UoA Joint Research Forum 2024

November 25 (Mon)

Changes in Knowledge, People, and Society Brought About by AI
Efforts of the University of Aizu to Adapt to the Rapidly Developing AI Era

Participation is free of charge

Organizer :
The University of Aizu
CAIST, AI Center, ARC-Space

↑ web page ↑ Application

VENUE UoA University-Business Innovation Center (UBIC)

Pre-registration required Application Limit : November 18,

Language Japanese (no English interpretation)

Part 1 : Research Center & Cluster Achievements Presentation

09:00 -	Opening Remarks	Chairperson of the Board of Executives / President the UoA TSUKAHARA Tsuneo
	Science and Engineering for Space Development Powered by ICT in Academia and Industries	ARC-Space DEMURA Hirohide
	Framework for Robot Software Development with Cyber-Physical System and Interactive Online Test System	ARC-Robot NARUSE Keitaro
	Efforts Toward Autonomous Driving for Small Vehicles in IoT Cluster	ARC-IoT OKUYAMA Yuichi
	Vision AI System Based Human Activity Recognition and Deepfake Countermeasures	ARC-Vision TOMIOKA Yoichi
10:05 - 10:25	Break	
10:25 -	Acceleration of Numerical Linear Algebra in Quantum and Astrophysical Simulations	High Performance Computing NAKASATO Naohito
	Study for Generating a Geological 3D Map of a Planetary Surface	Satellite Data Utilization OHTAKE Makiko
	Computation Meets Communications in the 6G Networks	Integrated Computation-Communication pLatform PHAM Tuan Anh
	Smart Communication Mechanisms for Building Digital Twins	Intelligent Transportation Systems RAGE Uday Kiran
	Agentic Tools for ML System Development	Automatic AI System Design MARKOV Konstantin
12:00 - 13:00	Lunch Break	

Part 2 : Keynote Speeches and Panel Discussion

13:00 - 13:40 **Keynote Speech 1**

"Prospects of Edge AI Computing Based on Nonvolatile Logic"

HANYU Takahiro
Director and Professor, Research Institute of Electrical Communication, Tohoku University

13:40 - 14:20 **Keynote Speech 2**

"Wet Interface Engineering for the Skin-Surface Chemical Sensing"

NAGAMINE Kuniaki
Associate Professor, Graduate School of Organic Materials Science, Yamagata University

14:20 - 15:00 **Keynote Speech 3**

"How Should We Live with Advanced AI?"

MATSUBARA Hitoshi
Professor, Department of Information and Computer Science, Faculty of Engineering, Kyoto Tachibana University

15:00 - 16:00 **Panel Discussion** **"Changes in Knowledge, People, and Society Brought About by AI"**

HANYU Takahiro • NAGAMINE Kuniaki • MATSUBARA Hitoshi

SASAKI Akira (President and CEO, GClue Inc. and FaBo Inc.)

Chair : Professor CHEN Wenxi

16:00 - 16:05 Closing Remarks — Dean of Graduate School PAIK Incheon

Cluster Poster Exhibition

- AI's Impact on Computer Science Education: Empowering Future Innovators
  AI/DS-driven Innovative Education : HAMADA Mohamed, WATANOBE Yutaka, ROY Debopriyo, EBINA Shoji
- Industry-Academia Collaboration Initiatives Centered on Data Science
  Application of Data Science : HASHIMOTO Yasuhiro
- Innovations in IoT and Digital Security through AI and Blockchain Technologies
  Information Security : NAKAMURA Akihito, SU Chunhua, KACHI Yasuyuki
- Smart Design - A Knowledge-Centered Human-Computer Collaboration
  Smart Design : YOSHIOKA Rentaro, KOHIRA Yukihide, TAKAHASHI Shigeo, NISHIDATE Yohei, WATANOBE Yutaka

Part 3 : The Graduate School Fair Organizer : UoA IEEE Student Branch

16:15 -17:15 **Poster Session by graduate students**
https://web-ext.u-aizu.ac.jp/conference/ieeeuoas/

Chair : PAIK Incheon, SHIN Jungpil

↑ web page

For the latest information, please check the 2D code at the top.
<Contact Us> E-mail : cl-planning@u-aizu.ac.jp
The University of Aizu Planning Section, Planning and Coordination Division

UoA Joint Research Forum 2024 Outline

With the rapid development of generative artificial intelligence (AI) such as GPT over the past two years, people are talking about the arrival of Artificial General Intelligence (AGI) that will surpass human capabilities in the not-too-distant future.
It should also be acknowledged that many professions have recently experienced significant changes due to the emergence of AI technologies capable of chatting, generating images, videos, and programs with human-like abilities.
Against this backdrop, computer-related education, research, and new business are becoming increasingly important, and the University and industry must collaborate closely to explore how we can respond to and cooperate in these areas.
At this critical juncture, our university aims to provide a platform for keynote speeches and panel discussions to examine and debate these issues from multiple perspectives.

Introduction of Off-Campus Speakers

◆HANYU Takahiro (Tohoku University)

1984: B.E., Electronic Engineering, 1986: M.E., Electronic Engineering, 1989: D.E., Electronic Engineering from Tohoku University
April 2022 – Present: Professor and the director at the Research Institute of Electrical Communication, Tohoku University
Research Interests: His focus is on nonvolatile logic circuits and their applications to ultra-low-power and/or highly dependable VLSI processors, post-binary computing, and its application to brain-inspired VLSI systems and edge AI hardware.
Awards:
2000: Sakai Memorial Award from the Information Processing Society of Japan
2002: Judge's Special Award at the 9th LSI Design of the Year from the Semiconductor Industry News of Japan
2007: Special Feature Award at the University LSI Design Contest from ASP-DAC
2009: APEX Paper Award of Japan Society of Applied Physics
2010: Excellent Paper Award of IEICE, Japan
2010: Ichimura Academic Award
2010: Best Paper Award of IEEE ISVLSI 2010
2012: Paper Award of SSDM 2012
2014: Best Paper Finalist of IEEE ASYNC 2014
2015: Commendation for Science and Technology by MEXT, Japan
Membership: Senior Member of the IEEE

◆NAGAMINE Kuniaki (Yamagata University)

Education:
2002: B. Eng. (Chemistry), 2004: M. Eng. (Chemistry), 2007: Ph.D. Env. Sci. (Chemistry) from Tohoku University
Professional History:
2006-2007: Research Fellowship for Young Scientists (DC2)
2007-2008: Central Research Laboratory, Hitachi, Ltd.
2008-2009: COE Fellow, Tohoku University
2009-2011: Research Assistant Professor, Tohoku University
2011-2016: Assistant Professor, Tohoku University
2017-2021: Leading Initiative for Excellent Young Researchers
2017-Present: Associate Professor, Yamagata University

◆MATSUBARA Hitoshi (Kyoto Tachibana University)

1959: Born in Tokyo,
1981: B.S. in Information Science
1986: Ph.D. from the Graduate School of Engineering, University of Tokyo
1986: Electrotechnical Laboratory (now the National Institute of Advanced Industrial Science and Technology (AIST))
2000: Professor, Future University Hakodate
2020: Professor, the University of Tokyo
2024: Professor, Kyoto Tachibana University
Former President of the Japanese Society for Artificial Intelligence
Former President of the Society for Tourism Informatics of Japan
Former Vice President of the Information Processing Society of Japan
Founder of RoboCup

◆SASAKI Akira (President and CEO, GClue Inc. and FaBo Inc.)

Ph.D. in Engineering. He plays a pivotal role at FaBo Inc. as one of the few NVIDIA Jetson Education Partners in Japan, specializing in the development and sale of educational kits that integrate AI with robotics.
Under his leadership, FaBo Inc. placed first in the Autonomous Driving Mini-Car Battle organized by Toyota Technical Institute in both 2021 and 2023.
Currently he provides consulting and R&D support across a wide range of AI technologies, from large language models (LLM) to edge AI.

<Research Center & Cluster Achievements Presentation Keywords>

Archived Data Science for Lunar and Planetary Explorations / Cyber-Physical Systems / Artificial Intelligence (AI) / Machine Learning / Circuit Design / Pattern Recognition / High-Dimensional Data Visualization / Creative Support Systems / Big Data / Remote Sensing / Cyber Security / Pattern Mining / AI Edge Devices / AI Agents / Medical Engineering / Data Science / High Performance Computing / Quantum Computing Applications / 6G Network Computing / Industry-Academia Collaboration / Cooperative Research