**Advanced Program**

**2023 International Conference on the Study of Information**

**Aug. 14-16, 2023, Beijing**

**Sponsor:** International Society for the Study of Information (IS4SI)

**Organizer:** Beijing University of Posts and Telecommunications (BUPT)

**Co-Organizer:** Beijing Representative Office of IS4SI（in preparation）

**Supporters:** CAAI’s SIG on AI Fundamental Research

SIG on AI & Robot, China Society on Educational Development Strategy

International Research Centre for Philosophy of Information, Xi'an Jiaotong University

Intelligent Information Processing Laboratory of Chinese Academy of Sciences

National Supercomputing Center in Wuxi

Beijing Grid Fractal Dimension Technology Co., Ltd

School of Economics and Management, Chongqing University of Posts and

Telecommunications

Institute of State Governance, Huazhong University of Science and Technology

Institute of Mathematics, Peking University

Beijing EO Wang Meng Technology Co., Ltd

China Institute of Digital Information Technology

Research and Education Center for the Control Engineering of Translation Processing Medicine, Dalian University of Technology

**19:00 - 20:00 August 13, International Advisory Committee Meeting**

**Chair:** T. Deacon

**Co-Chair:** M. Schroeder

**Members:** Board Members of IS4SI + Special Invitees

**Venue:** Meeting Room 202 in Economy Management (EcM) Building

**9:00-9:30, Aug. 14 Opening Ceremony**

**Chair:** Jianhua Zhang

**Venue:** Conference Hall (Room 136) in Teacher Building #3

**Speakers:** Pedro C. Marijuan (President, IS4SI)

Kun Xu (President, BUPT ),

Shahbaz Khan (Director and Representative, UNESCO-East Asia),

Yee Cheong Lee (President, AETDEW),

**9:30-10:30, Aug. 14 Keynotes Address**

**Chair**: Zhongzhi Shi

**Venue**: Conference Hall (Rm 136) in Teacher Building #3

**Title: Paradigm Change in AI**

**Speaker**: Yixin Zhong

**10:30-10:45, Aug. 14 Coffee Break**

**10:45-11:45, Aug. 14 Round-table Discussion**

**Chair**: Yixin Zhong

**Venue**: Conference Hall (Rm 136) in Teacher Building #3

**Speakers**: (in the alphabetic order of name )

Ben Goertzel (President, Singularity Foundation),

Huacan He (Professor, Northwestern Polytechnical University),

Shahbaz Khan (Director & Representative of UNESCO Multisectoral Regional Office in

East Asia),

David Leake (Professor, Indiana University),

Yee Cheong Lee (President of AETDEW)

Kang Ouyang (Professor, Huazhong University of Science and Technology)

Peizhuang Wang (Professor, Liaoning University of Engineering-Technology)

Kun Wu(Professor, Xi’an Jiaotong University),

Peifang Yang (Former President, China Society of Information Economy)

**11:45-13:00, Aug. 14 Lunch**

**13:00-14:30, Aug. 14 Forum on Information Philosophy**

**The 6th International Conference on Philosophy of Information (ICPI)**

**Chair:** Kun Wu

**Venue:** Meeting Room 213 in EcM Building

**Invited Speakers**

Techno-social systems – a value-based model for digitalization

*Wolfgang Hofkirchner*

On Middles and Thirds

*Joseph E. Brenner* (on-line)

Methodology of Information Study

*Marcin J. Schroeder* (on-line)

Take Your Time!——Smart Systems in the Digital Age

*Rafael Capurro* (on-line)

The Information Paradigm, Spanning All Levels of Human Knowledge

*Kun Wu*

A Receptive Relation Understanding of Information Paradigm Change

*Tian’en Wang*

**13:00-14:30, Aug. 14 Forum on Information Economy**

**Chair:** Xiaoyu Wan

**Venue:** Meeting Room 202 in EcM. Building

**Invited Speakers**

Developing Information Intelligent Economy and Building a Middle Class Inclusive Society

*Peifang Yang*

Transformation from Information Economy to Digital Economy

*Tingji Lv*

**14:30-15:00, Aug. 14 Coffee Break**

**15:00-17:00，Aug. 14 Forum on Information Philosophy**

**Chair:** Kun Wu

**Venue:** Meeting Room 213 in EcM Building

**Paper Presentations**

How much rationality is needed for decision making? -Presentation in the context of the project Evolution of Information Processing Systems

*Annette Grathoff*

Philosophy of Information at the crossroads? Branching towards a different paradigm

*John Holgate*

Influence and Philosophical Reflection on ChatGPT in the Media Industry

*Beibei Wang, Qinglan Wei and Yufan Xia*

Philosophical reflection on digital labor promoting high-quality economic development

*Yage Liu*

The Hermeneutics of artificial text

*Rafal Maciag* (on-line)

The Integrality of Qi Ontology from the Perspective of System Theory: Wang Fuzhi’s Qi Theory

*Ruiyuan Zhang and Tianqi Wu*

Memory: A breakthrough point in the construction of ethical identity for social robots

*Ruofan Li, Zhaolong Peng and Dazhou Wang*

Towards Ethical Engineering: Artificial Intelligence as an Ethical Governance Tool for Emerging Technologies

*Dazhou Wang*

A Philosophical Analysis of Causality and Correlation -- The Debate on Causality between Hume and Bayes

*Zhiku Feng and Jing Liu*

We Have Always Been Post-human: Towards a Marxist Account of Post-humanism

*Zhipeng Zhang*

From Information Extraction to Remaining Data—The Production Mystery of Digital Capitalism

*Jingzhuang Bi*

The Construction Path of Machine Consciousness and Its Limitation

*Liang Wang and Ziyi Ma*

Analyzing the Existence of Mathematics from the Perspective of Information Philosophy

*Yanzhang Qu and Tianqi Wu*

Classification of Music Space from the Perspective of Information Philosophy

*Shan Zhang*

On the Objective Reality of Information

*Zhikang Wang*

The Path of Information Philosophy to Solve the Defect of Einstein's Integration of space-time

*Wei He*

Cross-cultural Challenges to Artificial Intelligence Ethics

*Yufei Liu*

Analysis of Enticement Detection by Information Technology

*Baiyang Jia*

The Study on Philosophy of Information Science from the Dimension of Culture

*Zhensong Wang*

Meditation of Modern Newspapers from the Perspective of Information

*Haijia Zhang*

Reflections on Human Subjectivity in the Information Society from the Body Philosophy

*Wenjing Yuan*

A Detailed Exploration of Information Philosophy in Heng qu Yi Shuo

*Meng Huang*

Marx's thought of human essence and its realistic significance under the perspective of artificial intelligence

*Youqiang Wang, Xuan Kang and Jiayue Xiong*

Information Thinking: A New Solution to the Dilemma of Ecological Aesthetics

*Haisha Zhang*

The Information Philosophy Implication of Yin-Yang

*Huimin Zhang*

**15:00-17:00， Aug. 14 Forum on Information Economy and Philosophy**

**Chair:** Xiaoyu Wan

**Venue:** Meeting Room 202 in EcM Building

**Paper Presentations**

Notes on the Cross-Level Game

*Yu Chen* (on-line)

The Information Philosophy Implication of Yin-Yang

*Huimin Zhang*

A new theoretical interpretation of the construction of ideological discourse right from the perspective of information philosophy

*Chenya Zhang* (on-line)

On the Four Information Control Systems of the Human Body

*Bocong Li and Nan Wang*

Ethical Governance of Artificial Intelligence Based On the "Human in the Loop" Approach

*Ximeng Chen*

Mobile Phone Captives and Their Self-redemption

*Jing Jing and Yaoguo Ma* (on-line)

The Convergence of Information Science and Information Philosophy Driven by the Information Revolution

*Liang Wang and Shengrui Wang*

Reflections on Economics： From the Perspective of Philosophy of Information

*Hanchen Li and Tianqi Wu*

The realistic possibility of Community: the encounter between Postmodern Philosophy and the Information Society

*Zhipeng Bai* (on-line)

Two Informatics Revolutions Promote the Leap of Science-view and Methodology

*Lin Xia, Qikai Zhong, Zhiqin Zhang and* *Zongrong Li*

On the Unilateralism of Physicalism and the Universality of Informationism

*Mingyi Chen and Zongrong Li*

"Discipline Informatization" in the Information Age Viewed from the Growth of Natural Science

*Lamei Chen, Lin Xia and* *Zongrong Li*

Information Phenomenology: An Informational Interpretation of Husserl's Phenomenology

*Xia Wang, Lamei Chen and* *Zongrong Li*

Temporality of subjective information

*Yaru Chen and Kun Wu*

From "Ascent" to "Alienation": A Philosophical Examination of Digital Consumption through the Lens of Information Philosophy

*Yuanyuan Tian and Duhao Chen*

New interpretation of Chinese calligraphy art image by information epistemology

*Yangyuer Qian*

The Existence, Transcendence and Evolution of the Subject-A Method Based on Subject Information

*Zheng Wu*

Challenges, Risks, and Opportunities: Marxist Political Economy Review of AIGC

*Duhao Chen and Yuanyuan Tian*

Research on the uncertainty of music information

*Xiaolong Yang*

New research on the ontology of philosophy of information

*Tianqi Wu and Yifan Zhao*

A reflection on the body philosophy of "digital survival"

*Jing Wu*

Regarding Big Data through the Lens of The Philosophy of Information

*Yuan Ma* (on-line)

The Construction Path of Artificial Intelligence Technology to Human Practice Mode and Ethical Value -- The Contemporary Enlightenment of <1844 Economic and Philosophical Manuscript>

*Junfei Kou*

Systematism –– The Evolution from Holistic Cognition to Systematic Understanding

*Hongjian Yuan and Yaru Chen*

From the Buddhist Transcendental Epistemology to View the Limitations of AI and a Re-cognition of Ontology

*Xiaoyong Wang and Junbo Xu*

**9:00-10:30， Aug. 15 Forum on Information Science**

**Chair:** Zhongzhi Shi

**Venue:** Meeting Room 213 in EcM Building

**Invited Speakers**

Bridging AI Paradigms with Cases and Networks

*David Leake* (on-line)

Approaching General Intelligence via Hybridizing Large Language Models with Symbolic Logical Inference and Evolutionary Learning

*Ben Goertzel*

The Future of AI. Protecting Humans

*Eunika Mercier-Laurent* (on-line)

Informational Granules in Interactive Granular Computing

*Andrzej Skowron* (on-line)

Information and communication paradigm change – lightweight communication

*Xiangming Wen*

The High-end Development of Information Science——Intelligence

*Zhongzhi Sh*i

**9:00-10:30， Aug. 15 Forum on Information Society**

**Chair:** Kang Ouyang

**Venue:** Meeting Room 202 in EcM Building.

**Invited Speakers**

A WORLD INFORMATION STRATEGY FOR THE FUTURE

*Steve Fuller*

Information Societies and Transformative Social Governance: Revisiting the Debates and Deliverables for Futuristic Societies

*Roopinder Oberoi* (on-line)

**Contemporary Topics of Big Data, Social Complexity and Social Epistemology**

***Kang Ouyang***

The Evolution and Governance of An Intelligent Society

*Hengjin Cai*

Intelligent railway system integrating "Physics-Information-Society"

*Qingyong Li*

**10:30-11:00, Aug. 15 Coffee Break**

**11:00-12:30，Aug. 15 Forum on Information Science**

**Chair:** Zhongzhi Shi

**Venue:** Meeting Room 213 in EcM Building

**Papers Presentation**

Research on Streamlined Causal Tree Algorithm Based on Factor Space Theory

*Guangshan Hu, Fanhui Zeng, Kaile Lin, Ying Wang and Kaijie Zhang*

Semantic Information Measures and Similarity Functions for Machine Learning: History and Recent Progresses

*Chenguang Lu* (on-line)

Factor’s Space and intelligent incubation project of unified intelligence theory

*Pei-Zhuang Wang* (on-line)

The Ogical Relationship Of The Concept Discovery And Association Based On The Universal Factor Space

*Jing Zhao and Yanke Bao*

Machine Learning Explicit and Implicit Model for Factor Classification based on Factor Space Theory

*Kaijie Zhang, Fanhui Zeng, Xiaotong Liu, Kaile Lin and Ying Wang*

Factor implicit model of machine classification learning based on factor space theory

*Fanhui Zeng, Ying Wang, Hui Sun, Xiaotong Liu, Kaile Lin and Kaijie Zhang*

A Heuristic-Primed Decision-making Model Under the Assumption of Bounded Resources

*Slam Nady, Xian Li and Bojie Feng*

Similarities, Differences, and Limitations of humans and AI Behavior

*Haisha Zhang*

On the Physics Paradigm of Communication Engineering and the Informatics Paradigm of Dissemination Science

*Aijing Tian, Caihong Zhou, Kexiang Guo and Zongrong Li*

A new background basis extraction algorithm under factor space theory

*Xiaoyu Bi and Yuxin Wang*

Seeing like Human: the Embodied Development of Active Vision in AGI system

*Kai Liu and* *Changxin Sun*

Information Reflection Theory Based on Information Theories, Analog Symbolism, and the Generalized Relativity Principle

*Chenguang Lu* (on-line)

Some Viewpoints on the Basic Theory of Information Science

*Hailong Ji*

The ways of the transition between phase layers

*Chuan Zhao*

**11:00-12:30，Aug. 15 Forum on Information Society**

**Chair:** Kang Ouyang

**Venue:** Meeting Room 202 In EcM Building

**Papers Presentation**

The certainty, influence, and multi-dimensional defense of digital socialist ideology

*Jian Zheng* (on-line)

An Investigation on the Calligraphy Culture of the Stone Plaques of Cao Wei Tomb in Xizhu Village, Luoyang

*Xin Chen*

Comparison and Analysis of the Characteristics of Natural Information and Social Information

*Zongrong Li, Yiqiong Zhang and Aijing Tian*

On the Two Abstractions of Social Information and the Plato’s Theory of the Separation of Particulars and Universals

*Wei Yan, Xia Wang and Zongrong Li*

Special Experience, Art Space, Private Field: Limitations of Artificial Intelligence in Painting

*Lu Wang*

Study on the Application of Virtual Reality Technology in Cross-Border Higher Education

*Yanfang Hou*

**12:30-13:30, Aug. 15 Lunch**

**13:30-15:30， Aug. 15 Forum on Information Technology (1)**

**Chair:** Guangwen Yang

**Venue:** Meeting Room 202 in EcM Building

**Invited Speakers**

**Reconfigurable computing in information science**

***Wayne Luk***

Geoscience Application based on Supercomputers

*Haohuan Fu*

Chanllenge and Opportunity for Intelligent Computing

*Wenlai Zhao*

**Colossal-AI: Scaling Large AI Models on Distributed Systems and Supercomputers**

***You Yang***

**13:30-15:30， Aug. 15 Forum on Information Technology (2)**

**Chair:** Zhicheng Chen

**Venue:** Meeting Room 213 in EcM Building

**Invited Speakers**

**Art and Mathematics**

***Mihir Kumar Chakraborty***

New Concept of Information Science

*Huacan He*

From rhBNN-rhBNN+-iANN studies to development of a QiGeN model and a heanlthcare Humain system

*Changkai Sun*

**An important application of reconfigurable multivalued logic operators: configurable encryption technology**

***Yi Jin***

Revolutionizing Development: The New Engine Powering AIGC and Industries Together

*Bin Wang*

**15:30-16:00， Coffee Break**

**16:00-18:00，Aug. 15 Forum on Information Technology (1)**

**Chair:** Guangwen Yang

**Venue:** Meeting Rm No. 202, EcM Building

**Papers Presentation**

The True Information Processor and the True Information Processor Technology

*Chen Wang*

Linear programming processivity and structural optimisation of intelligent systems

*Yang Yang, Sicong Guo, Jianwei Guo and Shenling Li*

**16:00-18:00，Aug. 15 Forum on Information Technology (2)**

**Chair:** Zhicheng Chen

**Venue:** Meeting Room 213 in EcM Building

**Papers Presentation**

On Informatics Approaches to Overcoming Natural Science Crisis

*Zhilan Cao, Aijing Tian, Zhongyan Li and Zongrong Li*

The Influence of Lower Limb Muscle Selection on Synergy Analysis during Running †

*Yaru Chen, Wenqian Chen, Yongxuan Wang, Hailong Liu, XiaoHong Wang and Rong Liu*

The Circular Logarithm Algorithm and Three-dimensional Four -photon-double-helix-chip Architecture Program

*Yiping Wang, Siqi Li and Huacan He*

The Proof and Decryption of Goldbach Conjecture

*Linfu Ge*

Universal Logic Expression and Application of Conditional Probability

*Huacan He and Yiping Wang，*

Architecture design and application of compound robot control system with movement-process collaboration

*Le Xiao, Qiang Li and Zhicheng Chen*

rhBNN+ Comprehensive Detections of Human Body Temperatures and Sounds by a Same Smart Mask and the Analyses

*BingCan Liao, Pin Sun, ShuYi Chen, RiHong Huang, JunYu Yang, GuoFeng Li, ChengZhi Lv, Nan Zhu, Shui Guan, HaiLong Liu, Rong Liu, Ali Mansouri and ChangKai Sun*

How Can Digital Technology Reshape The Trust System of Engineering ——Take Beijing Daxing International Airport as an example

*Yiqi WANG and Dazhou Wang*

Pretrained language models as containers of the discursive knowledge

*Rafal Maciag* (on-line)

Research on Image Background base Algorithm based on Factor Space Theory †

*Pengxue Zhang and Xiaoyu Bi*

Design and Implementation of Aspect-based Sentiment Analysis Task

*Ningyi Zhang*

Research on Promotion Strategies for Social Robots

*Lingyu Xu*

The Language Essence of the World: A Linguistic Interpretation of the Large Language Model

*Leiming Shi and Peng Wu*

The Exploration of Scientific and Technological Innovation Quality Education Based on Artificial Intelligence

*Xiaoli Yang and Songbai Wang*

Smart Health and the Changes and Perseverance of Eastern Dietary Structure

*Liang Jia*

**16:00-18:00，Workshop “AI and People”**

**Chair:** Gordana Dodig-Crnkovic

**Venue:** Meeting Room 204 in EcM Building

The relationship between AI and People

*Yixin Zhong*

Integrating Large Language Models into Higher Education: Guidelines for Effective Implementation

*Karl de Fine Licht* (on-line)

Language Models for Everyone - Responsible and Transparent Development of Open Large Language Models

*Daniel Gillblad* (on-line)

How the GPT Realizes Leibniz's Dream and Passes the Turing Test Without Being Conscious †

*Gordana Dodig Crnkovic* (on-line)

Why Large Language Models cannot meet Artificial General Intelligence expectations. Three arguments

*Wolfgang Hofkirchner* (on-line)

Are Large Language Models Intelligent? Are Humans?

*Olle Häggström* (on-line)

The AI Betrayal of Social Emotions

*Pedro C. Marijuán, Plamen Simeonov and Jorge Navarro* (on-line)

General Theory of Information, Digital Genome, Large Language Models, and Medical Knowledge-Driven Digital Assistant

*W. Patrick Kelly , Francesco Coccaro and Rao Mikkilineni* (on-line)

**Panel Discussion**

***All Participants* (on-line)**

**9:00-10:30，Aug. 16 Artificial Intelligence Education Development Forum**

**Chairs:** Liqun Han and Zhicheng Chen

**Host: Xingguang Duan**

**Venue:** Conference Hall (Room 136) in Teacher Building #3

**Invited Speakers**

The strategic layout of artificial intelligence talents training in China

*Liqun Han*

The subject construction system of artificial intelligence in colleges and universities

*Wansen Wang*

From scenario to empowerment: thinking on the application of artificial intelligence technology and the cultivation of talents

*Xiaoming Chen*

Teaching practice of artificial intelligence in primary and middle schools

*Zhongguo Yuan*

**10:30-11:20， Aug. 16 CAAI Intelligent Innovation Cup Competition Award Ceremony**

**Chair:** Angsheng Li

**Host:** Jianghua Lv and Zhicheng Chen

**Venue:** Conference Hall (Room 136) in Teacher Building #3

**11:20-12:30，Aug. 16 Declaration**

**Chair:** Liqun Han

**Venue:** Conference Hall (Room 136) in Teacher Building #3

Yixin Zhong and Shu Tang: Releasing the Conference Declaration

**12:30-13:30，Aug. 16 Lunch**

**13:30-14:30，Aug. 16 Memoria for Mark Burgin**

**Chair: Gordana Dodig-Crnkovic (on-line)**

**Venue:** Meeting Room 202 in EcM Building

**14:30-15:30，Aug. 16 IAIS Inauguration**

**Chair: Yixin Zhong**

**Venue:** Meeting Room 202 in EcM Building **Speaker:** Perdo Marijuan

**15:30-15:45，Aug. 16 Coffee Break**

**15:45-17:00，Aug. 16 Administration**

**Chair: Yixin Zhong**

**Venue:** Meeting Room 202 in EcM Building