

iS4SI



北京邮电大学
Beijing University of Posts and Telecommunications

2023 INTERNATIONAL CONFERENCE ON THE STUDY OF INFORMATION

(ICSI'2023) HAND BOOK

AUGUST 14 - 16, 2023, BEIJING
PREPARATORY COMMITTEE FOR ICSI'2023

Schedule

For more detailed information, please see the section III

Date	Time	Content	Zoom ID	Location
8/13	all day	Check in		BUPT Jinjiang Hotel
	BJT : 19:00–20:00 (UTC: 11:00–12:00)	International Advisory Committee Meeting	986 1949 8901	Rm 202, EM Building
8/14	BJT : 09:00–12:00 (UTC: 01:00–04:00)	Opening Ceremony	929 2148 5337	Rm136, Teaching Building #3
		Keynote Speech		
		Round-table Discussion		
		Collective Group Photo		
	BJT : 13:30–15:00 (UTC: 05:30–07:00)	Information Philosophy (Invited Reports)	948 6644 1538	Rm213, EM Building
		Information Economy (Invited Reports)	965 8908 0429	Rm202, EM Building
	BJT : 15:30–18:30 (UTC: 07:30–10:30)	Forum on Information Philosophy (Group 1)	948 6644 1538	Rm213, EM Building
		Forum on Information Philosophy (Group 2)	986 2965 5783	Rm204, EM Building
		Forum on Information Economy & Information Philosophy (Group 3)	965 8908 0429	Rm202, EM Building
8/15	BJT : 09:00–10:30 (UTC: 01:00–02:30)	Information Science (Invited Reports)	937 8422 9250	Rm213, EM Building
		Information Society (Invited Reports)	941 2099 4560	Rm202, EM Building
	BJT : 10:50–12:30 (UTC: 02:50–04:30)	Forum on Information Science (Group 1)	937 8422 9250	Rm213, EM Building
		Forum on Information Society & Information Science (Group 2)	941 2099 4560	Rm202, EM Building
	BJT : 13:30–15:00 (UTC: 05:30–07:00)	Information Technology I (Invited Reports)	983 7909 4181	Rm202, EM Building
		Information Technology II(Invited Reports)	939 0396 1896	Rm213, EM Building
	BJT : 15:30–18:30 (UTC: 07:30–10:30)	Forum on Information Technology (Group 1) & Round Table: AI with Round Logarithms	983 7909 4181	Rm202, EM Building
		Forum on Information Technology (Group 2)	939 0396 1896	Rm213, EM Building
	BJT : 15:30–17:00 (UTC: 07:30–09:00)	Workshop on “AI and People”	912 9280 7732	Rm204, EM Building
8/16	BJT : 09:00–10:30 (UTC: 01:00–02:30)	Forum on AI Education Development	983 4659 1559	Rm136, Teaching Building #3
	BJT : 10:30–11:20 (UTC: 02:30–03:20)	CAAI Intelligent Innovation Cup Award Ceremony		
	BJT : 11:20–12:30 (UTC: 03:20–04:30)	Declaration Releasing		
	BJT : 13:30–14:30 (UTC: 05:30–06:30)	Memorial for Mark Burgin	935 3853 5810	Rm202, EM Building
	BJT : 14:30–15:30 (UTC: 06:30–07:30)	IAIS Inauguration		
	BJT : 16:00–17:30 (UTC: 08:00–09:30)	Administration		



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I Conference Introduction

2023 International Conference on the Study of Information (ICSI'2023) is one of the biannual conference series, which is sponsored by International Society for the Study of Information (IS4SI), organized by Beijing University of Posts and Telecommunications (BUPT), and supported by a great number of academic organizations in China. The conference will be held from August 14 to August 16.

As is understood, information is neither an isolated phenomenon, nor a dead resource. Rather, in most of the meaningful cases, it is a kind of ecological process produced by the interaction between subject and object, which exists almost everywhere and any-time in the world. Over the ecological information process, we can see the information about the things existed in reality; and then the knowledge is refined by subject from the information; under the guidance of the subject's goal and supported by the knowledge, the intelligent strategy and intelligent action (both are termed as intelligence) are generated for the subject to deal with the things in reality.

It is clear from the brief analysis above that intelligence is the highest level product of ecological information process and that AI is the high member of information discipline. It is also clear that without such ecological information process, the human beings as well as living beings would impossibly be alive.

Keeping this point of view in mind, there is another ecological chain existed in human life: (1) information philosophy (as high level of human thought) is summarized by human experts in information society, (2) the information philosophy will foster the information science, (3) based on information science, the information technology will be innovated, (4) information economy will be developed by the application of information technology, and (5) pushed by information economy, the information society will better be advanced.

All in all, the two kinds of information ecology mentioned above are so important to the human society and human beings that we must study it seriously and deeply.

The purpose of ICSI'2023 is to review the progresses achieved and problems encountered in the past two years around the world, exchange the experiences and successes, discuss the challenges and the possible solutions to the problems, and explore the innovative approaches to the future development in information discipline.

In view of the practical development in the past two years in the world, the problems caused by the AI products, ChatGPT and GPT-4 in particular, have become the hottest focus, among others, from almost all corners of the world. Many experts expressed very strong appreciation to the results presented by OpenAI while many others held also very strong criticism against it, forming a very sharp controversy.

In response to such a situation, the preparatory committee of the conference has set up the keynote address titled with "Paradigm Change in AI" as the thematic topic for the conference of ICSI'2023.

The conference program is consisted of six fora:

- Forum1: information philosophy***
- Forum 2: information science (including intelligence science)***
- Forum 3: information technology (including artificial intelligence)***
- Forum 4: information economy***
- Forum 5: information society***
- Forum 6: AI education and development***

Welcome to join us for the important discussions.



II Organizations of ICSI'2023

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

Organizer: Beijing University of Posts and Telecommunications (BUPT)

Supporters: AI Foundation Committee, CAAI

AI & Robot Committee, China Society on Educational Development Strategy

Beijing International Science and Technology Exchange Center

Beijing EO Wang Meng Technology Co., Ltd

China Institute of Digital Information Technology

National Supercomputing Center in Wuxi

School of Mathematical Sciences, Peking University

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

Intelligent Information Processing Laboratory of Chinese Academy of Sciences

Research & Educational Center for the Control Engineering of Translational
Precision Medicine, Dalian University of Technology

School of Economics & Management, Chongqing University of Posts and Telecommunications

Institute of State Governance, Huazhong University of Science and Technology

Academy of the Engineering and Technology for Developing World

International Advisory Board

Chair: Terrence Deacon

Co-Chair: Marcin Schroeder

Members: All Board Members of IS4SI

Conference Chair: Yixin Zhong

Co-Chair: Pedro Marijuan

Program Committee

Chair: Zhongzhi Shi

Co-Chair: Wolfgang Hofkirchner

Members: Huacan He, Peizhuang Wang, Kun Wu, Jinwen Ma, Guangwen Yang,
Xiaoyu Wan, Kang Ouyang, Changkai Sun, Zhicheng Chen

Organizing Committee

Chair: Liqun Han

Co-Chair: Gordana Dodig-Crnkovic

Members: Yong Liu, Yue Du, Jianxin Lu, Ting Xu, Shiguang Zhang, Dingtao Wang,
Shengxin Jin, Chuanxing Huang, Qiang Wang, Kaixin Huang

Secretary Team:

Chair: Zhicheng Chen

Co-Chair: Annette Grathoff

Member: Ruifan Li, Shu Tang

III Conference Program

Day 0

BJT : 19:00-20:00 (UTC: 11:00-12:00), Aug 13
International Advisory Committee Meeting

Chair: T. Deacon

Co-Chair: M. Schroeder

Members: Board Members of IS4SI

Venue: Rm 202, EM Building. Zoom ID: 986 1949 8901

Day 1

BJT : 09:00-09:30 (UTC: 01:00-01:30), Aug 14
Opening Ceremony

BJT : 09:30-10:20 (UTC: 01:30-02:20), Aug 14
Keynote Speech

Chair: Zhongzhi Shi

Venue: Rm 136, Teaching Building #3. Zoom ID: 929 2148 5337

Title: Paradigm Change in AI

Speaker: Yixin Zhong

BJT : 10:20-10:50 (UTC: 02:20-02:50), Aug 14, Coffee Break

BJT : 10:50-12:00 (UTC: 02:50-04:00), Aug 14
Round-table Discussion, Collective Group Photo

Chair: Yixin Zhong

Venue: Rm 136, Teaching Building #. Zoom ID: 929 2148 5337

Speakers: (alphabetic order of Last Name)

Steve Fuller (Professor, Warwick University),

Huacan He (Professor, Northwest Poly-technical University),

Yee Cheong Lee (President of AETDEW)

Ya Liu (Professor, News Center of China National Space Administration)

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

Peizhuang Wang (Professor, Liaoning Technical University)

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

Peifang Yang (Former President, China Information Economics Society)

BJT : 12:00-13:30 (UTC: 04:00-05:30), Aug 14, Lunch

BJT : 13:30-15:00 (UTC: 05:30-05:30), Aug 14
Forum on Information Philosophy (Invited Reports)

Chair: Kun Wu

Venue: Rm 213, EM Building. Zoom ID: 948 6644 1538

Invited Speakers

[01] Techno-social Systems – a Value-based Model for Digitalization

Wolfgang Hofkirchner

[02] On Middles and Thirds

Joseph E. Brenner, Zhensong Wang (on-line)

[03] Methodology of Information Study

Marcin J. Schroeder (on-line)

[04] Take Your Time! -- Smart Systems in the Digital Age

Rafael Capurro (on-line)

[05] The Information Paradigm, Spanning All Levels of Human Knowledge

Kun Wu

[06] A Receptive Relation Understanding of Information Paradigm Change

Tian'en Wang

BJT : 13:30-15:00 (UTC: 05:30-05:30), Aug 14
Forum on Information Economy (Invited Reports)
& Information Philosophy

Chair: Xiaoyu Wan

Venue: Rm 202, EM Building. Zoom ID: 965 8908 0429

Invited Speakers

[01] Developing Information Intelligent Economy and Building a Middle Class Inclusive Society

Peifang Yang

[02] Transformation from Information Economy to Digital Economy

Tingjie Lv

Paper Presentations

[01] Analysis of Enticement Detection by Information Technology

Baiyang Jia

[02] The Study on Philosophy of Information Science from the Dimension of Culture

Zhensong Wang

[03] From the Buddhist Transcendental Epistemology to View the Limitations of AI and a Recognition of Ontology

Xiaoyong Wang and Junbo Xu

[04] Systematism — The Evolution from Holistic Cognition to Systematic Understanding

Hongjian Yuan and Yaru Chen

BJT : 15:00-15:30 (UTC: 07:00-07:30), Aug 14, Coffee Break

BJT : 15:30-18:30 (UTC: 07:30-10:30), Aug 14

Forum on Information Philosophy (Group 1)

Chair: Kun Wu

Venue: Rm 213, EM Building . Zoom ID: 948 6644 1538

Paper Presentations

[01] How Much Rationality is Needed for Decision Making? -Presentation in the Context of the Project Evolution of Information Processing Systems

Annette Grathoff

[02] Philosophy of Information at the Crossroads? Branching Towards a Different Paradigm

John Holgate

[03] Influence and Philosophical Reflection on ChatGPT in the Media Industry

Beibei Wang, Qinglan Wei and Yufan Xia

[04] Philosophical Reflection on Digital Labor Promoting High-quality Economic Development

Yage Liu

[05] The Hermeneutics of Artificial Text

Rafal Maciag (on-line)

[06] The Integrality of Qi Ontology from the Perspective of System Theory: Wang Fu zhi's Qi Theory

Ruiyuan Zhang and Tianqi Wu

[07] Memory: A Breakthrough Point in the Construction of Ethical Identity for Social Robots

Ruofan Li, Zhaolong Peng and Dazhou Wang

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

Dazhou Wang

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

Zhiku Feng and Jing Liu

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

Zhipeng Zhang

[11] From Information Extraction to Remaining Data -- The Production Mystery of Digital Capitalism

Jingzhuang Bi

[12] The Construction Path of Machine Consciousness and Its Limitation

Liang Wang and Ziyi Ma

[13] Analyzing the Existence of Mathematics from the Perspective of Information Philosophy

Yanzhang Qu and Tianqi Wu

[14] Classification of Music Space from the Perspective of Information Philosophy

Shan Zhang

[15] On the Objective Reality of Information

Zhikang Wang

[16] The Path of Information Philosophy to Solve the Defect of Einstein's Integration of Space-time

Wei He

BJT : 15:30-18:30 (UTC: 07:30-10:30), Aug 14

Forum on Information Philosophy (Group 2)

Chair: Zongrong Li

Venue: Rm 204, EM Building. Zoom ID: 986 2965 5783

Paper Presentations

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

Lin Xia, Qikai Zhong, Zhiqin Zhang and Zongrong Li

[02] On the Unilateralism of Physicalism and the Universality of Informationism

Mingyi Chen and Zongrong Li

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

Lamei Chen, Lin Xia and Zongrong Li

[04] Information Phenomenology: An Informational Interpretation of Husserl's Phenomenology

Xia Wang, Lamei Chen and Zongrong Li

[05] Cross-cultural Challenges to Artificial Intelligence Ethics

Yufei Liu

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

Yuanyuan Tian and Duhao Chen

[07] New Interpretation of Chinese Calligraphy Art Image by Information Epistemology

Yangyuer Qian

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

Zheng Wu

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

Duhao Chen and Yuanyuan Tian

[10] Research on the Uncertainty of Music Information

Xiaolong Yang

[11] New Research on the Ontology of Philosophy of Information

Tianqi Wu and Yifan Zhao

[12] A Reflection on the Body Philosophy of "Digital Survival"

Jing Wu

[13] Regarding Big Data through the Lens of The Philosophy of Information

Yuan Ma (on-line)

[14] 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

BJT : 15:30-18:30 (UTC: 07:30-10:30), Aug 14

**Forum on Information Economy
& Information Philosophy (Group3)**

Chair: Xiaoyu Wan

Venue: Rm 202, EM Building. Zoom ID: 965 8908 0429

Paper Presentations

[01] Notes on the Cross-Level Game

Yu Chen (on-line)

[02] The Information Philosophy Implication of Yin-Yang

Huimin Zhang

[03] A New Theoretical Interpretation of the Construction of Ideological Discourse Right from the Perspective of Information Philosophy

Chenya Zhang (on-line)

[04] On the Four Information Control Systems of the Human Body

Bocong Li and Nan Wang

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

Ximeng Chen

[06] Mobile Phone Captives and Their Self-redemption

Jing Jing and Yaoguo Ma (on-line)

[07] The Convergence of Information Science and Information Philosophy Driven by the Information Revolution

Liang Wang and Shengrui Wang

[08] Reflections on Economics: From the Perspective of Philosophy of Information

Hanchen Li and Tianqi Wu

[09] The Realistic Possibility of Community: the Encounter between Postmodern Philosophy and the Information Society

Zhipeng Bai (on-line)

[10] Meditation of Modern Newspapers from the Perspective of Information

Haijia Zhang

[11] Reflections on Human Subjectivity in the Information Society from the Body Philosophy

Wenjing Yuan

[12] A Detailed Exploration of Information Philosophy in Heng qu Yi Shuo

Meng Huang

[13] Marx's thought of Human Essence and Its Realistic Significance under the Perspective of Artificial Intelligence

Youqiang Wang, Xuan Kang and Jiayue Xiong

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

Haisha Zhang

[15] Temporality of Subjective Information

Yaru Chen and Kun Wu

Day 2

BJT : 09:00-10:30 (UTC: 01:00-02:30), Aug 15

Forum on Information Science (Invited Reports)

Chair: Zhongzhi Shi

Venue: Rm 213, EM Building. Zoom ID: 937 8422 9250

Invited Speakers

[01] Bridging AI Paradigms with Cases and Networks

David Leake (on-line)

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

Ben Goertzel

[03] The Future of AI. Protecting Humans

Eunika Mercier-Laurent (on-line)

[04] Informational Granules in Interactive Granular Computing

Andrzej Skowron (on-line)

[05] Information and Communication Paradigm Change – Lightweight Communication

Xiangming Wen

[06] The High-end Development of Information Science——Intelligence

Zhongzhi Shi

BJT : 09:00-10:30 (UTC: 01:00-02:30), Aug 15

Forum on Information Society (Invited Reports)

Chair: Kang Ouyang

Venue: Rm 202, EM Building. Zoom ID: 941 2099 4560

Invited Speakers

[01] A World Information Strategy for the Future

Steve Fuller

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

Roopinder Oberoi (on-line)

[03] Contemporary Topics of Big Data, Social Complexity and Social Epistemology

Kang Ouyang

[04] The Evolution and Governance of An Intelligent Society

Hengjin Cai

[05] Intelligent Railway System Integrating "Physics Information Society"

Qingyong Li

BJT : 10:30-10:50 (UTC: 02:30-02:50), Aug 15, Coffee Break

BJT : 10:50-12:30 (UTC: 02:50-04:30), Aug 15

Forum on Information Science (Group 1)

Chair: Zhongzhi Shi

Venue: Rm 213, EM Building. Zoom ID: 937 8422 9250

Papers Presentation

[01] Research on Streamlined Causal Tree Algorithm Based on Factor Space Theory

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

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

Chenguang Lu (on-line)

[03] Factor's Space and Intelligent Incubation Project of Unified Intelligence Theory

Pei-Zhuang Wang (on-line)

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

Jing Zhao and Yanke Bao

[05] 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

[06] 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

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

Slam Nady, Xian Li and Bojie Feng

[08] Similarities, Differences, and Limitations of Humans and AI Behavior

Haisha Zhang

[09] On the Physics Paradigm of Communication Engineering and the Informatics Paradigm of Dissemination Science

Aijing Tian, Caihong Zhou, Kexiang Guo and Zongrong Li

[10] A New Background Basis Extraction Algorithm under Factor Space Theory

Xiaoyu Bi and Yuxin Wang

BJT : 10:50-12:30 (UTC: 02:50-04:30), Aug 15

Forum on Information Society
& Information Science (Group 2)

Chair: Kang Ouyang

Venue: Rm 202, EM Building. Zoom ID: 941 2099 4560

Papers Presentation

- [01] The Certainty, Influence, and Multi-dimensional Defense of Digital Socialist Ideology
Jian Zheng, Lili Qiu (on-line)
- [02] An Investigation on the Calligraphy Culture of the Stone Plaques of Cao Wei Tomb in Xizhu Village, Luoyang
Xin Chen
- [03] Comparison and Analysis of the Characteristics of Natural Information and Social Information
Zongrong Li, Yiqiong Zhang and Aijing Tian
- [04] 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
- [05] Special Experience, Art Space, Private Field: Limitations of Artificial Intelligence in Painting
Lu Wang
- [06] Study on the Application of Virtual Reality Technology in Cross-Border Higher Education
Yanfang Hou
- [07] Seeing like Human: the Embodied Development of Active Vision in AGI system
Kai Liu and Changxin Sun
- [08] Information Reflection Theory Based on Information Theories, Analog Symbolism, and the Generalized Relativity Principle
Chenguang Lu (on-line)
- [09] Some Viewpoints on the Basic Theory of Information Science
Hailong Ji
- [10] The ways of the transition between phase layers
Chuan Zhao

BJT : 12:30-13:30 (UTC: 04:30-05:30), Aug 15, Lunch

BJT : 13:30-15:00 (UTC: 05:30-07:00), Aug 15

Forum on Information Technology I (Invited Reports)

Chair: Guangwen Yang

Venue: Rm 202, EM Building. Zoom ID: 983 7909 4181

Invited Speakers

- [01] Reconfigurable Computing in Information Science
Wayne Luk
- [02] Geoscience Application Based on Supercomputers
Haohuan Fu
- [03] Chanllenge and Opportunity for Intelligent Computing
Wenlai Zhao
- [04] Colossal-AI: Scaling Large AI Models on Distributed Systems and Supercomputers
You Yang

BJT : 13:30-15:00 (UTC: 05:30-07:00), Aug 15

Forum on Information Technology II (Invited Reports)

Chair: Zhicheng Chen

Venue: Rm 213, EM Building. Zoom ID: 939 0396 1896

Invited Speakers

- [01] Art and Mathematics
Mihir Kumar Chakraborty
- [02] New Concept of Information Science
Huacan He
- [03] From rhBNN-rhBNN+-iANN Studies to Development of a QiGeN Model and a Heanlthcare Humain System
Changkai Sun
- [04] An Important Application of Reconfigurable Multivalued Logic Operators: Configurable Encryption Technology
Yi Jin
- [05] Revolutionizing Development: The New Engine Powering AIGC and Industries Together
Bin Wang

BJT : 15:00-15:30 (UTC: 07:00-07:30), Aug 15, Coffee Break

BJT : 15:30-18:30 (UTC: 07:30-10:30), Aug 15

Forum on Information Technology (Group 1)

Chair: Guangwen Yang

Venue: Rm 202, EM Building. Zoom ID: 983 7909 4181

(15:30-16:10) Papers Presentation

[01] The True Information Processor and the True Information Processor Technology

Chen Wang

[02] Linear Programming Processivity and Structural Optimisation of Intelligent Systems

Yang Yang, Sicong Guo, Jianwei Guo and Shenling Li

(16:30-18:30) Round Table: Artificial Intelligence with Round Logarithms

Chair: Yiping Wang

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

Yiping Wang, Siqi Li and Huacan He

[02] Universal Logic Expression and Application of Conditional Probability

Huacan He and Yiping Wang

[03] The Proof and Decryption of Goldbach Conjecture

Linfu Ge

[Memo] Round Logarithms Team Seminar after Papers Presentation

BJT : 15:30-18:30 (UTC: 07:30-10:30), Aug 15

Forum on Information Technology (Group 2)

Chair: Zhicheng Chen

Venue: Rm 213, EM Building. Zoom ID: 939 0396 1896

Papers Presentation

[01] Pretrained Language Models as Containers of the Discursive Knowledge

Rafal Maciag (on-line)

[02] 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

[03] 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

[04] On Informatics Approaches to Overcoming Natural Science Crisis

Zhilan Cao, Aijing Tian, Zhongyan Li and Zongrong Li

[05] Architecture Design and Application of Compound Robot Control System with Movement-process Collaboration

Le Xiao, Qiang Li and Zhicheng Chen

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

Yiqi WANG and Dazhou Wang

[07] Research on Promotion Strategies for Social Robots

Lingyu Xu

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

Leiming Shi and Peng Wu

[09] The Exploration of Scientific and Technological Innovation Quality Education based on Artificial Intelligence

Xiaoli Yang and Songbai Wang

[10] Smart Health and the Changes and Perseverance of Eastern Dietary Structure

Liang Jia

[11] Research on Image Background base Algorithm based on Factor Space Theory †

Pengxue Zhang and Xiaoyu Bi

[12] Design and Implementation of Aspect-based Sentiment Analysis Task

Ningyi Zhang

BJT : 15:30-17:00 (UTC: 07:30-09:00), Aug 15

Workshop on “AI and People”

Chair: Gordana Dodig-Crnkovic

Venue: Rm 204, EM Building. Zoom ID: 912 9280 7732

Papers Presentation

[01] The Relationship between AI and People

Yixin Zhong

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

Karl de Fine Licht (on-line)

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

Daniel Gillblad (on-line)

[04] How the GPT Realizes Leibniz's Dream and Passes the Turing Test Without Being Conscious

Gordana Dodig Crnkovic (on-line)

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

Wolfgang Hofkirchner (on-line)

[06] Are Large Language Models Intelligent? Are Humans?

Olle Häggström (on-line)

[07] The AI Betrayal of Social Emotions

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

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

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

[09] Panel Discussion

All Participants (on-line)

Day 3

BJT : 9:00-10:30 (UTC: 01:00-02:30), Aug 16

Forum on AI Education Development

Chairs: Liqun Han and Zhicheng Chen

Host: Xingguang Duan

Venue: Rm 136, Teaching Building #3. Zoom ID: 983 4659 1559

Invited Speakers

[01] The Strategic Layout of Artificial Intelligence Talents Training in China

Liqun Han

[02] The Subject Construction System of Artificial Intelligence in Colleges and Universities

Wansen Wang

[03] From Scenario to Empowerment: Thinking on the Application of Artificial Intelligence Technology and the Cultivation of Talents

Xiaoming Chen

[04] Teaching Practice of Artificial Intelligence in Primary and Middle Schools

Zhongguo Yuan

BJT : 10:30-11:20 (UTC: 02:30-03:20), Aug 16

CAAI Intelligent Innovation Cup Award Ceremony

Chair: Angsheng Li

Host: Jianghua Lv and Zhicheng Chen

Venue: Rm 136, Teaching Building #3. Zoom ID: 983 4659 1559

BJT : 11:20-12:30 (UTC: 03:20-04:30), Aug 16

Declaration Releasing

Chair: Liqun Han

Venue: Rm 136, Teaching Building #3

Speakers: Yixin Zhong and Shu Tang. Zoom ID: 983 4659 1559

BJT : 12:30-13:30 (UTC: 04:30-05:30), Aug 16, Lunch

BJT : 13:30-14:30 (UTC: 05:30-06:30), Aug 16

Memorial for Mark Burgin

Chair: Gordana Dodig-Crnkovic (on-line)

Venue: Rm. 202, EM Building. Zoom ID: 935 3853 5810

BJT : 14:30-15:30 (UTC: 06:30-07:30), Aug 16

IAIS Inauguration

Chair: Yixin Zhong

Venue: Rm 202, EM Building. Zoom ID: 935 3853 5810

Speaker: Perdo Marijuan

BJT : 15:30-16:00 (UTC: 07:30-08:00), Aug 16, Coffee Break

BJT : 16:00-17:30 (UTC: 08:00-09:30), Aug 16

Administration

Chair: Yixin Zhong

Venue: Rm 202, EM Building. Zoom ID: 935 3853 5810

IV Experts & Guests

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Zhicheng Chen
Board Member of IS4SI (PRC)



Ji Yi Yan
Specially Invited Committee
Members(PRC)

Opening Speech, Keynote Speech, Round Table Guests



Pedro C. Marijuán
Co President of IS4SI,
Spanish Bioinformatics



zShahbaz Khan
Director and Representative of the
UNESCO East Asian Multinational
(Regional) Office



Dato Lee Yee Ceong
Former President of the World
Federation of Engineering Organizations



Yixin Zhong
Professor of BUPT,
Fellow of AETDEW (Academy of
Engineering and Technology of the
Developing World)



Zhongzhi Shi
Researcher, Institute of Computing
Technology, Chinese Academy of Sciences.
Former Vice President of CAAI



Steve Fuller
Professor of Warwick University, UK
Fellow of the British Academy of
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Ya Liu
Party Secretary and Professor of
News Center of China National
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Huacan He
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Former Vice President of CAAI



Kun Wu
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Vice President of the International
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Peifang Yang
Professor, Former President of China
Information Economics Society



Kang Ouyang
Professor of Institute of State
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Information Philosophy Forum



Kun Wu

Professor of International Research
Centre for Information Philosophy,
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Technology, Chinese Academy of Sciences.
Former Vice President of CAAI



David B. Leake

Professor, School of Information,
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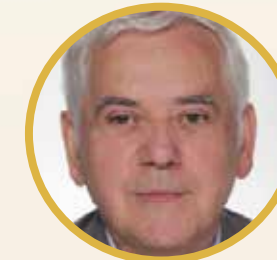
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Founder of the Singularity
Intelligence Foundation in the United
States, proposer and leader of AGI



Eunika Mercier-Laurent

President of the IFIP Artificial
Intelligence Society at the University
of Aden Reims, Champaign, France



Andrzej Skowron

Famous academic leader of
information granularity computing at
University of Warsaw, Poland



Xiangming Wen

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Beijing University of Posts and
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Information Economy Forum



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Professor of Imperial College London, Academician of the Royal Academy of Engineering



Haohuan Fu

Professor of Tsinghua University, Vice Director of National Supercomputing Center in Wuxi



Wenlai Zhao

Assistant Researcher, Department of Computer Science and Technology, Tsinghua University



Yang You

Professor of National University of Singapore, whose team broke the ImageNet training speed world record in 2017



Bin Wang

Co founder and CEO of Beijing EO Wang Meng Technology Co., Ltd

AI Education and Development Forum



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Professor of Beijing Institute of Technology, State Council degree and graduate Educational assessment expert



Liqun Han

Professor of Beijing Technology and Business University, Fellow of AETDEW (Academy of Engineering and Technology of the Developing World)



Wansen Wang

Professor of Computer College of Capital Normal University, Former General Secretary of CAAI



Xiaoming Chen

Director of the Mechanical Industry Education Development Center, Vice President of the Chinese Society for Technical and Vocational Education



Zhongguo Yuan

Senior Teacher, The High School Affiliated to Renmin University of China, Beijing Special-grade Teacher

Information Technology Forum II



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Professor of Malardalen University, Famous Information Processing Expert (SE)



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Professor, Department of Mathematics, University of Calcutta (IND)



Changkai Sun

Professor, Research & Education Center for the Control Engineering of Translational Precision Medicine, Dalian University of Technology



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Professor, School of Computer Science, Shanghai University, Founder of Optical Computing Center



Yiping Wang

Famous Scholar of Zhejiang Quzhou Association of Elderly Science and Technology Workers, Founder of Mathematical Theory for "Round Logarithms"



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Associate Professor, Beijing University of Posts and Telecommunications, Secretariat Member of ICSI'2023



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Zhanao Xue

Professor, Henan Normal University, Vice Director of CAAI Foundation Committee, Vice Secretary of the Competition, National Model Teacher and Professor



Shu Tang

Executing Secretary, Office Director of the Competition, Secretariat Member of ICSI'2023

Awarding Guests of CAAI "Intelligent innovation Cup" Competition

V Related Information

Declaration on Paradigm Revolution in AI

International Conference on the Study of Information

August 14-16, 2023 in Beijing

The 6th International Conference on the Study of Information was held Aug. 14-16, 2023 in Beijing. After discussions, systematically new and greatly significant findings on “paradigm revolution in AI” are stressed and worth to be shared to the public.

Part I New Findings and New Theories on Scientific Research

1. The Secret on the Origin of Science and Technology (S&T)

Neither science nor technology existed in the early primitive time. Throughout the practice of evolution, humans realized that their own abilities were not sufficient for achieving the success in living and development. Then they gradually discovered a way to strengthen human abilities, that is to make tools by utilizing the resources from the outside world. The general idea for making tools became the origin of primitive science and the skills became the origin of primitive technology. Assisting humans in expanding their abilities -- this is the secret of the origin for S&T to emerge.

2. The Secret on the Advance Path Map of S&T

There have been four categories of human ability to expand -- constitution ability, physique ability, information ability and intellectual ability, from relatively simple to relatively complex. The order for human ability expansion determines the path of S&T advancing:

-- Material S&T has been developed to strengthen human constitution ability since the agricultural era, or even earlier;

-- Energy S&T to strengthen human physique ability since the industrial era;

-- Information S&T to strengthen human information ability since the information era;

-- Intelligence S&T to strengthen human intelligence ability since the intelligence era.

Material S&T and energy S&T are termed physical discipline while information S&T and intelligence S&T are the information discipline. Meeting the needs of human ability expansion -- this is the secret for S&T to advance.

3. The Intelligence Era is Coming

The intelligence ability is resulted from complex integration and upgrading of all kinds of information ability. Information S&T has experienced great development since World War II. Yet, the explosive development of artificial intelligence, AI in brief, and its huge implications to human society have been evidenced since 2010s. This marks clearly that the world is entering into the intelligence era.

4. Paradigm Change: The Insuperable Law for Emerging Discipline

4.1, Paradigm for a scientific discipline is defined as the scientific worldview and the associated methodology for the discipline, which is the supreme force for leading and regulating the advancement of the discipline.

4.2, According to 4.1, different scientific disciplines should have different paradigm.

4.3, The paradigm can merely be refined from the activities of the discipline. Yet, this is an extremely difficult task and may take a very long period of time. The latter of which is termed the time for paradigm formation, TPF for short.

4.4, Within TPF, emerging scientific discipline will have its own paradigm unavailable. The research activity within this period of time will have to borrow a paradigm from other disciplines.

4.5, The emerging scientific discipline within its TPF will be at a low level of advancement because the borrowed paradigm is not matched with the discipline.

4.6, The solution able to make the discipline walk out of the low-level advancement stage is to summarize its own paradigm and to replace the borrowed paradigm with its own. This process is called “paradigm revolution”.

Part II Applying the General Theory to AI Research

5. Paradigm for Physical Discipline (PPD)

5.1 The physical discipline has been more than 400 years old and has successfully refined its own paradigm already, called the paradigm for physical discipline.

5.2 The scientific worldview of PPD declares “What the physical discipline studies must merely be objective matters and no subjective factors are allowed”.

5.3 The methodology requests that the studies carried on in physical discipline observe the principles of “pure formalization” (castrating the value and meaning factors) and “divide and conquer” (dismembering the system into pieces).

6. AI is an Emerging Discipline

6.1, Born in the mid-20th century, AI is essentially a kind of open and complex information system. According to 4.2, AI should follow the paradigm for information discipline, PID in brief.

6.2, Due to its high complexity, AI is still within the period of its TPF (see point 4.3). This means that the PID is still unavailable till the present day.

6.3, According to 4.4, AI has borrowed PPD to follow in practice, which is not matched with the needs of AI research though.

6.4, As a result, the advancement in AI is at a lower level: (1) AI has been dismembered into three pieces (Structuralism, Functionalism, Behaviorism) and thus no unified AI theory, (2) The value and meaning factors of information have all been castrated and thus no true intelligence can be produced. These are the major problems in AI, including the GPT series.

6.5, As mentioned in 4.5, the right solution for walking out of the lower level of AI advancement is to summarize PID and then replace PPD with PID. This is the so-called “Paradigm Revolution in AI”.

7. Paradigm for Information Discipline (PID)

7.1, As stated in 4.1, the paradigm for information discipline is defined as the integration of scientific worldview and the associated methodology dedicated to the information discipline. PID can be summarized as follows.

7.2, The scientific worldview of PID declares “What AI studies is the information ecology process generated by the interaction between subjects and the objects under the control of subjects and the constraints from objects in environment”.

7.3, The methodology of PID requests that the studies carried out in AI observe the principles of the information ecology process without dismemberment and castration.

8. Paradigm Change: The Establishment of General AI Theory Completed

8.1, Giving-up PPD, forbidding castration and dismemberment, PID wipes out all the major problems in AI caused by borrowing PPD and reveals the universal mechanism of producing intelligence -- the “Law of Information Conversion and Intelligence Creation” with which all rational problems in practice can intelligently be solved.

8.2 Much more importantly, the “law of information conversion and intelligence creation”, together with the “law of matter conversion and matter inextinguishable”, and the “law of energy conversion and energy conservation”, form the completed system for contemporary science.

8.3 Based on the universal mechanism of producing intelligence, the establishments of Universal Theory for Artificial Intelligence with understanding ability, Universal Logic Theory and Factor Space Theory have all been completed.

9. The Harmonious Relationship between PID and PPD in AI System

9.1, PID should be followed within the entire information ecology process in AI.

9.2, PPD should be followed with respect to the supporting systems of AI, which are material system and energy system.

9.3, PID and PPD can achieve the unity of opposites in AI system within which PID is for the mainstream of AI system whereas PPD is for supporting to the mainstream.

Part III Conclusions

10. Paradigm Change: The Significant Regulations in AI Research

10.1, Paradigm for a scientific discipline is the indispensable guidance in the scientific research.

10.2, In order to recognize the paradigm, the breaking out the boundary that separates natural science from philosophy is necessary.

10.3, When the research area is expanded from objective entities to involve subjective factors, thrn the paradigm must be changed from PPD to PID -- this is the demand from the era advancement.

10.4, Paradigm Revolution has been the criterion for testing if the AI research can be successful or not.



University Profile

About BUPT

Beijing University of Posts and Telecommunications (BUPT) is directly administered by the Ministry of Education (MOE) and co-built by the Ministry of Industry and Information Technology(MIIT). It is one of the first "Project 211" universities, and is a member of "Project 985 Innovation Platform for Superior Discipline". BUPT is a multidisciplinary and research-oriented university which focuses on engineering and sciences, values the coordinated development of management, humanities and sciences, and has special strength in information technology. It has become an important training base for advanced IT talents in China

After over six decades of development, BUPT has gained a strong academic reputation in information technology as well as an edge in disciplines related to IT. Two disciplines of BUPT, namely "Information and Communication Engineering" and "Computer Science and Technology" were included in China's "double first-class" discipline development initiative. According to results released by the Ministry of Education in the Fourth Round National Evaluation of Disciplinary Development in Universities, BUPT's "Information and Communication Engineering(ICE)", "Computer Science and Technology" and "Electronic Science and Technology" were rated as A Class or above, and ICE was rated as A+ Class. According to the 2020 US News Global University Rankings by Subject, BUPT is ranked 19th in Electrical and Electronic Engineering and 23rd in Computer Science in the world. Computer science field ranked top 1‰ in ESI.

BUPT is located in Beijing, with the existing Haidian Campus and Changping Campus. There are more than 27,000 full-time undergraduate, master's and doctoral students. International students study and live on the main campus-Haidian Campus. International students currently enrolled come from more than 50 countries.

BUPT has established exchanges and cooperative relationships with more than 200 renowned universities, research institutes and famous enterprises in China and abroad. It has joined the Alliance of China Thailand Universities, and has carried out in-depth cooperation with international organizations with industry-specific, such as the Asia Pacific Telecommunity (APT) and the International Telecommunication Union (ITU). The university actively hosts high-level international conferences and continuously strengthens exchanges and cooperation with world-class universities. The Confucius Institutes were established in cooperation with the University of the South Pacific in Fiji and Queen Mary University of London in the UK, and were awarded the honorary titles of "Global Model Confucius Institute" and "Advanced Confucius Classroom". The International School of BUPT and Queen Mary Hainan School of BUPT were jointly established with Queen Mary University of London, accumulating valuable experience for the development of Sino-foreign cooperation in running schools.



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Recent Monograph Information:

- [1] Yixin Zhong, 《General Theory of AI》 · Beijing: Science Press, 2023
- [2] Huacan He, 《Logic Foundation for General Theory of AI》, Beijing: Science Press, 2023
- [3] Peizhuang Wang, 《Mathematical Foundation for General Theory of AI》, Beijing: Science Press, 2023
- [4] Yixin Zhong, 《Mechanism-based AI Theory》, Beijing: BUPT Press, 2021
- [5] Huacan He, 《Propositionally Universal Logic and Soft Neuron》, Beijing: BUPT Press, 2021
- [6] Peizhuang Wang, 《Factor Space Theory and AI》, Beijing: BUPT Press, 2021
- [7] Liqun Han, 《Brain-like Models and Applications》, Beijing: BUPT Press, 2021

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Beijing West Railway Station,
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Beijing Chaoyang Railway Station,
Beijing Fengtai Railway Station.

All the above stations have taxis, subways, and buses available for taking to BUPT.

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