



# ISAIMS <sup>5</sup><sub>th</sub> 2024

The 5<sup>th</sup> International Symposium on  
Artificial Intelligence for Medical Sciences

## Conference Guide

Organizers  UNIVERSITY AMSTERDAM  NEXUS PRESS  武汉科技大学  
WUHAN UNIVERSITY OF SCIENCE AND TECHNOLOGY



August 13-17, 2024 | Amsterdam · Netherlands



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# INTRODUCTION

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The emergence of artificial intelligence (AI) in healthcare has been groundbreaking, reshaping the way we diagnose, treat and monitor patients. This technology is drastically improving healthcare research and outcomes by producing more accurate diagnoses and enabling more personalized treatments.

2024 5<sup>th</sup> International Symposium on Artificial Intelligence for Medical Sciences (ISAIMS 2024) will take place in two prestigious venues: Amsterdam (Netherlands) and Wuhan (China). The Amsterdam session is scheduled to occur from August 13 to August 17, 2024, the Wuhan session will be held on October 25-27, 2024. ISAIMS is an annual conference that has been held successfully for four years and attracted more than 600 scholars and experts. The mainly covers topics on Frontier technologies of AI, biometrics, intelligent medical robots, intelligent image recognition, intelligent diagnosis and treatment, medical artificial intelligence in the post-epidemic era, etc.

We extend our heartfelt gratitude for your participation and support of ISAIMS 2024. We believe that this symposium will offer an invaluable platform for networking, knowledge exchange, and the promotion of innovative ideas in the realm of intelligent manufacturing. We eagerly anticipate your contributions and hope that you find the discussions to be both enriching and inspiring.

And two co-located workshops will be held during the conference.

*2024 International Workshop on Mental Health, AI, and Treehole Rescue*

*2024 Sino-Dutch Workshop on Smart City*

Sponsor:      Vrije Universiteit Amsterdam  
                    Wuhan University of Science and Technology  
                    Nexus Press

Co-organizer:  
                    Academic Exchange Information Center (AEIC)  
                    JAIMS Editorial Office  
                    Triply B.V.  
                    Ztone International B.V.  
                    Haoxingqing Institute of AI Research

# WORKSHOP INTRODUCTION

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## Workshop background

The 2024 Sino-Dutch Workshop on Smart City will be held on August 13-18 in the Computer Department Building of the Vrije University Amsterdam (Theater 7, De Boelelaan 1111, Amsterdam). The theme of this workshop is "New Quality Cities with Digitalization and Artificial Intelligence".

Represented by big data, artificial intelligence, a new round of intelligent science and technology revolution and industrial change is accelerating traditional industry transformation, emerging industry development and future industry rise, especially general artificial intelligence is driving application scenarios fusion, business model continuous reconstruction and governance mode innovation iteration, provide new wisdom city development new kinetic energy. Exploring how to use generative artificial intelligence technology to build a new smart city with new quality and productivity as the driving force has become a topic of high concern between China and the Netherlands. The workshop together the two countries the innovation in the field of wisdom city and entrepreneurs, experts and scholars, around the general artificial intelligence in the field of transportation, health, environment and other innovation research and application, discusses how to support urban intelligent infrastructure construction and application in urban planning and construction and operation management, make recommendations for the new wisdom city construction development, promote the development of urban high quality. At the same time, further promote exchanges and cooperation between China and Dutch smart city technologies and industries.

## Institutional framework

Sponsor: Beijing University of Technology  
Vrije University Amsterdam  
Z-Park Strategic Alliance of Smart City Industry Technology Innovation  
Nexus Press

Co-organizer:  
Triply B.V.  
Ztone International B.V.  
Haoxinqing Institute of AI Research  
Deepblue Academy of Sciences

# COMMITTEE

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## Conference Chair

Frank van Harmelen, Free University (VU), Amsterdam, The Netherlands

Zhisheng Huang, Free University (VU), Amsterdam, The Netherlands, Journal of Artificial Intelligence for Medical Sciences

Xingpeng Jiang, Central China Normal University, China

## Technical Program Committee Chair

Shaofu Lin, Beijing University of Technology, China

Annette ten Teije, Free University (VU), Amsterdam, The Netherlands

Wouter Beek, Triply B.V, The Netherlands

## Organizing Committee Chair

Chaohui Guo, Free University (VU), Amsterdam, The Netherlands

Xueli Pan, Free University (VU), Amsterdam, The Netherlands

Dandan Wang, Nexus Press B.V., The Netherlands

## Publication Chair

Jinguang Gu, Wuhan University of Science and Technology, China

Dan Xie, Hubei University of Chinese Medicine, Wuhan, China

## Program Committee

Bingxiang Yang, Wuhan University, China

Yanchun Zhang, Victoria University, Australia

Jiao Li, Institute of Medical Information, Chinese Academy of Medical Sciences, China

Xue Li, University of Queensland (UQ) in Brisbane, Australia

Ning Zhong, Maebashi Institute of Technology, Japan

Yunkai Zhai, Zhengzhou University, China

Hongying Zan, Zhengzhou University, China

Jiangang Shen, School of Chinese Medicine, University of Hong Kong, China

Hongmin Cai, South China University of Technology, China

Li Hou, The Institute of Medical Information (IMI) & Library, CAMS & PUMC, China

Atilla Elçi, Hasan Kalyoncu University, Turkey

D. P. Acharjya, School of Computing Sciences, VIT University, India

Jose Alberto Maldonado, Technical University of Valencia, Valencia, Spain

Mar Marcos, Jaume I University, Valencia, Spain

Chao Tong, Beihang University, China

Bingxiang Yang, Wuhan University, China

Atul Babbar, SGT University, India

Rushit Dave, University of Wisconsin-Eau Claire, United States

HIREN THAKKAR, SRM University, India

Guodong Zhou, Zhejiang University, China

Ashraful Islam, University of Louisiana at Lafayette, USA

Hao Dang, Henan University of Chinese Medicine, Zhengzhou, China

Xu Sun, Henan Cancer Hospital, Zhengzhou, China

Md Rafiqul Islam, University of Technology Sydney, Australia

# AGENDA

ISAIMS 2024

August 13, 2024 (GMT+01:00)	
<b>Venue: Lobby Floor, NU building Vrije Universiteit Amsterdam</b>	
<b>13: 00-17: 00</b>	<b>Registration</b>

2024 International Workshop on Mental Health, AI. and Treehole Rescue 2024 Sino-Dutch Workshop on Smart City Venue: Theater7/Room 5A57, NU building Vrije Universiteit Amsterdam	
August 14, 2024 (GMT+01:00)	
<b>08:30-10:00</b>	<b>2024 Annual Meeting of Tree Hole Rescue, (Working Language: Chinese)</b>
08:30-09:00	Warm-up Video of Tree Hole Rescue, Tree Hole Rescue Song
09:00-09:05	Opening Speech Lei Zhang (Amsterdam), Zhili Zhang (Wuhan)
09:05-09:10	Opening Address Zhisheng Huang Founder of Tree Hole Rescue Team
09:10-09:20	Report of the Second Treehole Rescue Committee Hong Li Director of the Second Tree Hole Rescue Committee
09:20-09:30	Speech and Announcement of the Members of the Third Tree Hole Rescue Committee with Appointment Certificates Guanwei Chen President of the Board of Beijing Mazu Renai Charity Foundation
09:30-09:35	Speech by the Third Committee of Tree Hole Rescue Prof. Jieyao Shi Chair of Third Committee of Tree Hole Rescue
09:35-09:40	Announcement of Certificates for the 2024 Treehole Rescue Outstanding Mentors and Friends Jieyao Shi Third Committee of Tree Hole Rescue
09:40-09:45	Announcement of the Graduates of the Sixth Training Course of Tree Hole Rescue with Certificates and Best Paper Award Winners with Certificates Zhili Zhang Tree Hole Rescue Committee
09:45-09:50	Speech by the best friend of Tree Hole Rescue Qiang Wei President of Jiade Dental
09:50-10:00	Group Photo of Main and Sub-Venue Participants
<b>10:00-17:00</b>	<b>2024 Sino-Dutch Forum on Smart City (Working Language: English)</b>
10:00-10:30	Warm-up Video - Retrospective of Previous Forums
<b>10:30-12:00</b>	<b>Session I Chair: Zhisheng Huang, Vrije University Amsterdam</b>

10:30-10:35	Opening Speech	Zhisheng Huang Vrije University Amsterdam
10:35-10:40	Speech by the Dutch Representative	Vrije University Amsterdam
10:40-10:45	Speech by the Chinese Representative	Shaofu Lin Professor of the Beijing University of Technology
10:45-11:10	Triply Smart City Solution	Wouter Beek President of Triply Company, Netherlands
11:10-11:35	The emergence of division of labour through social sanctioning	Dr. Anil Yaman VU Amsterdam, Netherlands
11:35-12:00	Artificial Olfaction	Dr. Halima Mouhib VU Amsterdam, Netherlands
12:00-12:05	Group Photo	
12:05-13:30	Lunch	
<b>13:30-15:10</b>	<b>Session II</b>	<b>Chair: Wouter Beek, Triply B.V.</b>
13:30-13:55	Research on the Precise Matching of Supply and Demand for Smart Elderly Care Services	Shaofu Lin Professor of Beijing University of Technology
13:55-14:20	What's logic got to do with it? Symbols and relations in modern	Dr. Peter Bloem Vrije University Amsterdam, Netherlands
14:20-14:45	Exploration and Practice of Smart City in China	Dr. Jue Ji China Academy of Urban Planning and Design
14:45-15:10	Comprehensive Transportation System Optimization Driven by Digitalization and Urban Quantitative Model	Jiancheng Weng Professor of Beijing University of Technology
15:10-15:30	Tea Break	
<b>15:30-17:00</b>	<b>Session III</b>	<b>Chair: Jiancheng Weng, Beijing University of Technology</b>
15:30-15:55	Spatial Temporal Data Platform for Smart City	Lina Yang Researcher of Chinese Academy of Sciences Aerospace Information Innovation Research Institute
15:55-16:20	Keynote Presentation	Chunxiao Xing Tsinghua University
16:20-16:45	Exploration of the application of decentralized collaborative research framework in medical federation machine learning	Dr. Yuandou Wang University of Amsterdam
16:45-17:10	Development and Creation of Computer Game Audio -Whether Human Artistic Creation Ability Can Be Replaced in the Era of AI	Hongjie Shui Sichuan Radiant Melody Cultural Communication Co., Ltd.
18:30-20:30	Dinner	

August 15, 2024 (GMT+01:00)		
<b>09:30-17:00</b>	<b>2024 International Workshop on AI, Mental Health, and Tree Hole Rescue (Working Language: English)</b>	
<b>09:30-12:00</b>	<b>Session VI</b>	<b>Chair: Xudong Zhao Tongji University</b>
09:30-09:35	Opening Speech from the Organizing Committee	Prof. Zhisheng Huang Founder of Tree Hole Rescue Team
09:35-10:00	Analysis of the mechanism of antipsychotics induced abnormal ECG using Medical Ontologies and Medical Knowledge Graphs	Hongyun Qin Director at the Mental Health Center Affiliated to Tongji University
10:00-10:25	A Process Study on Interaction Patterns of Psychotherapist-Patient's Facial Expression	Yuping Cao Professor of Second Xiangya Hospital of Central South University
10:20-10:55	Exploring Etiology of Non-suicidal Self-injury by using Knowledge Graph Approach	Zhisheng Huang Vrije University Amsterdam
10:55-11:20	Cutting-edge Research on Speech Recognition for Depression	Feng Xu COO of Haoxingqing Health Industry
11:20-11:50	Supporting Neuroscience Literature Exploration by Utilising Indirect Relations between Topics in Augmented Reality	Boyu Xu CWI, Netherlands
12:00-13:30	Lunch	
<b>13:30-15:10</b>	<b>Session V</b>	<b>Chair: Ling Peng, Chinese Academy of Science</b>
13:30-13:55	Memory System of Chatbot for Mental Health	Chaohui Guo PhD student of Vrije University Amsterdam
13:55-14:20	Tree Hole Rescue Paper I: The Relationship Between the Internet Age and Teenage Depression (Online)	Dexian Rong Tree Hole Rescue Team of Guangxi Province
14:20-14:45	Tree Hole Rescue Paper II: Digital Self-killing: A Comprehensive Review of In-Game Suicide (Online)	Bingyu Liao Chinese University of Hong Kong
14:45-15:10	Tree Hole Rescue Paper III: Psychological Counseling Strategies for Bipolar Disorder (Online)	Dan Liu Tree Hole Rescue Team of Beijing
15:10-15:30	Tea Break	
<b>15:30-17:15</b>	<b>Session VI</b>	<b>Chair: Shaofu Lin, Beijing University of Technology</b>
15:30-15:55	Tree Hole Rescue Paper IV: The Changes in the Mentality of Young People Reflected by the Popular Online Memes in the Past Five Years (Online)	Yajing Wang Tree Hole Rescue Team of Yunan Province



15:55-16:20	Tree Hole Rescue Paper V: Analysis of Mental Health of Chinese Primary and Secondary School Students and Its Coping Strategies (Online)	Qingyuan Wu Tree Hole Rescue Team of Shanghai
16:20-16:45	Forgetting in Knowledge Graph based Recommender Systems.	Dr. Xu Wang Maastricht University, Netherlands
16:45-17:10	Use GPT to generate competency questions to evaluate the ontology	Xueli Pan Vrije Universiteit Amsterdam
17:10-17:15	Workshop Summary	Zhisheng Huang Vrije University Amsterdam
August 16-17	International Symposium on Artificial Intelligence for Medical Sciences	
	Technology Cooperation and Exchange	
	Recruitment Event	
	Meeting of the Editorial Board for the Journal of Artificial Intelligence for Medical Sciences	
	Preparatory Meeting for the International Journal of Smart Cities	

## 2024 5<sup>th</sup> International Symposium on Artificial Intelligence for Medical Sciences (ISAIMS 2024)

Venue: Theater7/Room 5A57, NU building Vrije Universiteit Amsterdam

ZOOM: 831 5841 6323 Password: 664629

**August 16, 2024 (GMT+01:00)**

09: 00-11: 50	Session I	Chair: Prof. Zhisheng Huang
09:00- 09: 10	Opening Address	Prof. Zhisheng Huang VU University Amsterdam, The Netherlands/Tongji University, China
09:10- 09: 50	Keynote Speech 1: Using real-world health data – more than meets the AI	Prof. Ronald Cornet Amsterdam UMC, The Netherlands
09: 50-10: 30	Keynote Speech 2: Tree Hole Action: An AI Approach for Suicide Risk Detection and Online Suicide Intervention	Prof. Zhisheng Huang VU University Amsterdam, The Netherlands/Tongji University, China
10: 30-10: 50	Group Photo & Tea Break	
10: 50-11: 10	Oral Presentation 1: Non-suicidal Self Injury Behaviors and Dissociated Disorder: A Systematic Review	Weidong Ji Shanghai Pudong New Area Mental Health Center, School of Medicine, Tongji University, China
11: 10-11: 30	Oral Presentation 2: Multi-hop Knowledge Graph Embedding based on Multi-task Learning to Assist Personalized Medication Recommendation	Feng Gao Wuhan University of Science and Technology

11: 30-11: 50	Oral Presentation 3: Exploring Relation between Non-suicidal Self-injury Behaviors and Problems of Emotion Mal-regulation with Knowledge Graph Approach	Xiyan Zhang Shanghai Pudong New Area Mental Health Center, School of Medicine, Tongji University, China
12: 10-14: 00	Lunch	
14: 00-17: 10	<b>Session II</b>	<b>Chair: Shaofu Lin, Beijing University of Technology</b>
14: 00-14: 40	Keynote Speech 3: Role of AI in Addressing loneliness in modern China	Prof. Xudong Zhao Tongji University, China
14: 40-15: 20	Keynote Speech 4: A Meta-analysis of the relationship between anxiety and non-suicidal self-injury based on Knowledge graphs	Prof. Jiexiao Shi Suzhou Vocational University, China
15: 20-15: 50	Invited Speech 1: Knowledge Graphs of Alzheimer's Disease and Dementia	Dr. Hongyun Qin Pudong Mental Health Center, China
15: 50-16: 10	Group Photo & Tea Break	
16: 10-16: 30	Oral Presentation 4: ApoE Genetic Testing and Personalized Nutrition Service	Jitao Yang Beijing Language and Culture University, China
16: 30-16: 50	Oral Presentation 5: Validation study of positioning accuracy of smart watches under multiple outdoors application scenarios	Shuo Zhang C+E Center for Engineering Research Test and Appraisal Co, Beijing, China
16: 50 -17: 10	Oral Presentation 6: Chatbots for Mental Health: Evaluating Fine-Tuning and Retrieval-Augmented Generation	Noah Van Rijn Vrije Universiteit Amsterdam, Netherlands
17: 10 -17: 30	Oral Presentation 7: A systematic review of the literature on depression and childhood trauma: a knowledge graph analysis approach	Dianhong Shi Shanghai Pudong New Area Mental Health Center, School of Medicine, Tongji University, China
17: 30 -17: 55	Oral Presentation 8: AI on 3D protein structures for cancer immunotherapy design	Dr. Li XUE RadboudUMC
18: 00-19: 30	Dinner	

August 17, 2024 (GMT+01:00)

Online Session

ZOOM: 831 5841 6323 Password: 664629

09: 00-09: 40	Keynote Speech 5: A Systematic Review of the Impact of Family Relations on Postpartum Depression by Using Semantic Analysis Approach	Prof. Mei Sun Xiangya School of Nursing, Central South University, China
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09: 40-09: 55	Oral Presentation 1: A Model for Epilepsy Named Entity Recognition Based on Chinese EEG Reports	Jianping Man Sun Yat-sen University, China
09: 55-10: 10	Oral Presentation 2: ElderQA-GPT: A Large Language Model for Online Q&A on Geriatric Diseases Based on BGE Semantic Vector Knowledge Base and LangChain Architecture	Yidan Duan Beijing University of Technology, China
10: 10-10: 25	Oral Presentation 3: Bibliometric analysis of intelligent infusion technology: a comparison of Chinese and English studies	Xiajing Lou Hangzhou Normal University, China
10: 25-10: 40	Oral Presentation 4: Study of simulation for pressure ulcer: A bibliometric and visualization analysis	Bingsheng Wang Hangzhou Normal University, China
10: 40-10: 55	Oral Presentation 5: Impact of COVID-19 on Linguistic Expression of Depression in Online Communities	Marc Violides School of Informatics, University of Edinburgh, UK
10: 55-11: 10	Oral Presentation 6: Face Acupoint Identification Based on Geometric Topological Relationships of Keypoints	Yifan Deng School of Artificial Intelligence, Jiangnan University, China
11: 10-11: 25	Oral Presentation 7: A Novel Deep Learning Approach for Brain Tumor Segmentation and Classification using MRI Data	Xiaoyan Zhang Changzhi Medical College, China

**August 18, 2024 (GMT+01:00)**

Return Journey

# KEYNOTE I

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**Prof. Ronald Cornet**

Amsterdam UMC, The Netherlands

Ronald Cornet holds a position as full professor in Medical Informatics, principal investigator and principal educator at the department of Medical Informatics in the Amsterdam Public Health research institute, Amsterdam UMC. He leads a research group on "reusable health data", in which research focuses on semantic interoperability, both from a technical perspective and from a users' point of view, as a key component to establishing FAIR data for healthcare and research. His research has resulted in over 100 journal publications and over 80 peer-reviewed conference proceedings. See the list of publications for a complete bibliography. Ronald has supervised 10 completed PhD-projects. Ronald is involved in health care information standardization, among others as member of the Dutch, European (CEN) and global (ISO) standardization committees on health informatics. He is also involved in SNOMED International, which is responsible for maintenance and further development of SNOMED CT. He chairs the IMIA working group on Language and Meaning in Biomedicine, and participates in various international projects: European Joint Programme Rare Diseases (EJP-RD), CAPABLE, LEAPfROG, PaLaDIn, and C4C. Ronald holds a Basic Teaching Qualification and is involved in both organization of education and in teaching at the University of Amsterdam. This teaching involves information modeling, knowledge representation and semantic interoperability in health care. He has supervised research work of over 50 students (at BSc and MSc level). He is a four-time awardee of the best-teacher price in the Medical Informatics curriculum at the University of Amsterdam.

*Title:*

Using real-world health data – more than meets the AI

**Abstract:** Increasingly, evidence-based medicine is complemented with medicine-based evidence. In this shift towards use of real-world data, data analysis is impeded by various quality aspects of data and metadata.

In this keynote, Ronald will reflect on the reciprocal interaction between data and AI, with a focus on semantics and pragmatics.

## KEYNOTE II

ISAIMS 2024



**Prof. Zhisheng Huang**

Free University (VU), Amsterdam, The Netherlands

Professor Zhisheng Huang is a tenured senior researcher at the Department of Artificial Intelligence of VU University Amsterdam, the Netherlands, and a professor at the Mental Health Center Affiliated to Tongji University, China. Prof. Huang is the founder of Tree-Hole Rescue Team, an organization consists of more than 1,000 volunteers for suicide prevention and rescue. Prof Huang is the chief scientist of Intelligent Science at Deepblue AI Technology China and the chief scientist of AI at Haoxinqing Health Industry Group. Prof. Huang obtained a doctorate degree in computer science and logic at the University of Amsterdam in 1994. He has published more than 300 papers, and more than 9 books in Artificial Intelligence, logics, and multimedia. He received the best paper award for the paper entitled “Feasibility Estimation for Clinical Trials” at the 2014 International Conference on Health Informatics (HEALTHINF/BIOSTEC).

*Title:*

Tree Hole Action: An AI Approach for Suicide Risk Detection and Online Suicide Intervention

**Abstract:** Adolescent suicide has become an important social issue of general concern. Many young people express their suicidal feelings and intentions through online social media, e.g., Twitter, Microblog. It provides the possibility of using Artificial Intelligence and big data technology to detect the posts where someone expressed the suicidal signal from internet social media. Tree-hole Action is an AI approach which can find the persons who have high risk of suicide by analysis of online social media posts. The Tree-hole Rescue Team consists of more than 1,000 volunteers and make the suicide intervention. Since 2018, Tree-hole Rescue Team has prevented more than 6,000 suicides, and rescued a few thousands of lives.

## KEYNOTE III

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### Prof. Xudong Zhao

Honorary President of Pudong Mental Health Center, Tongji University School of Medicine, Shanghai, China

Areas of interest: Cultural psychiatry, Psychotherapy, and Clinical Psychosomatic medicine.

In 1993, He got doctorate with a dissertation entitled ‘Introducing systemic family therapy into China as a cultural project’ at Heidelberg University, Germany.

As the Chinese leader of “Chinese-German Advanced Continuous Training Program for Psychotherapy”, he was co-winner of the “International Sigmund Freud Award for Psychotherapy 2008” from Vienna City, Austria, due to outstanding contribution to introducing Western Psychotherapy into China.

Affiliation:

- (1) Consulting Expert, National Promotion Commission of the Healthy China Action
- (2) Vice-chairman of the Chinese Association of Mental Health
- (3) Vice-president of the Psychosomatic Medicine Section of the Chinese Medical Association;
- (4) Vice-president of the Committee of Psychosomatic Medicine of the Chinese Physicians’ Association;
- (5) Vice-president of the World Council of Psychotherapy;
- (6) Board member of the Urban Mental Health Section of the World Psychiatric Association.
- (7) Board member of the World Association of Cultural Psychiatry.
- (8) Vice-president of Asian Academy of Family Therapy

*Title:*

Role of AI in Addressing loneliness in modern China

**Abstract:** In the radical process of Globalization and Urbanization, Digitalization is one of the major trends that is interacting with Commodification, Horizontalization, Fragmentation and Demographic changes. While AI brings tremendous benefits, it has been resulting in many side-effects in the human life in the sense that it can contribute little to empathic linkage because it reduces the need and occasions for in-person contacts which are vital for integration in social systems. It becomes a serious issue for mental health professionals how to consider the relationship between AI usage and the increasing loneliness in societies. Loneliness has much to do with the increasing prevalence of various mental disorders, including suicidal behavior.

From the perspectives of socio-cultural changes & family dynamics, addressing loneliness in China is a multi-systemic project that is far beyond conventional psychiatric services. This presentation focuses on the rational explaining and empathic understanding of the loneliness of modern Chinese with cases.

It would be impossible to deal with psychological distress and mental disorders without such explanation and understanding beyond natural sciences and biomedicine. It is especially necessary for research and development of AI in medicine. As a psychiatrist, the presenter will disclose his ambivalence regarding AI, which would be inspiring for multi-disciplinary cooperation.

## KEYNOTE IV

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**Prof. Jieyao Shi**

Suzhou Vocational University, China

Jieyao Shi, Doctor of Medicine, Professor, State Psychological consultant Grade II. Chair of Third Committee of Tree Hole Rescue, Deputy Secretary General and of Talent Training & Career Development Branch of Jiangsu Health Management Institute; Distinguished Expert of Health Education; Member of China Association of Mental Health.

*Title:*

A Meta-analysis of the relationship between anxiety and non-suicidal self-injury based on Knowledge graphs

**Abstract:** Objective The existing research on the relationship between anxiety and non-suicidal self-injury (NSSI) is inconsistent, and there is no systematic review on this area. This study aims to explore the relationship between anxiety and NSSI, in order to provide evidence-based medicine evidence for the early identification of preventable occurrence factors of NSSI. The SPARQL semantic query method was used to retrieve the anxiety-related literature on the Knowledge graph of NSSI (including metadata and semantic annotation data of English literature related to non-suicidal self-injury included in PubMed by June 2023). Two researchers strictly followed the inclusion and exclusion criteria for independent literature screening. After evaluating the quality of the included studies, the selected data was subjected to meta-analysis using RevMan5.3 software. A total of 14 studies met the inclusion criteria of the meta-analysis, including 44064 subjects. The results showed that the proportion of anxiety in the NSSI group was significantly higher than that in the non-NSSI group, and the difference between the groups was statistically significant (OR=3.60, 95% CI=2.08-6.22,  $p<0.01$ ). There is a significant correlation between anxiety and NSSI, which is a possible risk factor for NSSI. However, due to limitations of the design type, quantity, and quality of the included study, further research is needed on the causal relationship between anxiety and NSSI. open communication, and practical support within the family can significantly enhance the well-being of new mothers and aid in their recovery from PPD.

## KEYNOTE V

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**Prof. Mei Sun**

Xiangya School of Nursing, Central South University, China

Dr. Mei Sun is a Professor of Xiangya School of Nursing at Central South University, Associate Director of the International Cooperation and Exchange Center, Xiangya School of Nursing, CSU. Her research areas are focused on nursing ethics, population-based community mental health care. Dr. Sun has published more than 50 peer reviewed academic papers and 4 academic books. She has led 12 research projects, and she works as a reviewer for Journal of Chinese Public Health Nursing. She is a member of Hunan Evidence-based Nursing Committee, Hunan Hospice Care Committee and Hunan Psychology Committee. In recent years, she has been awarded the Yale Bioethics Project, two international cooperation projects and the Global Silk Road Scholars Program, etc. She has close research collaborations with UCSF, Yale University, and Monash university.

*Title:*

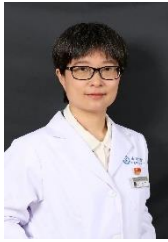
A Systematic Review of the Impact of Family Relations on Postpartum Depression by Using Semantic Analysis Approach

**Abstract:** Postpartum depression (PPD) is a mood disorder affecting women following childbirth, characterized by prolonged feelings of anxiety, and sadness, which can have a serious impact on the health of the postpartum woman and child. Families play an important role in maternal mental health. Understanding the connection between family relations and PPD is crucial for implementing preventive strategies to combat depression in women and enhance the well-being of both mothers and children. In this study, we employ the widely recognized medical nomenclature SNOMED CT as the foundational ontology, compile the metadata from 11,757 studies on PPD, and establish the PPD knowledge graphs using semantic annotation. Through semantic queries and reasoning to extract relationships between PPD and family relations, a novel evidence-driven knowledge graph on PPD-family relationships is constructed. Our finding in this research is that family relations play a pivotal role in the mental health of new mothers. Supportive, understanding, and proactive family relations can mitigate the risk and impact of PPD, while negative or strained family dynamics can exacerbate it. Promoting education, open communication, and practical support within the family can significantly enhance the well-being of new mothers and aid in their recovery from PPD.



## INVITED I

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**Dr. Hongyun Qin**

Pudong Mental Health Center, China

Dr. Qin Hongyun, Chief Physician, Doctorate of Clinical Medicine, Tongji University School of Medicine, Pudong Mental Health Center. She has focused on the clinical follow-up and mechanism study of the progression from Mild Cognitive Impairment (MCI) to dementia (including AD) for over 20 years. She has collected more than 1,500 patient cases from the community, published 40 academic papers, and proposed a theory regarding the acceleration of astrogliosis proptosis co-morbidity with late onset hypertension in MCI progressing to dementia.

*Title:*

Knowledge Graphs of Alzheimer's Disease and Dementia

**Abstract:** Alzheimer's disease (AD) is a progressive neurodegenerative disorder and is the most common form of dementia. Dementia is a general term that refers to a set of symptoms that affect memory, thinking, and social skills enough to interfere with daily life. Alzheimer's disease is one of many causes of dementia. Studying Alzheimer's disease and dementia has great medical and social significance. There have been accumulated huge knowledge and data resources of Alzheimer's disease and dementia over decades, which provides a basic data environment for research on Alzheimer's disease and dementia. In order to provide accurate search and in-depth semantic analysis of the massive literature on Alzheimer's disease and dementia, we constructed the Knowledge Graphs of Alzheimer's Disease and Dementia (ADKG for short). We conduct systematic literature analysis and semantic annotation through literature mining, providing an effective knowledge and data basis for research on Alzheimer's disease and dementia. At last, we give an example of the relationship of astrocytes autophagy and pyroptosis in AD by using ADKG.

# GUIDELINE

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## Oral Presentation

1. **Timing:** a maximum of 20 minutes total, including speaking time and discussion. Please make sure your presentation is well timed. Please keep in mind that the program is full and that the speaker after you would like their allocated time available to them.
2. You can use CD or USB flash drive (memory stick), make sure you scanned viruses in your own computer. Each speaker is required to meet her/his session chair in the corresponding session rooms 10 minutes before the session starts and copy the slide file (PPT or PDF) to the computer.
3. It is suggested that you email a copy of your presentation to your personal inbox as a backup. If for some reason the files can't be accessed from your flash drive, you will be able to download them to the computer from your email.
4. Please note that each session room will be equipped with a LCD projector, screen, point device, microphone, and a laptop with general presentation software such as Microsoft PowerPoint and Adobe Reader. Please make sure that your files are compatible and readable with our operation system by using commonly used fonts and symbols. If you plan to use your own computer, please try the connection and make sure it works before your presentation.
5. **Movies:** If your PowerPoint files contain movie, please make sure that they are well formatted and connected to the main files.

# NOTICE

ISAIMS 2024

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Welcome all leaders and researchers to the 2024 5<sup>th</sup> International Symposium on Artificial Intelligence for Medical Sciences (ISAIMS 2024)- Amsterdam Session. For your convenience during the conference, please pay attention to the following concerns:

## Online Meeting

1. The conference will be held on **ZOOM Meeting**. To participate online, please download the latest version of ZOOM first.

Download link: <https://zoom.us/download>

2. You can access the online conference room by **either** of the following two ways: **(Please use your real name in the meeting room.)**

a. Input the ZOOM Meeting ID and the Password respectively (ZOOM: 831 5841 6323 Password: 664629)

b. Click the link: <https://us02web.zoom.us/j/83158416323?pwd=RDeJTmlPXywmn86GQjQQIBInsPKaCu.1>

3. During the conference, if you would like to ask questions to the speaker, please send number “2” in the chat box after the speech. The host will unmute you.

## Onsite Meeting

Venue: Theater7/Room 5A57, NU building Vrije Universiteit Amsterdam

De Boelelaan 1111, 1081 HV Amsterdam

(Located in: Vrije Universiteit Amsterdam)

## Meal and Accommodation

**Meal:** The conference will cover lunches on August 14, 15, 16.

**Accommodation:** The venue is easy to reach by the public transportation Tram 5, 24, and 25. Therefore, you can select any hotel in Amsterdam.

Here are some nearby hotels from which you can walk to the venue:

- [Holiday Inn Express Amsterdam - South, an IHG Hotel](#)
- [NH Amsterdam Zuid Hotel](#)
- [Amsterdam Forest Hotel](#)
- [Hotel Novotel Amsterdam City](#)





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## JOURNAL OF ARTIFICIAL INTELLIGENCE FOR MEDICAL SCIENCES



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- ✓ Precision medicine
- ✓ Medical knowledge graphs and ontologies
- ✓ Drug discovery
- ✓ Machine learning and deep learning for medicine
- ✓ Visual analytics in biomedicine
- ✓ Biomedical imaging and signal processing
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