Controlled Fringe-Shift Sensitivity in RCAN-Based Terahertz Image Super-Resolution**<br>*Tianhao Yu; Guiping Lu; Limin Xu; Chen Yang; Weidong Hu* |
| 14:45-15:00 | **High-Precision Vision Alignment for Chip Thermo-Compression Bonding Based on Local Cross-Mark Imaging**<br>*Hui Huang; Jianping Jing* |
| 15:00-15:15 | **Design and Application of a Constant-Pulse Unidirectional Roller Detection System for Missed Tape Sealing on Cigarette Carton Sealing Machine**<br>*Song Zhang; XiuYong Zhao; Yushu Gong; Wenhui Li; Caiwang Lu; Liyuan Gao; Zhenjun He; Jiaxu Li; Yuanyuan Li* |

### Paper Sessions 2 : Industrial Intelligence and Advanced Control

**Saturday, October 31 16:00-17:45** — **Hanjiang Hall, 2F（韩江厅）**

Session Chair:Yongfu Li,Chonqqing University of Posts and Telecommunications

| | |
|---|---|
| 16:00-16:15 | **Adversarial Bounded-Confidence Dynamics with Adaptive Trust and Stochastic Shocks**<br>*Xinling Mou; Zilin Gao; Pengju Chen* |
| 16:15-16:30 | **Large Language Model Reprogramming for Lithium-Ion Battery State-of-Health Estimation**<br>*Yajin Liu* |
| 16:30-16:45 | **A Multimodal Semantic Remote Control Method for UAV Indoor Target Search**<br>*Jinbu Jian; Longwang Huang; Yongfu Li* |
| 16:45-17:00 | **Real-Time Prediction of Reentry Reachable domain by Integrating Spatiotemporal Features and Attention Residuals**<br>*Guanjie Hu; Yilan Lou; Yuxing Li; Yingmin Yi* |
| 17:00-17:15 | **Enhancing Operational Resilience of Building Energy Systems Based on Semantic Dual-Residual Soft Actor-Critic**<br>*Su He; Xinli Wang; Lei Wang; Xiaohong Yin* |
| 17:15-17:30 | **Distributed Integral Reinforcement Learning for Cooperative Platoon Control under DoS and FDI Attack**<br>*Zhuojun Jiang; Yanxin Zeng; Longwang Huang* |
| 17:30-17:45 | **Bipartite Synchronization of Structurally Balanced Networks with Similar Nodes**<br>*Pengju Chen;Xinling Mou; Zilin Gao* |

## Paper Sessions 3: Transfer Learning and Domain Adaptation for Medical and Industrial Diagnosis

**Saturday, October 31 14:00-15:30** **Moyangjiang Hall, 2F**

Session Chair:Shinichi Yoshida,Kochi University of Technology

| | |
|---|---|
| 14:00-14:15 | **Domain Adaptation for Chest X-ray Images under Skewed Target Class Conditions**<br>*Ryo Takeda; Shinichi Yoshida; Zhen Zhang* |
| 14:15-14:30 | **Transfer Learning for Chest X-Ray Classification of Pneumoconiosis under Limited Data**<br>*Nao Matsumoto; Shinichi Yoshida; Narufumi Suganuma; Yoshua Kazukuni Nomura* |
| 14:30-14:45 | **Cross-Domain Bearing Fault Diagnosis and Explainability Research Using Domain-Adversarial Neural Networks Based on Class-Aware Alignment**<br>*Peilin Li; Sichen Zhou; Teli Xu; Chengkai Tu; Shuwen Li; Zhenyu Wang; Xueyi Liu* |
| 14:45-15:00 | **SynPA: Syntax-Conditioned Healthy Norms for Interpretable Alzheimer's Disease Detection from Speech Pauses**<br>*Yiming Feng; Zikang Wang; Zhentao Liu* |
| 15:00-15:15 | **LEMAP-PINNs: A Lightweight Element-Wise Multiplicative Architecture with Adaptive Probing**<br>*Sunyu Zhang; Jianlin Zhang* |
| 15:15-15:30 | **Geometry-Driven Synthetic Supervision for Endoscopic Near-Contact Detection**<br>*Tianrui Zhou; Hongbin Ma; Xiaochun Huang; Guiping Lu* |

## Paper Sessions 4: Learning-Based Analysis and Control for Human-Centered Systems

**Saturday, October 31 16:00-17:45** **Moyangjiang Hall, 2F**

Session Chair:Mingyuan Xie,Huazhong University of Science and Technology

| | |
|---|---|
| 16:00-16:15 | **A Gaze Information Analysis System for the Development of Human-Centric Robot System**<br>*Yui Sato; Jinseok Woo* |
| 16:15-16:30 | **Development of a Robot Partner Capable of Empathic Communication**<br>*Tenho Unno; Jinseok Woo* |
| 16:30-16:45 | **GRU-Based Equivalent-Input-Disturbance Approach for Dynamic Residual Compensation for Two-Inertia Servo System**<br>*Xiaoyan Fan; Wangyang Ge; Jinhua She* |
| 16:45-17:00 | **Generating personalized pedaling load based on difference in muscle synergies**<br>*Shuki Tsuchiya; Daisuke Chugo; Jing Zhou; Jinhua She* |
| 17:00-17:15 | **Analysis of the Contribution of Muscle Activity to the Principal Components of Movement Synergy During Pedaling Using Random Forest**<br>*Kyohei Iwasawa; Daisuke Chugo; Jing Zhou; Jinhua She* |
| 17:15-17:30 | **Dynamic Heterogeneous Graph Learning for EEG-sEMG Wrist-Movement Recognition**<br>*Zihao Wang; Jie Chen; Feng Wang; Seiichi Kawata; Jinhua She* |
| 17:30-17:45 | **Pointwise Risk-Arbitrated Shared Control of Live-Line Working Robots from Sparse Human Corrections**<br>*Chenyu Hu; Xin Chen; Jinbin Li; Xu Jian; Jiang Liu; Gengtian Shi* |





## Paper Sessions 5: Robot Path Planning, Trajectory Tracking, and Autonomous Manipulation

**Saturday, October 31 14:00-15:30** **Tanjiang Hall, 2F**

Session Chair:Yulong Ding,Tongji University

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|---|---|
| 14:00-14:15 | **Search-to-Grasp: Active Wrist-Camera Search for Out-of-View Robotic Manipulation**<br>*Xudong Gao* |
| 14:15-14:30 | **A Hierarchical Coverage Path Planning Algorithm for Unknown Environments**<br>*Zongyuan Shen; Haodong Liu; Gao Wang; Hongbin Ma; Yaming Ou; shancheng Zhao; Dehua Zhou* |
| 14:30-14:45 | **MPC-Based Hybrid Position-Force Trajectory Tracking for Collaborative Robots**<br>*Jinghua Li; Longxin Lin; Man Li; Wenyong Gong; Hongbin Ma; Gao Wang* |
| 14:45-15:00 | **A Dynamic Feature-Weighted Hierarchical Experience Replay SAC Algorithm for Mobile Robot Path Planning**<br>*Yaxuan Lou; Yanhong Bai* |
| 15:00-15:15 | **Curvature-Continuous Trajectory Tracking of an Underactuated AUV with Counter-Rotating Propellers Using Nonlinear Model Predictive Control**<br>*Yuanjin Chen; Jinhua She; Edwardo Fukushima* |
| 15:15-15:30 | **Operation Assistance for a Teleoperated Manipulator Integrating Intentional Contact and Whole-Body Collision Avoidance**<br>*Masahiro Ito; Yuki Ueno* |

## Paper Sessions 6: Multi-Robot and Unmanned System Cooperation

**Saturday, October 31 16:00-17:30** **Tanjiang Hall, 2F**

Session Chair:Li Jiang,Nanfang College Guangzhou; Peng Nie,Guangdong University Of Science & Technology

| | |
|---|---|
| 16:00-16:15 | **Autonomy Level Framework for Telemetry, Tracking, and Command of Very Low Earth Orbit Satellites**<br>*Fang Zou; Qian Zhu; Ying Wang; Ying Jin; Hongbin Ma* |
| 16:15-16:30 | **TISO-WFC Terminal-State Inference via Surrogate Optimization for Wind Farm Cooperative Control**<br>*Yongming Li; Hongxiang Xue; Lei Wang; Hao Wang; Likai Zheng; Mingpu You* |
| 16:30-16:45 | **A Survey on USV-UAV Cooperative Logistics: Coupling Optimization and Open Challenges**<br>*Guosai Yang; Shengchang Li; Yuxing Liu; Xiu Yuan Tan; Luhui Wang; Mingxuan Yang* |
| 16:45-17:00 | **Cross-Robot Knowledge Transfer for Quadrupedal Control via In-Context Reinforcement Learning**<br>*Naoaki Ishii; Hiroshi Kera; Kazuhiko Kawamoto* |
| 17:00-17:15 | **Research on Agent-OS Architecture and Solution Design for Large-Model-Driven Multi-Agent Systems**<br>*Li Jiang* |
| 17:15-17:30 | **Multi-UAV Cooperative Visual Perception for Low-Altitude Missions: A Review**<br>*Yuhang Zhang; Jiawei li; Sifang Wang; Han Wu* |

## Paper Sessions 7: Motion Prediction and Predictive Control for Motor and Vehicle Systems

**Saturday, October 31 14:00-15:30** **Jianbiejiang Hall, 2F**

Session Chair:Hui Chen.Beijing Institute of Technology, China

| | |
|---|---|
| 14:00-14:15 | **Safe CBF-MPC for Long-Tail Motion Prediction**<br>*Peiyan Song; Hui Chen; Hongbin Ma; Qian Zhu* |
| 14:15-14:30 | **Cross-Source State Mapping and Real-Time Updating for Pedaling Training in Lower-Limb Rehabilitation**<br>*Xi Chen; He Wang; Jinhua She* |
| 14:30-14:45 | **Predictive Torque Control for Permanent Magnet Synchronous Motor with Information Bin-Control Set**<br>*Meng Xiao* |
| 14:45-15:00 | **Position Prediction Synchronous Control of Dual Permanent Magnet Synchronous Motor Based on Adaptive Weights**<br>*Meng Xiao* |
| 15:00-15:15 | **Ship Trajectory Prediction Based on Gated Temporal Attention and Multi-Scale Convolution**<br>*Xin He; Jinchun Chen; Youlin Luo; Zhentao Liu* |
| 15:15-15:30 | **Integrated Modeling and Control of the Gas Turbine Power Generation System**<br>*Yiran Chen; Yongheng Liu; Xinwei Wu; Chang Xu; Minzhe Fan; Weilin Yi; Hongbin Ma* |

## Paper Sessions 8: Prognostics, Anomaly Detection, and Time-Series Health Modeling

**Saturday, October 31 16:00-17:15** **Jianbiejiang Hall, 2F**

Session Chair:Yasufumi Takama,Tokyo Metropolitan University; Yang Zhang.Beijing University of Chemical Technology, China

| | |
|---|---|
| 16:00-16:15 | **Fidelity Is Not Utility: Annotation-Free Crack Synthesis and Task-Grounded Acceptance Testing for Few-Shot Defect Generation**<br>*Pengfei Han; Xiaoqian Liu; Le Xu; Tongbo Wang* |
| 16:15-16:30 | **Do Synthetic Anomalies Mislead Model Selection? A Real-Defect Evaluation of Unsupervised Anomaly Detection for Die-Cast Metal Parts**<br>*Tongbo Wang; Le Xu; Bo Wang; Peng Wang* |
| 16:30-16:45 | **Proposal on Synthetic Data Generation for Book Recommendation Based on Reading Behavior Simulation Using Knowledge Graph Embeddings**<br>*Yasufumi Takama; Shunji Suzuki; Hiroki Shibata; Hiroshi Ishikawa* |
| 16:45-17:00 | **A Fully Connected Spatio-temporal Graph Neural Network with Enhanced Node Representation and Adaptive Graph Construction for Remaining Useful Life Prediction**<br>*Yuan Xu; Daben Hao; Yi Luo; Wei Ke; Qunxiong Zhu; Mingqing Zhang; Yang Zhang* |
| 17:00-17:15 | **When Weather Data Hurts: Diagnosing and Repairing the Data Foundation of Renewable Power Forecasting**<br>*Boyi Li; Tongbo Wang* |





## Paper Sessions 9: Object Detection and Image Quality Enhancement

**Sunday, November 1 14:00-15:15** **Haojiang Hall, 1F**

Session Chair:Minling Zhu,Beijing Information Science And Technology University

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|---|---|
| 14:00-14:15 | **Impact of Image Quality Degradation and Performance Recovery Using Super-Resolution in Yuzu Fruit Detection**<br>*Kana Eto; Zhen Zhang; Yu Tanimoto; Shinichi Yoshida* |
| 14:15-14:30 | **YOLO-ADA: An Improved YOLO26n-Based Algorithm for Weld Defect Detection**<br>*Minling Zhu; Zhiyuan Cai; Jian Zhao; Kexin Jing* |
| 14:30-14:45 | **FD-YOLO: Frequency-Dilated Spatial Pyramid Pooling with Adaptive Gating for Fog-Robust Ship Detection**<br>*Jinchun Chen; Xin He; Youlin Luo; Zhen-Tao Liu* |
| 14:45-15:00 | **Noise-Aligned Training for Speckle-Robust Rotated Ship Detection in SAR Images**<br>*Chaowei Huang; Guiping Lu; Binchao Zhang; Chen Yang; Weidong Hu* |
| 15:00-15:15 | **Spatial Coherence Refinement: A Training-Free Post-Filter for Hyperspectral Small Target Detection**<br>*Shengyu Lin; Tongbo Wang; Wenzheng Wang; Wenjie Chen* |

## Paper Sessions 10: Bearing Fault Diagnosis and Signal Enhancement

**Sunday, November 1 16:00-17:15** **Haojiang Hall, 1F**

Session Chair:Guiping Lu,Beijing Institute of Technology, Zhuhai

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|---|---|
| 16:00-16:15 | **Comparison of Frequency Characteristics of Three Aluminum Alloy Plates Using Vise-Clamped Impact Sound Testing**<br>*Keishi Iizuka; Taro Kato; Kentaro Yamada; Mitsuaki Furui* |
| 16:15-16:30 | **Development of Film Piezoelectric Sensors for Tap-Based Non-Destructive Testing of Carbon Fiber Reinforced Polymers**<br>*Shenyu Jin; Haruto Takahashi; Naoe Hosoda; Takahiro Arakawa* |
| 16:30-16:45 | **Acoustic Properties of Titanium Alloys with Different Crystal Structures**<br>*Fuga Iizuka; Taro Kato; Mitsuaki Furui* |
| 16:45-17:00 | **Fusion Spectrum-Time-Gated Method for Diagnosing Faulty Bearings in High-Noise Environments**<br>*Liuyan Jin; Zhenghao Yao; Mingmao Hu; Aihong Gong; Qingshan Gong* |
| 17:00-17:15 | **An Enhancement Method for Bearing Fault Signals Based on Adaptive Resonance Band Selection and Bayesian-Optimized Feature Mode Decomposition**<br>*Ling Li; Kexin Chang; Xiangyun Meng; Quanyong Fan* 摘要 / *Extended abstract* |

## Paper Sessions 11: Intelligent Perception, IoT, and Safety Monitoring

**Sunday, November 1 14:00-15:15** — **Hejiang Hall, 1F**

Session Chair:Zengwang Jin,Anhui University

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|---|---|
| 14:00-14:15 | **Intelligent Perception and IoT Applications for Tunnel Safety Monitoring**<br>*Junwei Li; Jianping Jing* |
| 14:15-14:30 | **Localization and Patrol Algorithm for Underwater Robots for Harbor Basin Monitoring**<br>*Pengxiao Huang; Haojie Wang; Yuehang Jiang; Zhuo Zhu; Xiaorui Liu; Jing Yan* |
| 14:30-14:45 | **Can Smart City Pilot Projects Reduce Production Safety Accidents? Empirical Evidence Based on Multi-period DID**<br>*Tian Tian; Wenjie Li* |
| 14:45-15:00 | **Train Dispatcher Operational Risk under Emergencies: An Intuitionistic Fuzzy FMEA and Evidential Reasoning Approach**<br>*Yanhao Sun; Tao Zhang; Shuxin Ding; Rongsheng Wang; Zhiming Yuan; XiangYue Zhang* |
| 15:00-15:15 | **Terrain Traversability Risk Assessment for Quadruped Robots Using Faster-LIO and YOLOv8-Seg**<br>*Xingru Jiang; Min Zhang; Peizhi Shen; Zhentao Liu* |

## Paper Sessions 12: Decision Modeling, Optimization, and Cross-Domain Applications

**Sunday, November 1 16:00-17:15** — **Hejiang Hall, 1F**

Session Chair:Miao Wang,Beijing Institute of Technology, China

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|---|---|
| 16:00-16:15 | **The Impact Mechanism and Intervention of High School Students' Generative Artificial Intelligence Use under a Mindset Perspective**<br>*Shuying Zhang; Li Guo* |
| 16:15-16:30 | **Equipment Accompanying Support Decision Based on Fusion of Maximizing Deviation and TOPSIS**<br>*Qian Zhu; Fang Zou; Hongbin Ma; Peiyan Song* |
| 16:30-16:45 | **Rotational Symmetry based Object Pose Estimation from Point Clouds in the Absence of Known 3D Models**<br>*Zhufeng Shao; Weichen Dai; Hua Zhang* |
| 16:45-17:00 | **Shape Optimization of Non-imaging Secondary Concentrators for Solar-Pumped Lasers Using Bayesian Optimization**<br>*Tomomasa Ohkubo; Ryota Yamada; Ei-ichi Matsunaga; Yuji Sato* |
| 17:00-17:15 | **A Hybrid Genetic Algorithm with Extreme-Point Heuristic for Three-Dimensional Container Loading under Complex Physical Constraints**<br>*Teli Xu; Yi Xu; Chengkai Tu* |



## Paper Sessions 13: Object Detection and Image Quality Enhancement

**Sunday, November 1 14:00-15:15** — **Rongjiang Hall, 1F**

Session Chair:Sijie Yin,Beijing Institute of Technology, China

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| 14:00-14:15 | **Interpretable EEM Shape Descriptors from the Long-Wavelength Emission Region for Cultivation-Period Classification of Microcystis aeruginosa under CDOM Interference**<br>*Haoran Mo; Shihan Shan; Guiping Lu; Weidong Hu; Tao Cheng; Han Wang* |
| 14:15-14:30 | **Structural Design and Mechanical Property Evaluation of Double-Helix Structured Materials**<br>*Tomoki Hayakawa; Taro Kato; Mitsuaki Furui* |
| 14:30-14:45 | **Evaluation of Vibration Damping Characteristics of AZ31 Magnesium Alloy Sheet for Lightweight Soundproofing Applications**<br>*Neo Arai; Keishi Iizuka; Taro Kato; Mitsuaki Furui* |
| 14:45-15:00 | **Effect of Zinc Content and Mechanical Properties on the Damping Characteristics of Hitting Sounds in Cu-Zn Alloys**<br>*Kato Taro; Ryusei Naganuma; Mitsuaki Furui* |
| 15:00-15:15 | **Micro Grid Network and DC Link for Independent Local Electric Power System**<br>*Haochen Sun; Ning Li; Takeshi Shinkai; Mlnoru Hara; Soramichi Takahashi; Dong Yue* |

## Paper Sessions 14: Multi modal fusion and Affective computing

**Sunday, November 1 16:00-17:15** — **Rongjiang Hall, 1F**

Session Chair:Xiangdong Wu,Inner Mongolia University of Science and Technology; Xiangyang Xu,Beijing Institute of Technology, China

| | |
|---|---|
| 16:00-16:15 | **A Robust Path Planning Algorithm for Unmanned Surface Vehicles in Complex Waters**<br>*Xuanfei Liu; Haixin Wu; Zhen Chen; Yaping Dai; Kaoru Hirota* |
| 16:15-16:30 | **RAGE: Retrieve, Aggregate, and Graph-based Expand for Open-domain Multi-table Retrieval**<br>*Ziyang Wang; Wei Jiang; Jintao Yu; Junjie Ma; Zichao Zhang; Weiyu Ji; Hancheng Yang; Xuyang Jia; Yongxiao Huang* |
| 16:30-16:45 | **Branch-Preserving Retrieval and Source-Aware Spatial Selection for Training-Free Geolocalization**<br>*Hancheng Yang; Xiaoxia Jia; Wei Jiang; Jintao Yu; Junjie Ma; Zichao Zhang; Weiyu Ji; Ziyang Wang; XuYang Jia; Yongxiao Huang* |
| 16:45-17:00 | **Trace-PCGN: Intervention-Grounded Error Propagation and Impact Allocation for Observable Long-Chain Reasoning Traces**<br>*Xuyang Jia; Xiaoxia Jia; Wei Jiang; Jintao Yu; Zichao Zhang; Junjie Ma; Weiyu Ji; Hancheng Yang; Ziyang Wang; Yongxiao Huang* |
| 17:00-17:15 | **Beyond Text Prompts: Visual Prompt Adaptation for Generalizable Synthetic Image Detection**<br>*Yingjie Xu; Xiaohui Li; Linchao Zhang; Wenbo Lu* |

## Paper Sessions 15: High-Precision Measurement and Control Methods

**Sunday, November 1 14:00-15:30** — **Hanjiang Hall, 2F（瀚江厅）**

Session Chair:Wang Luo,China University of Geosciences,Wuhan; Yujian Zhou ,Hubei University

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|---|---|
| 14:00-14:15 | **Muscle Synergy Similarity Calculation for Variable-Load Pedaling Based on the Full-Cycle MSS**<br>*Wangyang Ge; Seiichi Kawata; Ryusuke Noda; Edwardo F. Fukushima; Jinhua She* |
| 14:15-14:30 | **Lower-Limb Joint Angle Prediction Based on Spatio-Temporal Fusion of Muscle Synergy Features**<br>*Jingwen Liu; Juan Zhao; Seiichi Kawata; Jinhua She* |
| 14:30-14:45 | **Assessment of Project-Based Learning by Integrating Learning-State Questionnaires and Weekly Reports**<br>*Tongtong Gao; Seiichi Kawata; Juan Zhao; Jinhua She* |
| 14:45-15:00 | **Gait-Synchronized Adaptive Kalman Filter for Quadruped Robot State Estimation**<br>*Yongqiang Tan; Tiancheng Sun; Xitian Zhang; Jiaxin Li; Hao Liu* |
| 15:00-15:15 | **Underground Cable Route Reconstruction Using a Quadruped Robot with Ternary Sensing and RTK Positioning**<br>*Tiancheng Sun; Yongqiang Tan; Xi Yang; Ensheng Luo; Zixin Huang* |
| 15:15-15:30 | **Development of a Wearable Robot Arm Control Interface Using EMG and IMU Sensors**<br>*Hideto Sugimoto; Jinseok Woo* |

## Paper Sessions 16: Computational Intelligence and Advanced Optimization for Smart Power System Scheduling and Operation

**Sunday, November 1 16:00-17:00** — **Hanjiang Hall, 2F（瀚江厅）**

Session Chair:Xiaoyu Cao,Xi'an Jiaotong University; Jiexing Zhao,Xi'an Jiaotong University

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|---|---|
| 16:00-16:15 | **A Neural Network-Assisted Lagrangian Relaxation Approach for Fast Solution of Security-Constrained Unit Commitment**<br>*Zhang Bohan; Zhao Jiexing; Cao Xiaoyu; Chen Liujunhou; Zhang Qiwei* |
| 16:15-16:30 | **Lagrangian Relaxation and Dynamic Programming Based Fast Solution Method for Large-Scale Unit Commitment**<br>*Chen Liujunhou; Zhao Jiexing; Cao Xiaoyu; Zhang Qiwei; Zhang Bohan* |
| 16:30-16:45 | **Multi-Stage Robust Scheduling Method for Battery Energy Storage in Distribution Systems Based on Uncertainty Set Decomposition**<br>*Zhang Qiwei; Zhao Jiexing; Cao Xiaoyu; Zhang Bohan* |
| 16:45-17:00 | **Low-Carbon Data Center Power Flexibility Capacity Assessment and Uncertainty Optimization**<br>*He Jinyi; Cao Xiaoyu* |



## Paper Sessions 17: Intelligent Perception, Decision, and Control for Autonomous Systems

**Sunday, November 1 14:00-16:20** — **Hanjiang Hall, 2F（韩江厅）**

Session Chair:Lan Cheng,Taiyuan University of Technology; Chunmei Zhang,Taiyuan University of Science and Technology

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|---|---|
| 14:00-14:15 | **Cascaded Model Predictive Control for Underwater Motion of an Aerial-Aquatic Quadrotor**<br>*Ze Qu; Biao Wang; Yuheng Tan; Yulong Ding; Fang Deng* |
| 14:15-14:30 | **AKGD: Adaptive Knowledge Gap Distillation for Power Fitting Detection**<br>*Yaoqing Gao; Jiangxia Wei; Zhe Zhang; Lan Cheng* |
| 14:30-14:45 | **Mesh Simplification via Multi-Geometric Importance and Bidirectional Surface-Error Feedback**<br>*Zihan Pang; Zhihua Zhou; Zhi Li; Lan Cheng* |
| 14:45-15:00 | **Analysis of Multi-Parameter Joint Probability Characteristics of Energy Storage Frequency Regulation Operating Conditions Based on Kernel Density Estimation**<br>*Zhenxiu Liu; Mifeng Ren; Wenjie Zhang* |
| 15:00-15:15 | **Improved Bat Algorithm for Task Assignment of Hospital Mobile Robots**<br>*Xiaohong Li; Chunmei Zhang; Jia Zhang* |
| 15:15-15:30 | **A Large-Scale Multi-Objective Artificial Physics Optimization Algorithm Based on Dual-Space Evaluation and Elite Clustering Center Guidance**<br>*Yihao Yu; Liping Xie* |
| 15:50-16:05 | **A landslide detection algorithm for UAV remote sensing images in complex mining terrain**<br>*Zexin Du; Zhenzhe Ma; Xinying Xu* |
| 16:05-16:20 | **Accurate Mesh Extraction via Improved 2D Gaussian Splatting Based on Multi-View Stereo Depth and Its Application to the Digitalization of Cultural Relics**<br>*Ziqi Qi; Huan Liu; Zhen Chen; Yanxia Li; Lan Cheng* |

## Paper Sessions 18: Equivalent-Input-Disturbance-Based Control and Advanced Disturbance Rejection

**Sunday, November 1 14:00-15:30** — **Moyangjiang Hall, 2F**

Session Chair:Zewen Wang,China University of Geosciences (Wuhan);Meng Xu,Beijing Institute of Technology

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|---|---|
| 14:00-14:15 | **Secondary frequency and voltage regulation control of microgrids based on equivalent input interference method**<br>*Xinyi Liu; Xiang Yin;Ying Zhang* |
| 14:15-14:30 | **Experimental Verification of Structural Wind Load Estimation via the Equivalent-Input-Disturbance Approach**<br>*Kou Miyamoto; Tetsuya Tomizawa; Naoto Yoshida; Yuta Tomiyoshi; Jiarui Wu; Haruki Kanno; Shuto Arai* |
| 14:30-14:45 | **Active Disturbance Rejection Tracking Control for UAV Based on the Fully Actuated System Approach**<br>*Yaowei Wang; Gibin Chen; Wenxuan Wang; Caoyuan Gu; Jinhua She* |
| 14:45-15:00 | **Output Power Stabilization of a Liam F1 Wind Turbine Combining the Koopman Operator and an Improved Equivalent-Input-Disturbance Approach**<br>*Shaoran Wang; Qicheng Mei; Seiichi Kawata; Makoto Iwasaki; Jinhua She* |
| 15:00-15:15 | **Active Noise Control for Acoustic Systems Based on Modified Equivalent-Input-Disturbance Approach**<br>*Taining Huang; Zewen Wang; Jinhua She* |
| 15:15-15:30 | **Trajectory Tracking of Pedaling Rehabilitation Robot Based on Spatial Repetitive Control**<br>*Ziwang Tao; Juan Zhao; Seiichi Kawata; Jinhua She* |

## Paper Sessions 19: Intelligent Industrial Applications, Visual Inspection, and Robotic Control

**Sunday, November 1 16:00-17:00** — **Moyangjiang Hall, 2F**

Session Chair:Hui Chen,Beijing Institute of Technology; Xin Wang,Beijing Institute of Technology

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|---|---|
| 16:00-16:15 | **A Candidate-Level Multi-Directional Illumination Fusion Method for Flange Surface Scratch Detection**<br>*Mohan Xu; Hongbin Ma; Xin Wang; Muhan Bai* |
| 16:15-16:30 | **Convergence of Adaptive MPC for a class of Linear Stochastic Systems with Probabilistic Constraints**<br>*Hui Chen; Minglei Han; Hongbin Ma* |
| 16:30-16:45 | **Adaptive Force-Sensing-Based Control for Dynamic Docking under Dual-Platform Disturbances**<br>*Zihao Li; Hongbin Ma; Weijie Zuo; Liang Zhang; Qi Qi; Wenhua Li* |
| 16:45-17:00 | **Ego-Graph Conditioning for Post-Training Time-Series Foundation Models on Web Service Telemetry**<br>*Wenya Zhang; Chao Yang; Wei Hu; Lu Han; Huaijun Jiang; Tongxin Wu* |



## Paper Sessions 20: Applications of Artificial Intelligence in Computer Vision and Domain Knowledge-Driven Information Processing

**Sunday, November 1 14:00-16:05** — **Tanjiang Hall, 2F**

Session Chair:Zhun Fan,Shantou University; Jinchao Liu,Nankai University

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| 14:00-14:15 | **An omnidirectional vision based closed loop obstacle avoidance control system for mobile robot**<br>*Zihan Zhang; Qihui Guo; Ivan Kholodilin; Maksim A. Grigorev; Yuan Li; Qinglin Wang* |
| 14:15-14:30 | **Task Deduction Method for Hardware-in-the-Loop Simulation Based on Knowledge Graph and GraphRAG**<br>*Zhitao Jiang; Yuan Li* |
| 14:30-14:45 | **Global Optimization Design of a Bioinspired Curved Compound-Eye System for Close-Range Wide-Field-of-View Imaging**<br>*Xuanming Zhang; Yuan Li* |
| 14:45-15:00 | **A Surrogate-Assisted Evolutionary Algorithm Based on Objective-Constraint Significant Influence Analysis for High-Dimensional Expensive Constrained Multiobjective Optimization**<br>*Wulin Cai; Wenji Li; Jiafan Zhuang; Zhun Fan* |
| 15:00-15:15 | **Knowledge-Graph-Enhanced YOLOv8 for Lunar Crater Detection**<br>*Junqi Li* |
| 15:15-15:30 | **GazeMamba: Inter-Gaze State-Space Modeling for Strabismus Subtype Classification**<br>*Yifan Wang; Yankewei Xiao; Yuxiang Ma; Li Luo; Jinming Guo; Kunliang Qiu; Jiafan Zhuang; Ce Zheng; Zhun Fan* |
| 15:50-16:05 | **Adaptive Anchor-Canvas for Fast Mapping of Aperture-Limited Near-Planar Surfaces**<br>*Xiaochun Huang; Guiping Lu; Hongbin Ma* |

## Paper Sessions 21: Multi modal fusion and Affective computing

**Sunday, November 1 14:00-15:30** — **Jianbiejiang Hall, 2F**

Session Chair:Xiangyang Xu,Beijing Institute of Technology; Xiangdong Wu,Inner Mongolia University of Science and Technology

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| 14:00-14:15 | **Plastic Bottle Defect Detection Based on Unsupervised Neural Network**<br>*Chenhao Yang; Xiangyang Xu* |
| 14:15-14:30 | **Multi-Modal Neuro-Muscular-Vascular Fusion for Pain Assessment and Rehabilitation**<br>*Naifu Jiang 摘要 / Extended abstract* |
| 14:30-14:45 | **Weather-Aware Short-Term Load Forecasting through Multi-Source Heterogeneous Data Fusion**<br>*Haotian Feng; Xiangdong Wu; Kaoru Hirota; Yaping Dai; Fei Zhang; Dahua Yu; Yan Ren; Piliang Liu* |
| 14:45-15:00 | **A Framework for Machine Learning Model Selection in MCI and AD Diagnosis: A Systematic Review**<br>*Wang Xiaoming; Wang Qiurui; Jiang Changhao; Wang Yanni* |
| 15:00-15:15 | **Research Progress in Non-contact Driver Fatigue Detection**<br>*Yalong Wang; Yaping Dai; Naifu Jiang; Haixin Wu; Xuanfei Liu; Kaoru Hirota* |
| 15:15-15:30 | **Multimodal Object Recognition for Unmanned Surface Vehicles in Complex Maritime Environments: A Review**<br>*Haixin Wu; Zimo Kong; Longbin Zhou; Shantong Mu; Zhen Chen; Yaping Dai; Kaoru Hirota* |

## Paper Sessions 22: Intelligent Cooperative Optimization and Control

**Sunday, November 1 14:00-16:05** **Meijiang Hall, 1F**

Session Chair:Yaqiang,Zhengzhou University; Qing Wang,Beiing Institute of Technology

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| 14:00-14:15 | **A Multi-Effector Cooperative Counter-UAV Target Assignment Method Based on Deep Reinforcement Learning**<br>*Chengliang Zhou; Bin Xin; Qing Wang; Yujiang Xu* |
| 14:15-14:30 | **Belief-Guided Recurrent MAPPO for Multi-Agent Cooperative Pursuit-Evasion under Occlusion**<br>*Jiongwei Fan; Qing Wang; Miao Wang; Jia Zhang; Meng Xu* |
| 14:30-14:45 | **Privacy-Preserving Average Consensus for Multi-Agent Systems over Dynamic Directed Networks**<br>*Zengwang Jin; Yumeng Yan; Shan Dai; Jingdong Diao; Xingyue Liang; Changyin Sun* |
| 14:45-15:00 | **Deep Reinforcement Learning with State Potential Increment for Robotic Pushing and Grasping**<br>*Denghao Zheng; Yaqiang Liu; Hengyang Yuan; Can Jin; Yadan Xu; Jinzhu Peng* |
| 15:00-15:15 | **A Lightweight Unsupervised IMU Fault Detection Framework Based on Liquid Neural Networks and Self-Organizing Maps**<br>*Yun Qu; Chongwu Jiang; Xiangyu Han; Hong Huo* |
| 15:15-15:30 | **A Decoupled Uncertainty-Aware Graph Reinforcement Learning Approach for Cloud Microservice Upgrade Scheduling**<br>*Xia Tianyi; Cao Xiaoyu; Tian Zhaoming* |
| 15:50-16:05 | **Weight-Adaptive Behavior-Tree Guidance for Cooperative Multi-Agent Reinforcement Learning**<br>*Chang Xu; Yiran Chen; Hongbin Ma; Ying Jin* |





## China-Japan Bilateral Symposium on Advanced Computational Intelligence（October 30）

**General Chair: Prof. Xin Bin, Beijing Institute of Technology**
**Prof. Kazuhiko Kawamoto,Chiba University**



**Ling Wang**

Ling Wang received his bachelor's and doctoral degrees from Tsinghua University in 1995 and 1999, respectively. He is currently a tenured professor and doctoral supervisor in the Department of Automation at Tsinghua University, vice chairman of the Degree Committee, and the lead professor of the National Excellent Course “Principles of Automatic Control”. In 2015, he was awarded the National Science Fund for Distinguished Young Scholars. He has been selected for the list of Global Highly Cited Researchers and the global top scientists lifetime and annual rankings. He serves as executive vice chairman and fellow of the Chinese Simulation Federation, council member of the Chinese Association for Artificial Intelligence, vice chairman of the Intelligent Industrial Data Analytics and Optimization Professional Committee of the Operations Research Society of China, standing committee member of both the Control Theory Professional Committee and the Process Control Professional Committee of the Chinese Association of Automation, vice chairman of the Beijing Association of Automation, editor-in-chief of Expert Systems with Applications (a CAS Tier 1 journal), editor-in-chief of Swarm and Evolutionary Computation, editor-in-chief of IJAAC, executive editor-in-chief of CSMS, associate editor of the Journal of System Simulation, and editorial board member of Control Theory & Applications, Control and Decision, Computer Integrated Manufacturing Systems, and Systems Engineering and Electronics. His research mainly focuses on artificial intelligence and the theory, methods, and applications of optimal scheduling for intelligent manufacturing and service systems. He has published 6 monographs, more than 500 SCI papers in journals such as IEEE Trans and Science China, with over 30,000 WOS citations and over 40,000 Google Scholar citations. He has received the Second Prize of the National Natural Science Award, the First Prize of the Natural Science Award of the Ministry of Education, the First Prize of the Natural Science Award and the First Prize of the Innovation Technology Award of the Chinese Simulation Federation, the Beijing Science and Technology New Star Award, the Young Scientist Award of the Chinese Association of Automation, the Tsinghua University Academic Newcomer Award, the IEEE TEVC Outstanding AE Award, and the INFORMS Franz Edelman Finalist Award, among others.



**Jinhua She**

Jinghua She is a professor at Tokyo University of Technology, Japan. He is an IEEE Fellow, a Senior Member of the Institute of Electrical Engineers of Japan (IEEJ), and a member of the Society of Instrument and Control Engineers (SICE), Japan Society of Mechanical Engineers (JSME), Asian Control Association (ACA), and Chinese Association of Automation (CAA). He is currently serving as a member of the Administrative Committee (AdCom), IEEE Industrial Electronics Society (IES), and the Advisory Board of the IEEE Hyperintelligence Committee. He served as the delegate of Cluster 4 of Technical Committees, IES, from 2019 to 2021, and he chaired the Technical Committee of Human Factors from 2018 to 2021. Prof. She is one of the founding chairs of the China-Japan International Symposium on Information Technology and Control Applications. He serves on the editorial boards of IEEE Transactions on Industrial Electronics and IEEE/ASME Transactions on Mechatronics. He is a committee member of the Control Theory Committee of the Chinese Association of Automation, and a member of the Program Committee of IEEJ.

Dr. She's research interests include control theory and applications, repetitive control, active disturbance rejection, high-precision control of mechatronic systems, and rehabilitation robotics. In 1999, He received the IFAC Outstanding Paper Award in Control Engineering Practice (jointly with Professor Wu Min and Professor Michio Nakano). He has authored 5 monographs, 5 textbooks, and 1 translated work, published over 500 academic papers, and holds 16 authorized invention patents.







**Guibin Bian**

Guibin Bian is a Distinguished Professor at the Institute of Automation, Chinese Academy of Sciences. His research focuses on intelligent surgical robotics. He has led projects including a National Key R&D Program, the National Natural Science Foundation's Major Scientific Instrument Development project, joint foundation projects, and an Innovation & Interdisciplinary Team project of the Chinese Academy of Sciences. He has published over 80 SCI papers in journals such as Science Robotics, and received seven international paper awards. He holds 72 granted domestic and international invention patents and participated in drafting one national standard. His honors include the First Prize of the China Instrument and Control Society's Technological Invention Award, the First Prize of the China Invention Association's Invention & Innovation Award, the "Strengthening-Nation Young Scientist" nomination from the Communist Youth League and China Youth Daily, and the Robot Science Leading Award. He serves on expert panels for the 14th Five-Year National Key R&D Program (Special Projects on "Fundamental Research Infrastructure and Major Scientific Instruments and Equipment Development" and "Intelligent Robotics"), and is a member of the expert working group for the AI domain guideline of the "Strategic Science & Technology Innovation Cooperation" key program. He is President of the Chinese Academy of Sciences Youth Innovation Promotion Association, a member of the Academic Committee of the PLA Key Laboratory for Combat Injury Specialized Treatment, and an editorial board member of IEEE Transactions on Instrumentation and Measurement (TIM), IEEE Transactions on Automation Science and Engineering (TASE), and The Innovation. He was selected for the Youth A Project of the NSFC, and has been recognized as an Outstanding Member of the CAS Youth Innovation Promotion Association, Beijing Outstanding Young Scientist, and Beijing Science & Technology Rising Star.



**Takahiro Arakawa**

Takahiro Arakawa is currently a Professor at the Department of Electric and Electronic Engineering, Tokyo University of Technology, since 2025. He had served as an Associate Professor at the same department since 2021. He received his BS and MS degrees from Waseda University in 2002 and 2004, respectively. He received the Ph.D. degree in Nano-Science and Nano-Engineering from Waseda University in 2007 for his research on microfluidic systems for single-cell analysis. In 2008, he joined the Laboratory of Bioanalytical Chemistry at the University of Tokyo as a Postdoctoral Research Fellow of the Japan Society for the Promotion of Science (JSPS, PD). Since 2009, he served as an Assistant Professor at Tokyo Medical and Dental University in the Department of Biomedical Devices and Instrumentation, and was promoted to Junior Associate Professor in 2014. From 2017 to 2018, he was a visiting researcher at the Departments of Electrical Engineering and Bioengineering at the University of California, Los Angeles (UCLA). His research interests include microfluidics, bio micro-electro-mechanical systems (Bio-MEMS), wearable biosensors, optical sensing systems, and bio-microsystems for medical applications.



**Yun Feng**

Yun Feng is a Professor and Ph.D. Supervisor at Hunan University. He is a recipient of the National Natural Science Foundation of China (NSFC) Young Scientists Fund (Category B), formerly known as the National Science Fund for Distinguished Young Scholars (Excellent Young Scientists Fund), and an IEEE Senior Member. He was also selected for the Youth Talent Support Program of the China Association for Science and Technology (CAST). His research interests focus on the modeling, diagnosis, and control of spatiotemporal dynamical systems, with an emphasis on their theoretical development and practical applications. He currently serves as an Associate Editor for IEEE Transactions on Automation Science and Engineering, IEEE Systems, Man, and Cybernetics Magazine, and Franklin Open, and as a Young Editorial Board Member of Robot Learning.







**Seiki Ubukata**

Seiki Ubukata received his B.E. degree in 2007 and his master's and Ph.D. degrees in information science in 2009 and 2014, respectively, all from Hokkaido University, Sapporo, Japan. From 2014 to 2015, he was an Assistant Professor at the Graduate School of Engineering Science, Osaka University, Toyonaka, Japan. He was an Assistant Professor from 2015 to 2020 and an Associate Professor from 2020 to 2022 at the Graduate School of Engineering, Osaka Prefecture University, Sakai, Japan. Since 2022, he has been an Associate Professor at the Graduate School of Informatics, Osaka Metropolitan University, Sakai, Japan. His research interests include soft computing, cluster analysis, and their applications. He has received several awards, including the IEEE CIS Japan Chapter Young Researcher Award in 2015, the JACIII Young Researcher Award in 2019, and the SOFT Emerging Research Leader Award in 2024.



**Hiroaki Kurokawa**

Hiroaki Kurokawa received his B.E., M.E., and Ph.D. degrees in Electrical Engineering from Keio University, Yokohama, Japan, in 1993, 1995, and 1998, respectively. He is currently a Professor with the Department of Electrical and Electronic Engineering, School of Engineering, Tokyo University of Technology, Japan, and serves as Director of the Center for Advanced Smart Agriculture (CASA). His research interests include nonlinear systems, neural networks, machine learning, optimization, and their applications to engineering problems. His recent research also focuses on computational methods for nonlinear dynamical systems, data-driven analysis, and artificial intelligence techniques for various engineering applications.



**Ye Tian**

Ye Tian is currently a Professor at Anhui University. His main research interests include evolutionary computation, reinforcement learning, and their applications. He has published more than 100 papers with more than 18000 citations, and has been consecutively listed as a Clarivate Highly Cited Researcher, an Elsevier Most Cited Chinese Researcher, a Stanford University's Top 2% Scientist, and a Baidu Global Top Chinese Young Scholar in AI. He has received 10 international academic paper awards and more than 10 championships in international conference competitions, and has delivered 5 invited presentations at overseas conferences. He is currently a Senior Member of IEEE, serves as an editorial board member for five academic journals, and has been selected as an Outstanding Associate Editor of IEEE Transactions on Evolutionary Computation.



**Tomomasa Ohkubo**

Tomomasa Ohkubo received his B.S. degree in Applied Physics and M.S. and D.S. degrees in Energy Science from the Tokyo Institute of Technology, Tokyo, Japan, in 2001, 2003, and 2006, respectively. In 2024, he was promoted to Professor in the Department of Mechanical Engineering at the Tokyo University of Technology. Prior to this, he served as an Associate Professor in the same department. From 2006 to 2007, he was a Specially Appointed Assistant Professor at the Integrated Research Institute, Tokyo Institute of Technology, and from 2007 to 2014, he worked as an Assistant Professor in the Department of Mechanical Engineering at Tokyo Institute of Technology. His research interests lie in the field of laser engineering, with a particular focus on laser heating, solar-pumped lasers, laser processing, and laser propulsion. He is recognized as one of the leading experts in solar-pumped lasers in Japan, having set the world record for solar-pumped laser efficiency three times. His research in this field has been supported by grants from prestigious organizations, including the JSPS KAKENHI, the TEPCO Memorial Foundation, the Transcosmos Foundation, the Suzuki Foundation and the Yashima Foundation.







**Luefeng Chen**

Luefeng Chen is currently Deputy Dean and Professor of the School of Automation, China University of Geosciences, Wuhan, China. His research interests include multimodal perception and understanding, intelligent systems and control, human-robot interaction.

Dr. Chen is Senior Member of IEEE, and included in the World's Top 2% Scientists 2025-2026. He has published 68 SCI journal papers and 41 of them are IEEE transactions and IFAC journals, where 3 of them are ESI highly cited/hot paper, and he has published 2 books in Springer. He serves Associated Editor of SCI journals including IEEE TII, Information Sciences, and Journal of Systems Science and Complexity. He previously served as Program Chair of the 26th IEEE International Conference on Industrial Technology (IEEE ICIT2025) and Publicity Chair of the 6th IEEE International Conference on Industrial Cyber-Physical Systems (IEEE ICPS2023). He has received academic awards such as Best Paper Award and Distinguish Editor Award of the IFSA journal JACIII.



**Daisuke Tsubakino**

Daisuke Tsubakino received the B.E. degree in mechanical and aerospace engineering from Nagoya University, Nagoya, Japan, in 2005, the M.E. degree in aeronautics and astronautics, and the Ph.D. degree in information science and technology from the University of Tokyo, Tokyo, Japan, in 2007 and 2011, respectively.

He was an Assistant Professor at Hokkaido University from 2011 to 2015 and a visiting scholar at the University of California, San Diego from November 2013 to August 2014. He is currently an Associate Professor at Nagoya University. His research interests include control of systems described by partial differential equations, hierarchical optimal control of large-scale dynamical systems, nonlinear control of aerospace systems.



**Xiaodong He**

Xiaodong He is an Associate Professor with the School of Automation and Electrical Engineering, University of Science and Technology Beijing. His research interests include cooperative planning and control of nonholonomic systems and geometric control of mechanical systems. He has published more than 20 papers in leading journals and conferences, such as Automatica, IEEE Transactions on Automatic Control, and IEEE Transactions on Robotics, and holds 2 granted national invention patents. He has served as the principal investigator of the projects of the National Natural Science Foundation of China and the Beijing Natural Science Foundation, among others. He is a recipient of the Youth Talent Support Project of the Beijing Association for Science and Technology, and he is the finalist of the Zhang Siying Outstanding Youth Paper Award at the 2023 Chinese Control and Decision Conference (CCDC). He serves as a youth editorial board member of the Journal of Dynamics and Control.





## 2026 International Symposium on Computational Intelligence and Industrial Applications（October 31）

**General Chair: Prof. Prof. Bin Xin, Beijing Institute of Technology**



**Witold Pedrycz**

Professor Witold Pedrycz is a internationally recognized researcher in computational intelligence, granular computing, fuzzy systems, neural networks, and intelligent systems. He is a Professor in the Department of Electrical and Computer Engineering at the University of Alberta, Edmonton, Canada, and is also affiliated with the Systems Research Institute of the Polish Academy of Sciences.

His research focuses on the development of intelligent and human-centric computational systems through the synergistic integration of fuzzy sets, granular computing, neural networks, evolutionary computation, pattern recognition, data mining, and knowledge discovery. His work has made substantial contributions to the theory and applications of computational intelligence and information granulation.

Professor Pedrycz is an IEEE Fellow, a Fellow of the Royal Society of Canada, and a Foreign Member of the Polish Academy of Sciences. He has received numerous international distinctions for his contributions to computational intelligence, fuzzy systems, and granular computing.



**Yaochu Jin**

Yaochu Jin received the BSc, MSc and PhD degrees from the Electrical Engineering Department, Zhejiang University, Hangzhou, China in 1988, 1991 and 1996, respectively. He received the Dr.-Ing. from the Institute of Neuroinformatics, Ruhr University Bochum, Germany in 2001.

He is presently Chair Professor of AI, Director of the Trustworthy and General AI Laboratory, Head of the Artificial Intelligence Department, School of Engineering, Westlake University, Hangzhou, China. Prior to that, he was “Alexander von Humboldt Professor for Artificial Intelligence” endowed by the German Federal Ministry of Education and Research, with the Faculty of Technology, Bielefeld University, Germany from 2021 to 2023, and Surrey Distinguished Chair, Professor in Computational Intelligence, Department of Computer Science, University of Surrey, Guildford, U.K. from 2010 to 2021. He was also “Finland Distinguished Professor” with University of Jyväskylä, Finland, and “Changjiang Distinguished Visiting Professor” with the Northeastern University, China from 2015 to 2017. He was the President of the IEEE Computational Intelligence Society and the Editor-in-Chief of the IEEE Transactions on Cognitive and Developmental Systems. His main research interests include trustworthy AI for industry, embodied AI, and brain-like intelligence.



**Huaping Liu**

Huaping Liu is a professor in the Department of Computer Science and Technology at Tsinghua University, an IEEE Fellow, with research interests in robotic perception and learning. He serves as a senior editorial board member of the top robotics journal, the International Journal of Robotics Research, the director of the Intelligent Automation of the Chinese Association of Automation, and the direction of the Embodied Intelligence of the Chinese Society of Command and Control. He is listed as a highly cited scholar in China by Elsevier. He has received the first prize of the Natural Science Award from the Chinese Association of Automation, the first prize of the scientific and technological progress award from the Chinese Society of Command and Control, the gold medal at the Geneva Invention Exhibition, the Andy Chi Best Paper Award from the IEEE Instrumentation and Measurement Society, and the IROS Best Cognitive Robotics Paper Award. He has published "Introduction to Embodied Intelligence" and over 200 papers in international journals and renowned conferences, and won the NeurIPS MyoChallenge competition.







**Hua Guo**

Hua Guo has over 20 years of experience in technological innovation and large-scale information system R&D, with deep involvement in development, architecture design, and technical management. As a core driver of Yuanguang Software's transition from traditional R&D to an AI-native architecture, he led the development of the "Jiutian Lingjing" AI-Native Platform. Centered on the philosophy of "virtual-real integration and human-machine symbiosis" and the "All in Agent" goal, the platform is built on three pillars—enterprise-level agents, ontological large models, and R&D large models—effectively overcoming data silos and cross-departmental barriers, and advancing enterprise management from "AI-assisted" to "AI-native." In May 2026, the platform was selected as a cutting-edge achievement at the World Intelligence Expo, where Guo presented its architecture, value, and application scenarios. The platform is now deployed in finance, supply chain, and manufacturing, providing explainable and traceable intelligent decision support. Guo has received the Zhuhai Best Software Technology Innovation Award and holds national invention patents. Beyond R&D, he is actively engaged in industry-education integration, mentoring university training programs and software competitions to bring enterprise-level expertise into talent cultivation.



**Xingyi Zhang**

Xingyi Zhang is a recipient of the Special Government Allowance from the State Council and serves as a Specially-Appointed Professor under the National Major Talent Project (AI). Previously funded by the National Science Fund for Excellent Young Scholars, he is currently the Dean of the School of Computer Science and Technology at Anhui University, Director of the Key Laboratory of Intelligent Computing and Signal Processing (Ministry of Education), and Vice Chairman of the Anhui Provincial Society for Artificial Intelligence.

His research focuses on multi-objective evolutionary optimization and applications, knowledge mining and cognitive computing, and artificial intelligence. As Principal Investigator, he has led over 10 national and provincial-level projects—including a major project of MOST's 2030 AI Initiative and a key project of the NSFC Joint Fund—alongside over 10 industry-commissioned projects. He has published over 200 papers, with more than 100 in prestigious venues such as IEEE TEVC, IEEE TNNLS, IEEE TCYB, NIPS, WWW, KDD, and AAAI. He has won the sole Outstanding Paper Award from IEEE TEVC (2018, 2021, 2024) and IEEE CIM (2020), the First Prize of the Anhui Provincial Natural Science Award (Ranked 1st), the First Prize of the Liaoning Provincial Natural Science Award (Ranked 2nd), and the CAA Automation and AI Innovation Team Award (Ranked 2nd). He serves as Associate Editor of IEEE Transactions on Evolutionary Computation and as an Editorial Board Member of Complex & Intelligent Systems, International Journal of Bio-Inspired Computation, and Journal of Applied Sciences.



**Zhen Lei**

Zhen Lei is a Distinguished Guest Professor in Macau University of Science and Technology and a professor in Institute of Automation, Chinese Academy of Sciences. He is IEEE Fellow, IAPR Fellow and AAIA Fellow. He has published over 300 papers in international journals and conferences with 43000+ citations in Google Scholar and h-index 93. He is associate editor-in-chief of Pattern Recognition, senior area editor of IEEE Trans. on Information Forensics and Security and associate editor of IEEE Transactions on Biometrics, Behavior, and Identity Science. His research interests are in computer vision, pattern recognition, and image processing. He is the winner of 2019 IAPR Young Biometrics Investigator Award.





## Parallel Session I: Forum of the Resource Planning Simulation and Decision-Making Committee

**Session Chair: Prof. Xin Bin, Beijing Institute of Technology**



**Wenyin Gong**

Prof. Gong is a recipient of the Hubei Provincial Outstanding Youth Fund, a Senior Member of IEEE, and a Senior Member of CCF. He received his B.Sc., M.Sc., and Ph.D. degrees from the School of Computer Science at China University of Geosciences (Wuhan) in 2004, 2007, and 2010, respectively. His primary research interests lie in intelligent computing and its applications. He currently serves as a Director of the Chinese Association for System Simulation, a member of the ECOLE Executive Committee, and an Editorial Board Member of international journals including Swarm and Evolutionary Computation, Expert Systems with Applications, and Memetic Computing. He has served as Principal Investigator on one project of the National Key R&D Program, four projects funded by the National Natural Science Foundation of China, and one Doctoral Program Foundation project of the Ministry of Education. He has published over 160 papers in SCI-indexed journals, including 13 ESI Highly Cited Papers, with over 12,000 Google citations and an H-index of 63. He has authored two monographs and co-translated one academic book. His honors include two Second Prizes of the Hubei Provincial Natural Science Award, one Second Prize of the Hubei Provincial Teaching Achievement Award, the Hubei Provincial Outstanding Doctoral Dissertation Award, and the Hubei Provincial Outstanding Master's Thesis Award.



**Min Hu**

Prof. Hu is a recipient of the Outstanding Youth Program (Zhuoqing), a member of the Steering Committee for Armament Science and Technology Education of the Ministry of Education, Deputy Director of the National Key Laboratory of Space High-Efficiency Propulsion Technology and Applications, and Deputy Director of the Resource Planning Simulation and Decision-Making Committee of the Chinese Association for System Simulation. She has long been engaged in research on space mission planning. In recent years, as the first contributor, she has received one Special Prize of the Satellite Navigation and Positioning Science and Technology Progress Award, two Second Prizes of Provincial and Ministerial Science and Technology Progress Awards, and two Excellence Awards of the China Patent Award. She holds over 70 authorized patents, has published more than 100 papers and 6 books, and is a recipient of the Special Government Allowance from the State Council.



**Hongyan Sang**

Prof. Sang is among the World's Top 2% Scientists and a Distinguished Teaching Professor of Shandong Province. She serves as Director and Deputy Secretary-General of the Chinese Association for System Simulation, Director of its Resource Planning Simulation and Decision-Making Committee, and Executive Deputy Director of the Intelligent Simulation Optimization and Scheduling Committee. She is a Senior Member of CCF and holds editorial roles as Senior Editor of Swarm and Evolutionary Computation (SWEVO), Associate Editor of Expert Systems with Applications (ESWA), and Section Editor of Complex System Modeling and Simulation (CSMS).

Her research focuses on intelligent optimization and scheduling. She has led over ten research projects, including General and Young Scientist Programs of the NSFC and Shandong Provincial Natural Science Foundation projects, as well as over ten teaching projects such as National First-Class Courses and Provincial First-Class Major initiatives.

She has received over ten research and teaching awards, including the Second Prize of the Natural Science Award of the Ministry of Education, Second Prizes from the Chinese Association for System Simulation and the Chinese Association of Automation, and the First Prize of the Shandong Provincial Teaching Achievement Award. Her honors also include the Outstanding Female Scientist Award at the Conference on Intelligent Optimization and Scheduling and several Best Paper and Best AE Awards. She has published over 100 SCI-indexed papers in authoritative journals such as IEEE TASE, TCYB, TEVC, TII, TITS, ESWA, and SWEVO.



**Jianmai Shi**

Jianmai Shi is a recipient of the Military Youth Talent Program, the Hunan Provincial Outstanding Youth Fund, and the NUDT Young Top-Notch Talent Program. He has long been engaged in research on intelligent planning and decision-making. He has served as Principal Investigator on over 20 projects, including Equipment Application Innovation, Equipment Pre-Research, the Basic Strengthening Program, and Military Internal Research projects. He has published more than 100 papers and holds over 30 authorized invention patents. His honors include four First Prizes and two Second Prizes at the provincial and ministerial level.







**Zhou Fang**

Zhou Fang is a Professor at Beijing University of Chemical Technology. She is the Academic Lead for AI and Digital-Intelligent Engineering, State Key Laboratory of High-end Equipment, and a core member of an academician team.

She serves as Deputy Secretary-General of the National Pressure Vessel Design Committee, and holds committee appointments in multiple academic societies. She is the Chief Scientist for on-orbit intelligent diagnosis and maintenance of aerospace equipment, and an expert reviewer for Beijing Municipal Natural Science Foundation, the Ministry of Education and the Ministry of Finance.

Her research focuses on intelligent safety assurance for digital-intelligent engineering, petrochemical and aerospace facilities. She has spearheaded over 30 research projects covering digital twins, AI+AR intelligent operation & maintenance and intrinsic equipment safety, including the landmark Science and Technology Winter Olympics initiative. She has received more than 20 scientific and technological honors and contributed to the formulation of national standards.

She has authored over 40 academic publications, among which more than 30 are SCI/EI-indexed. She is the recipient of two National Excellent Youth Paper Awards and holds over 20 invention patents.



**Guohua Wu**

Guohua Wu has been selected for the National "Ten Thousand Talents Program" Young Top-Notch Talent, the Hunan Provincial Outstanding Youth Fund, and the annual and career lists of the World's Top 2% Scientists. He has led over 40 national and military research projects, including national defense and military industry projects and National Natural Science Foundation of China projects. As first or corresponding author, he has published over 120 papers in authoritative domestic and international journals, including 50 full-length IEEE Transactions papers, with over 13,000 academic citations and an H-index of 59. His honors include the First Prize of the Natural Science Award of the Chinese Association for System Simulation (Ranked 1st), the Second Prize of the Natural Science Award of the Ministry of Education (Ranked 1st), the Second Prize of the Hunan Provincial Natural Science Award (Ranked 1st), and the Second Prize of the Natural Science Award of the Chinese Association of Automation (Ranked 1st). He serves as Associate Editor of six international journals, including Information Sciences and Swarm and Evolutionary Computation.



**Feng Yao**

Feng Yao is among the first batch of High-Level Science and Technology Innovation Leading Talents at NUDT. He serves as an expert in relevant professional groups of the Equipment Development Department and the Science and Technology Committee, Deputy Director of the Resource Planning Simulation and Decision-Making Committee of the Chinese Association for System Simulation, and Deputy Director of the Big Data Science and Engineering Committee of the Chinese Command and Control Society. His research focuses on intelligent mission planning and scheduling, and smart human resource management. He has led over 30 major national and military projects, including Major Special Projects, Artificial Intelligence Special Projects, Model Engineering Projects, and Major Basic Research Projects. He has received three First Prizes and three Second Prizes of Military and Provincial/Ministerial Science and Technology Progress Awards. He has published over 40 papers, authored five monographs and textbooks, held over 60 authorized national invention patents, and obtained over 100 software copyrights.



**Lining Xing**

Prof. Lining Xing serves as a Zhongwu Distinguished Professor at Jiangsu University of Technology, primarily engaged in research on complex system optimization and control, with a focus on digital-intelligent twins, intelligent optimization, resource scheduling, and mission planning. Over the past five years, as first or corresponding author, he has published over 100 SCI-indexed papers in renowned domestic and international journals, including IEEE Transactions on Evolutionary Computation, IEEE Transactions on Cybernetics, and IEEE/CAA Journal of Automatica Sinica. He has applied for over 60 patents, with more than 40 authorized, and has published over 10 monographs. He has received more than 10 science and technology awards, including the First Prize of the Hunan Provincial Science and Technology Progress Award, the First Prize of the Science and Technology Award of the Chinese Association for System Simulation, and the First Prize of the Science and Technology Award of the Chinese Association of Automation. He is the leader of the Shaanxi Provincial Key Science and Technology Innovation Team for Collaborative Intelligent Systems and a recipient of the National Top 100 Excellent Doctoral Dissertation Award. He has been selected for the Ministry of Education's "New Century Excellent Talents Support Program" and concurrently serves as Chairman of the Intelligent Simulation Optimization and Scheduling Committee of the Chinese Association for System Simulation, a review expert for the National Natural Science Foundation of China, and a review expert for key R&D programs of the Ministry of Education.





## Parallel Session II: AI in Education Forum

**Session Chair and Guest Speaker:**
**Fellow Liqun Han, Beijing Technology and Business University**



**Alessandro Astolfi**

Alessandro Astolfi (IFAC Fellow, FIEEE, Academia Europaea, FIET, ITATEC, ACA Fellow, EUCA Fellow) received the Laurea in Electronic Engineering from the University of Rome La Sapienza, Italy, in 1991; the M.Sc. degree in Information Theory and the Ph.D. degree with Medal of Honor with a thesis on discontinuous stabilization of holonomic systems from ETH-Zurich, Switzerland, in 1995; and the Ph.D. degree for his work on nonlinear robust control from the University of Rome “La Sapienza” in 1996.

From 1992 to 1996 he was a Research Associate at ETH-Zurich. From 1996 to 2026 he was with the Electrical and Electronic Engineering Department, Imperial College London. In particular, he was Professor of Nonlinear Control Theory; College Consul for the Faculty of Engineering and Business School (2022-2025); and Head of the Control and Power Group (2010-2022). He retains a part-time appointment as Professor of Nonlinear Control Theory within the Dyson School of Design Engineering at Imperial College London. From 1998 to 2003 he was an Associate Professor with the Department of Electronics and Information, Politecnico of Milano. From 2005 to 2025 he was a Professor with the Dipartimento di Ingegneria Civile e Ingegneria Informatica, University of Rome Tor Vergata, Rome. Since February 2026, he is a Professor of Applied Mathematics and Computational Science at KAUST, Saudi Arabia.

His research interests include mathematical control theory and control applications, with special emphasis for the problems of discontinuous stabilization, robust and adaptive control, observer design, optimal control, game theory, and model reduction.

Dr. Astolfi was the recipient of the IEEE CSS A. Ruberti Young Researcher Prize (2007); the IEEE RAS Googol Best New Application Paper Award (2009); the IEEE CSS George S. Axelby Outstanding Paper Award (2012); the Automatica Best Paper Award (2017); and the IEEE Transactions on Control Systems Technology Outstanding Paper Award (2023). He is a “Distinguished Member” of the IEEE CSS and a recipient of the IFAC Outstanding Service Award (2017). He is the recipient of the Institute of Measurement and Control Sir Harold Hartley Medal for “outstanding contributions to the technology of measurement and control”.

He was Editor-in-Chief of the IEEE Transactions on Automatic Control (2018–2025) and Chair of the IEEE CSS Conference Editorial Board (2010–2017). He is Vice Chair of the IFAC Technical Board (2020–2026); and a Member of the IEEE Thesaurus Editorial Board (2025–) and of the IEEE PRAC (2026–).



**Hongbin Ma**

Prof. Hongbin Ma is a Professor and Doctoral Supervisor at the School of Automation, Beijing Institute of Technology, and a Senior Member of IEEE. He has been selected for the Ministry of Education's New Century Excellent Talents Program and the Beijing Outstanding Talent Program, and currently serves as Vice President of the International Society for Computational Intelligence. He also holds leadership roles in multiple national academic societies, including Deputy Director of the Human-Machine Collaborative Intelligent Industry Development Committee of the China Association for the Promotion of High-Tech Industry and Deputy Director of the National Defense Education Working Committee of the Chinese Command and Control Society, while serving on the editorial boards of several academic journals and as chair of multiple academic conferences.

His research focuses on AI perception, control, planning, and decision-making for intelligent autonomous systems such as robots, unmanned ground vehicles, and UAVs, as well as wargaming. He has received numerous honors, including the Beijing Natural Science Award, the Fok Ying Tung Young Teacher Award, the Wu Wenjun Artificial Intelligence Science Award, the China Big Data Academic Innovation Award, and the First Prize for Teaching Achievements of the Chinese Association for System Simulation.

He has led or participated in over ten vertical research projects, including the EU Marie Curie Fund, NSFC projects, the Science and Technology Innovation 2030 Program, the National Key R&D Program, and National Major Special Projects. Additionally, he serves on several national expert committees related to AI standardization, intelligent gaming and wargaming, and industrial AI, and has contributed to the formulation of multiple strategic reports, national standards, and white papers in fields such as automatic control, robotics, and the low-altitude economy.







**Guiping Lu**

Prof. Guiping Lu is a Professor and Master's Supervisor at the Terahertz Science Application Research Center, Beijing Institute of Technology (Zhuhai). She has been selected for the Guangdong Provincial "Thousand-Hundred-Ten" Talent Program and has been honored as an Outstanding Teacher of Guangdong Province (Nanyue), an Advanced Teacher of Zhuhai City, and an Outstanding Teacher at the university level. She has received the Third Prize in the Guangdong Provincial Multimedia Courseware Competition, the First Prize in the University-Level Young Teachers' Teaching Basic Skills Competition, the First Prize in the Teaching Innovation Competition (Professor Group), and three Second Prizes for Teaching Achievement Awards. She has mentored students in competitions such as RoboMaster and the International Advanced Robotics and Simulation Technology Competition, garnering over 60 awards at the provincial level or above.

Her research focuses on artificial intelligence technology. Over the past five years, she has led more than 10 provincial-level teaching and research projects, published 30 papers, obtained 20 authorized invention patents, and authored/edited 8 monographs and textbooks. Notably, she is the chief editor of Fundamentals of Artificial Intelligence Technology, published by Tsinghua University Press in July 2025.

She serves as a member of the Artificial Intelligence Technology and Application Committee and the Engineering Education Working Committee of the China Institute of Communications, a member of the Equipment Structural Health Monitoring and Early Warning Branch of the China Instrument and Control Society, a member of the Artificial Intelligence and Robotics Education Committee of the Chinese Society of Educational Development Strategy, a council member of the Guangdong Engineering Graphics Society, an academic project review expert of the Guangdong Association for Science and Technology, an expert for the Guangdong-Hong Kong-Macao Greater Bay Area Artificial Intelligence Industry Think Tank, a member of the Zhuhai High-End Academic Exchange Project Review Committee, and a Guangdong Provincial Science and Technology Special Commissioner.



**Jianlin Zhang**

Prof. Jianlin Zhang is a Professor and Master's Supervisor at the School of Mathematics and Information Science, and Deputy Director of the Graduate Office at Zhongyuan University of Technology. He is the head of an Outstanding Grassroots Teaching Organization and a First-Class Undergraduate Course in Henan Province. His primary research interests include infinite-dimensional dynamical systems, and data processing and modeling analysis. He has presided over two provincial-level teaching reform projects and, as a principal contributor, received one First Prize for Teaching Achievement in Henan Province. He has served as chief editor for four published textbooks. In addition, he has led or participated in three National Natural Science Foundation of China projects and three provincial-level research projects, and has published over 20 SCI-indexed academic papers.



**Yifen Mu**

Dr. Yifen Mu is now an associate professor in Academy of Mathematics and Systems Science, Chinese Academy of Sciences(AMSS, CAS). She received the B.Sc. degree in Mathematics from Peking University, China in 2005, and the Ph.D. degree in System Theory from AMSS, CAS, China, in 2010. Her research interest is game theory and learning in games, especially the human-machine games, learning dynamics in games and learning algorithms for stochastic games. Her co-authored papers win the second prize for outstanding poster presentation at the 10th China Conference on Systems Science (CSSC2026), the 9th International Symposium on Advanced Computational Intelligence and Intelligent Informatics (IWACII2025) Best Paper Award and the Guan Zhao-Zhi Award in 2024. Currently she serves as a council member of Game Theory Branch of the Operations Research Society of China (ORSC), an executive committee member of the CCF Technical Committee on Computational Economics, and editor board member of Journal of Dynamics and Games.



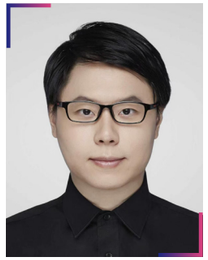




**Lijun Wang**

Lijun Wang, Director of Competition Operations and Ecosystem Cooperation at the Industry-Education Ecosystem Development Department of Inovance Technology, is responsible for organizing and operating the "Inovance Cup" National Intelligent Automation Competition and coordinating ecosystem cooperation with academic societies and education authorities.

He has long been dedicated to policy research in higher education, vocational education, basic education, and educational informatization. His work also covers research on industrial development and talent demand in the information technology sector (including intelligent manufacturing, industrial robotics, artificial intelligence, big data, software engineering, cloud computing, integrated circuits, and electronic engineering), research and practice of university-enterprise cooperation models, formulation of talent cultivation and evaluation standards, and development of curricula and teaching resources. He has participated in the formulation of multiple talent and teaching standards, including the “National Vocational and Technical Skill Standards for Artificial Intelligence Engineering Technicians”, the “Teaching Standards for the Artificial Intelligence Application Technology Major”, the “Construction Standards for Practical Training Conditions of the Artificial Intelligence Technology Application Major”, and the "Teaching Standards for the Digital Media Technology Major.



**Yang Zhang**

Yang Zhang is an associate professor in the College of Information Science and Technology at Beijing University of Chemical Technology. His research focuses on theoretical methods and engineering applications in artificial intelligence and machine vision. He currently serves as a council member and secretary-general of the Beijing Association of Automation. His work has resulted in more than 40 publications in leading journals and conferences, including IEEE TIP, IEEE TCSVT, IEEE TMM, IEEE TII, IEEE JIOT, ICCV, and CVPR. His professional recognitions include the Young Talent Support Program of the Beijing Association for Science and Technology, the Leading Talent category of Yangzhou's Lüyang Jinfeng Program, and the Hundred Young Talents Program of Beijing University of Chemical Technology. His research portfolio includes two projects funded by the National Natural Science Foundation of China, one subproject under the National Key Research and Development Program of China, and more than ten industry-sponsored and defense-related projects.



**Yunling Shi**

Yunling Shi, born in October 1984 in Harbin, Heilongjiang Province, is a member of the Communist Party of China and a master's supervisor at the School of Automation, Harbin University of Science and Technology. She received her Doctor of Engineering degree from the School of Intelligent Science and Engineering, Harbin Engineering University, majoring in Control Science and Engineering. Her research primarily focuses on path planning, fault detection and fault-tolerant control methods for unmanned systems such as surface vessels, unmanned aerial vehicles and intelligent vehicles.





**Hua Luo**

Hua Luo, Founder and General Manager of Beijing Huahong Digital Technology Co., Ltd., is a senior expert in all-liquid-cooling hyper-intelligent convergence and AI science and education applications in China. With over 20 years of dedication to the high-performance computing and intelligent computing power industry, he has long participated in the development of domestic computing infrastructure.He founded Huahong Digital Technology in 2021, focusing on scenario innovation for university research and AI education. He pioneered the concept of inclusive computing power through front-deployed hyper-intelligent centers and independently developed the Dongxin all-liquid-cooling computing system, addressing critical pain points in computing deployment for university teaching and research.He actively promotes industry-university-research collaborative innovation to support the implementation of AI large-model training, scientific simulation and intelligent teaching scenarios. By leveraging green, lightweight and inclusive computing power, he empowers the integrated innovation of AI plus education and high-quality disciplinary development in universities.

## Parallel Session III: Towards Controlled Autonomy: Decision-Making, Execution and Governance of Intelligent Systems (Special Session of Yuanguang Software)

**General Chair: Jing Lu (Yuanguang Software Co., Ltd.)**
**Session Chair: Lan Cheng (Taiyuan University of Technology)**



**Lan Cheng**

Lan Cheng is a Professor and Ph.D. Supervisor at Taiyuan University of Technology. Her main research interests include autonomous localization and environmental perception for robots, and 3D reconstruction. She has led 2 projects funded by the National Natural Science Foundation of China, 2 projects funded by the Natural Science Foundation of Shanxi Province, 3 open fund projects of State Key Laboratories, and multiple industry-funded development projects. She has published over 50 papers in high-level academic conferences and journals both domestically and internationally. She has been granted more than 10 patents, 3 of which have been successfully commercialized. She has published 1 monograph and co-authored 3 textbooks, 2 of which are national-level planned textbooks. She received the Second Prize of the National Defense Science and Technology Progress Award, and was selected for the 2018 Shanxi Province "Sanjin Talents" Support Program as an Outstanding Young Talent and the 2024 Shanxi Province "Sanjin Talents" Support Program as a Top Young Talent.



**Jing Lu**

Jing Lu, Ph.D., Professor, Guangdong Provincial Science and Technology Innovation Leading Talent, currently serves as a Chief Expert of the Science and Technology Digitalization Department at Yuanguang Software Co., Ltd. and Vice President of the Yuanguang Research Institute. She has long been deeply engaged in the fields of blockchain and spatial intelligence, leading the R&D of Yuanguang Blockchain's "One Platform, Four Applications" products, and implementing benchmark projects such as the blockchain-based distributed photovoltaic subsidy settlement for State Grid Shanghai Electric Power and the "Dianyi Chain" Energy Finance Cloud Platform. She serves as an industry expert of the Industrial Blockchain Working Group of the Trusted Blockchain Initiatives at the China Academy of Information and Communications Technology, a member of the Blockchain Committee of the Chinese Institute of Electronics, a member of the Blockchain Committee of the Chinese Society for Electrical Engineering, and an expert of the Zhongguancun Blockchain Industry Alliance. She has presided over 5 provincial and departmental-level research projects, participated in 3 projects under the 863 Program and the National Natural Science Foundation of China, published more than 20 papers, been granted 36 invention patents, and participated in the compilation of more than 10 national standards. She is the author of Frontier Practices in Blockchain and Blockchain Engineering Practice: Industry Solutions and Key Technologies.



**En Li**

En Li, professor at the Institute of Automation, Chinese Academy of Sciences, PhD supervisor, Deputy Director of the Engineering Laboratory for Industrial Vision and Intelligent Equipment at CAS, and Deputy Director of the Beijing Key Laboratory of Industrial Embodied Intelligence. Member of the Parallel Control Committee of the Chinese Association of Automation, Executive Council member of the IEEE PES Power Information AI Branch, and member of the IEC TC129 Power Robot Technology Committee working group. He has long been engaged in research on embodied intelligent robots, special robots, power robots, and bionic dexterous hands.



**Yi Guo**

Yi Guo is a Professor with the School of Automation at Beijing Institute of Technology, China. His research interests include control and optimization of complex networked systems, stochastic optimization, distributed optimization, and their applications. He currently serves as an Associate Editor of IEEE Transactions on Power Systems and Control Engineering Practice. He is a recipient of the IEEE Transactions on Power Systems Best Paper Award (2017–2019).







**Jing Tang**

Dr. Jing Tang is an Associate Professor and master's supervisor at Beijing Institute of Petrochemical Technology and Director of the Big Data Laboratory at Yuanguang Software. She received her Ph.D. in Engineering from Huazhong University of Science and Technology and serves on the Power Big Data Working Group of the Chinese Society for Electrical Engineering.

With 12 years of industry experience, she has long specialized in developing big data applications for the power sector, bridging academic research and engineering practice. Her expertise spans business requirements analysis, data architecture, application modeling, and implementation. Her research focuses on enterprise ontologies, data science, and intelligent systems for power grid enterprise management, look-through supervision, intelligent analytics, and question answering.

She has led provincial research and industry-sponsored projects, with outcomes deployed at China Huaneng Group, provincial State Grid companies, and power generation enterprises. She has published over 30 papers, including 11 SCI-indexed papers, and filed eight invention patent applications, four granted. She received the Second Prize for Innovation under the Invention and Entrepreneurship Awards of the China Association of Inventions.



**Juncheng Liu**

Dr. Juncheng Liu is an Associate Professor at the School of Control and Computer Engineering, North China Electric Power University. He received his Ph.D. from the Institute of Automation, Chinese Academy of Sciences. His research interests include condition monitoring and fault diagnosis of renewable energy generation equipment, intelligent instrument design, optimal control of new-type power systems, and the application of artificial intelligence in electricity markets. He has undertaken and participated in multiple sub-projects of the National Key R&D Program, projects funded by the National Natural Science Foundation of China, and the Fundamental Research Funds for Central Universities. He has completed more than 30 research projects commissioned by enterprises and has received several provincial and ministerial-level Science and Technology Progress Awards. He has published over 40 papers in domestic and international journals and at international conferences, and holds more than 10 invention patents and multiple software copyrights.



**Shihong Wu**

Dr. Shihong Wu is a Senior Engineer in Artificial Intelligence, a Zhuhai High-Level Talent, and an Outstanding Industrial Talent of Zhuhai National High-Tech Zone. He was formerly a postdoctoral fellow at the PLA Military Economics Academy. He currently serves as General Manager of the Algorithm and Model Department at YGSOFT Inc. and as an off-campus enterprise mentor in Zhuhai High-Tech Zone. His research focuses on artificial intelligence and intelligent systems. He has led and completed one China Postdoctoral Science Foundation project and one Zhuhai industry-university-research project; as a key participant, he has completed three military research projects and two provincial Natural Science Foundation projects; and as the contractor-side project leader, he has participated in and completed more than 10 client technology and informatization projects. He has publicly disclosed more than 30 invention patents and published more than 20 papers.





## Keynote Speeches for November 1

**Chair: Professor Xin Bin (Beijing Institute of Technology),**
**Professor Kazuhiko Kawamoto (Chiba University, Japan)**



**Jie Lu**

Distinguished Professor Jie Lu is a world-renowned scientist in the field of computational intelligence, best known for her contributions to fuzzy machine learning, transfer learning, concept drift, recommender systems, and decision support systems. She is an IEEE Fellow, IFSA Fellow, Australian Computer Society Fellow, Australian Laureate Fellow, and Australian Industry Laureate Fellow. Professor Lu is the Director of the Australian Artificial Intelligence Institute (AAII) and Director of Australian Research Council (ARC) Research Hub in Responsible AI for a Sustainable Grain Industry (gRAIn) at the University of Technology Sydney (UTS), Australia. She has published six research books and over 500 papers in leading journals and top conferences; won ten ARC Discovery Projects and one ARC Linkage Project as Lead Chief Investigator, an ARC Research ITRH as the Director, and over 30 industry-funded projects; and supervised 60 doctoral students to completion. Professor Lu also serves as Editor-in-Chief of Knowledge-Based Systems and the International Journal of Computational Intelligence Systems. She is a highly sought-after keynote speaker and has delivered over 40 keynote addresses at major international conferences. Her honours include three IEEE Transactions on Fuzzy Systems Outstanding Paper Awards (2019, 2022, 2025), the NeurIPS 2022 Outstanding Paper Award, Australia's Most Innovative Engineer Award (2019), the Australasian Artificial Intelligence Distinguished Research Contribution Award (2022), the NSW Premier's Prize for Excellence in Engineering or Information and Communication Technology (2023), the iAwards 2025 NSW Merit Recipient in the Technology Platform category, and appointment as an Officer of the Order of Australia (AO) in the 2023 Australia Day.



**Jifeng Zhang**

Ji-Feng Zhang received the B.S. degree in mathematics from Shandong University, China, in 1985, and the Ph.D. degree from the Institute of Systems Science (ISS), Chinese Academy of Sciences (CAS), China, in 1991. Now he is with the School of Automation and Electrical Engineering, Zhongyuan University of Technology; and the State Key Laboratory of Mathematical Sciences, Academy of Mathematics and Systems Science (AMSS), CAS. He was the Director of the ISS, AMSS, CAS, and now is an Academic Vice-President of the Zhongyuan University of Technology .

His current research interests include system modeling, adaptive control, stochastic systems, and multi-agent systems. He is an IEEE Fellow, IFAC Fellow, CAA Fellow, SIAM Fellow, member of the European Academy of Sciences and Arts. He received the Second Prize of the State Natural Science Award of China in 2010 and 2015, respectively. He was a Vice-President of the Chinese Association of Automation, the Chinese Mathematical Society and the Systems Engineering Society of China. He was a Vice-Chair of the IFAC Technical Board, member of the Board of Governors, IEEE Control Systems Society; Convenor of Systems Science Discipline, Academic Degree Committee of the State Council of China. He served as Editor-in-Chief, Deputy Editor-in-Chief or Associate Editor for more than 10 journals, including Science China Information Sciences, IEEE Transactions on Automatic Control and SIAM Journal on Control and Optimization etc.







**Peter Sincak**

Peter Sinčák is a Professor of Artificial Intelligence at the Technical University of Košice (TUKE), Slovakia, European Union. He received his MSc from TUKE in 1984 and his PhD from the Czech Academy of Sciences in Prague in 1992, and became a full professor in 2001. In 1993, he pioneered neural network education in Slovakia by introducing the country's first university course dedicated to neural networks. He is a former Head of the Department of Cybernetics and Artificial Intelligence and has extensive experience in developing and leading AI education at bachelor's, master's and doctoral levels. He has authored or co-authored more than 100 scientific publications and two monographs, and has edited books for international academic publishers. His research encompasses neural networks, computational intelligence, cloud-based AI and human-robot interaction. In recent years, his work has focused on diverse neural network architectures, including large-scale models for multimodal data processing, with particular attention to their adaptation and experimental evaluation. He has contributed to national and international research projects, including the European initiatives AI4EU, LIFEBOTS and ROBOCOM++. His international experience includes a Marie Curie fellowship at Siemens in Vienna and numerous invited talks worldwide, including in China, Japan, South Korea, the United States, Italy and Hungary. He maintains longstanding research collaborations in Asia and actively promotes university-industry cooperation. As an emeritus professor, he is committed to fostering mutual understanding, international scientific collaboration and cultural exchange, guided by the conviction that responsible AI should strengthen human capabilities and serve humanity.



**Masahiro Inuiguchi**

Masahiro Inuiguchi is a Full Professor at The University of Osaka, formerly known in English as Osaka University. He received his B.E., M.E., and D.E. degrees from Osaka Prefecture University in 1985, 1987, and 1991, respectively.

He began his academic career as a Research Associate at Osaka Prefecture University from 1987 to 1992, followed by an appointment as Associate Professor at Hiroshima University from 1992 to 1997. He subsequently joined Osaka University as an Associate Professor in 1997 and became a Full Professor in 2003.

His research interests include possibility theory, fuzzy mathematical programming, rough sets, and multiple criteria decision analysis using interval models. He is currently President of the Japan Society for Fuzzy Theory and Intelligent Informatics (SOFT) and is a member of several international and Japanese professional societies, including IEEE, INFORMS, IRSS, ISCIE, SICE, JORS, and IEICE.



**Yasufumi Takama**

Yasufumi Takama received a Dr. Eng. Degree from the University of Tokyo, Japan in 1999. He was a JSPS (Japan Society for the Promotion of Science) Research Fellow from 1997 to 1999. From 1999 to 2002 he was a Research Associate at Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology in Japan. From 2002 to 2005, he was an Associate Professor at Department of Electronic Systems and Engineering, Tokyo Metropolitan Institute of Technology, Tokyo, Japan. From 2005 to 2013, he was an Associate Professor at Faculty of Systems Design, Tokyo Metropolitan University, Tokyo, Japan. Since 2014, he has been a Professor at Faculty of Systems Design, Tokyo Metropolitan University, Tokyo, Japan. He also participated in PREST (Pre-cursory Research for Embryonic Science and Technology), JST (Japan Science and Technology Corporation) from 2000 to 2003. His current research interest includes information recommendation, Web intelligence, information visualization, and human in the loop. Dr. Takama is a member of IEEE, ACM, IEICE (Institute of Electronics, Information and Communication Engineers), JSAI (Japanese Society of Artificial Intelligence), and IPSJ (Information Processing Society of Japan). He has served as General Chair of CcSR, Program Vice Chair of Web Intelligence, International Program Chair of TAAI, and Tutorial Chair of IEEE BigData.







**Takanori Shibata**

Takanori Shibata is the globally renowned inventor of PARO, a therapeutic seal robot. He holds a Ph.D. in Electronic and Mechanical Engineering from Nagoya University and serves as a Specially Appointed Professor at the Tokyo Institute of Technology and a Visiting Researcher at the MIT AgeLab. Since 1993, he has led the development of PARO, which has been approved in the United States as a neurological therapeutic medical device and applied in over 30 countries worldwide. In 2002, it was recognized by Guinness as “the world’s most therapeutic robot”. He has received numerous honors, including the Ryman Prize and the Prime Minister's Award of Japan. His research interests encompass human-robot interaction, robot-assisted therapy, and psychological support in space.

## AI Challenge Judging Panel



**Minling Zhu**

Minling Zhu is an Associate Professor at Beijing Information Science and Technology University and the head of the university-level Artificial Intelligence and Embedded Systems Innovation Team. She is a member of the National Technical Committee on Information Technology Standardization (TC28) of China, a member of the Smart Education Professional Committee of the Chinese Association of Automation, a senior member of the Chinese Association for Artificial Intelligence, and a senior member of the Chinese Association of Automation. Her research interests include artificial intelligence and image technology. She has led or participated in more than 10 national and Beijing municipal fund projects and has led more than 10 enterprise projects. She has published over 60 papers in important domestic and international academic journals and conferences, several of which have been among the global ESI top 1% highly cited papers. She holds more than 10 authorized invention patents and software copyrights, including one patent achievement that has been commercialized for RMB 1 million.



**Genjing Chang**

Genjing Chang serves as Deputy Secretary-General of the Artificial Intelligence and Robotics Education Special Committee of the Chinese Society of Educational Development Strategy, Deputy Secretary-General of the Big Data Systems and Simulation Special Committee of the Chinese Simulation Federation, Deputy Director of the Embodied Intelligence Special Committee of the China Machinery Industry Education Association, Executive Director of the Industry-University-Research Center of the Yangtze River Delta Information Intelligence Innovation Research Institute, Executive Vice President of the Yangtze River Delta Data Element Research Institute, Deputy Secretary-General of the Beijing Internet of Things Society, Industry Professor of the Artificial Intelligence Professional Group at Nanjing Vocational College of Information Technology, Entrepreneurship Mentor at Beijing Information Science and Technology University, Maker Expert at Henan Institute of Technology, Industry Professor of Anhui Province, Professional Construction Consultant at Chongqing Polytechnic University of Electronic Technology, Distinguished Expert at Tianjin University of Technology, External Mentor at Xi'an Jiaotong-Liverpool University, Industry Mentor at Anhui Sanlian University, Robotics Education Expert at Hubei University of Education, and Industry-Education Integration Consultant at Hangzhou Normal University.





## Review Experts for Project Roadshow



**Xiaoyan Zhao**

Xiaoyan Zhao, an associate professor of University of Science and Technology Beijing, Technical manager (Intellectual Property Engineer). Her main research areas include terahertz detection technology and magnetic detection technology. She has participated in multiple university intellectual property transformation projects and Beijing concept validation initiatives.



**Rui Tang**

Rui Tang is Director of Investment and Operations at Ligong Chuangdong (Beijing) Investment Management Co., Ltd., an Entrepreneurship Mentor at Beijing Institute of Technology (Zhuhai), and a mentor at the "Igniting Dreams in Science and Technology Innovation" Lecture Series of the Haidian District Committee of the Communist Youth League of China. He previously worked at Dongzhao Changtai Investment Group, Beijing Institute of Technology Zhongxing Technology Co., Ltd. (400006), and Sichuan New Energy Vehicle Innovation Center (Academician Ouyang Minggao Workstation). He has a deep understanding of the development patterns of enterprises in new energy, new materials, and technology manufacturing. He has participated in or led the investment, IPO, and capital operations of companies including Canaco (CVE: CAN), Zhili IoT, Keyi Power, Wan'en Chemical, Feimeng Diamond, Zhenjiankang (02697.HK), and Yundie Technology.



**Pengyang Chen**

Pengyang Chen is an Engineer (Intermediate) in Technology Brokerage. Since 2016, he has been engaged in technology transfer and industrialization at the National University Science Park and provincial-level technology business incubators, and has accumulated relatively rich experience in science park operations, business incubation, and the transfer and commercialization of scientific and technological achievements. In 2022, he joined the Technology Transfer Center of Beijing Institute of Technology, where he is engaged in the incubation and acceleration of technology-based enterprises and related services and management.

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**面向行业客户内部网络的智能化建设需求，本方案提供自基础硬件至业务应用的全栈国产化、一体化交付的智能化业务系统建设能力，覆盖体系论证、概念设计、作战筹划、演训推演、训练对抗、效能评估等主要业务场景。**

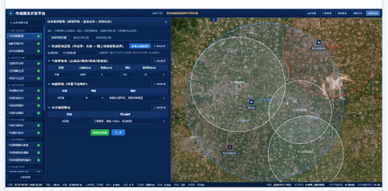
方案分为三层。基础层依托长城 PKS 自主安全体系，采用飞腾处理器、麒麟操作系统与国产整机设备，实现自芯片至整机的供应链自主可控。平台层以超融合智算与安全中台为核心，提供大模型与智能体的私有化部署能力，支持物理隔离环境下 AI 能力的持续更新与全离线运行；提供数字身份认证、零信任访问控制与国密密码服务，构筑覆盖屏显环节的内容安全防线；算力经虚拟化统一池化调度，终端不存密、数据不出域。应用层由智原生总线统一调度模型与智能体资源，承载八类业务应用，形成完整闭环的智能化业务能力。

方案坚持安全内生、自主可控、集约高效的建设原则，各层可整体供货、统一实施，为行业客户智能化建设提供稳定可靠、持续演进的技术支撑。




## 核心业务平台 CORE PLATFORMS

### 作战概念设计平台



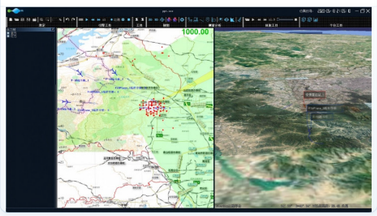
### 体系架构设计平台



### 作战任务筹划平台




### 作战体系仿真平台



### 任务级仿真平台




### 智能蓝军训推平台



中电空间（北京）科技有限公司
地址：北京市朝阳区呼家楼新苑4号锐创（中国）大厦 | 电话：400-002-2892 | www.cre-meta.com

INOVANCE
汇川技术

# “汇川杯”全国智能自动化创新大赛

## 汇生态之力 育工业未来

“汇川杯”全国智能自动化创新大赛 （简称Inocup）是由苏州汇川技术有限公司主办、中国自动化学会作为技术支持单位的一项面向全国大学生的探索性、实践性的工程创新活动。

大赛于每年12月启动，同期组织赛区说明会，次年5月举行区域初赛，8月举办全国总决赛。

当前大赛面向国家战略和产业前沿共设置3大赛道，分别为：创新开发赛道、工程应用赛道、产业攻关赛道，并下设多个赛项。第四届汇川杯大赛即将启动！



汇聚热爱 驱动未来
DRIVING THE FUTURE WITH PASSION
“汇川杯”全国智能自动化创新大赛
Inovance Cup National Innovation Competition for Intelligent Automation

截止2026年，前三届汇川杯大赛已成功实现如下突破：

| | | |
|---|---|---|
| 33个省<br>覆盖省份 | 700+<br>覆盖院校 | 6500+<br>报名团队 |
| 20000+<br>参赛学生 | 2000+<br>指导老师 | 260+<br>发出offer（含汇川及生态企业 |

大赛官网

大赛官方公众号

华弘数科
Huahon Data Technology

# 全液冷高性能超智计算系统

FULL LIQUID-COOLED HIGH-PERFORMANCE SUPER SMART COMPUTING SYSTEM

华弘数科是AI基础设施“前置超智中心”的定义者和引领者，依托反传统的自主设计、敏捷研发、材料创新、智能制造等跨学科系统能力，首创边端全液冷高性能超智计算系统的产品矩阵及AI软硬一体解决方案。以自研“冻芯”分体式全液冷核心技术，构筑高性能、高密度、超静音的边端AI算力底座，并打破传统机房算力延时高、部署复杂、环境依赖严苛、数据安全等瓶颈，突破HPC负载与AI负载的异构加速、并行运算、动态调度、实时监测。原生融合高精度与低精度算力本地轻量化部署，重构边端AI算力高低精度一体化、AI场景全液冷超智计算系统，统一承载AI微调及推理、AI智能体、AI科学计算、AI仿真模拟、具身智能、图形图像、媒体文创、游戏科学八大核心业务场景，让Token触手可及。

**我们的使命**

让Token触手可及

Make Tokens Within Reach

**我们的愿景**

打造全球标杆级边端全液冷超智计算体系

Building a globally benchmarked edge-end full liquid-cooled super-intelligent computing system

**我们的定位**

重塑边端算力产业新范式引领全域AI高效计算

Reshaping the new paradigm of edge computing industry and leading the efficient computing of global AI

## 我们的应用场景

- AI 微调推理
- AI 科学计算
- AI 仿真模拟
- 具身智能
- 图形图像
- AI 智能体
- 媒体文创
- 游戏科学

## 我们的优势

- 冻芯全液冷 技术突破
- 跨学科系统 工程实力
- 自主创新 高速迭代
- 全产业链 闭环智造
- 八大场景 生态融合

