

2025 年度 傾斜的研究費（全学分）
研究センター対象国際研究集会等開催支援 研究報告書

【研究費区分】： 国際研究集会等開催支援

【所属】： システムデザイン学部機械システム工学科

【氏名】： 武居直行

【氏名フリガナ】： タケスエナオユキ

【職】： 教授

【国際研究集会等の概要（イベント概要が分かる資料を添付）】

*複数開催した場合は、そのすべてについて記載すること。

- ・ 名称： International Symposium on Community-centric Systems and Robots 2026 (CcSR 2026)
- ・ 日時： 2026 年 2 月 17 日～2026 年 2 月 20 日(金)
- ・ 場所： 東京都立大学日野キャンパス 6 号館 202 号室

【招聘した外国人研究者（イベント概要が分かる資料を添付）】

Chang-Shing Lee, National University of Tainan, Professor（台湾）

Michael Danner, Bochum University of Applied Sciences, Professor（ドイツ）

Chin-Hsing Kuo, University of Wollongong, Senior Lecturer（オーストラリア）

【報告（実施後の成果）】

- ・ 参加者総数 63 名（内、海外研究者数 29 名）

（成果の概要）

本シンポジウムは、コミュニティ・セントリック・システム研究センターとのジョイント開催であり、4 日間のメイン開催と 2 日間のワークショップ開催で、オンラインを含め 63 名が、イギリス・ドイツ・マレーシア・カナダ・インドネシア・台湾・オーストラリアを含む複数の国と地域から参加した。ロボティクス、メカトロニクス、センシング技術、情報科学、機械学習、医用工学、5G、IoT など多角的にコミュニティ・セントリック・システムについて議論するとともに、最先端の研究・技術・イノベーション創出に関して討論した。また、学生のグローバル活動や起業家スピリッツを推進し、英語による学術発表の機会だけでなく、交換留学や共同研究指導などの国際交流につながるような企画を実施した。

<https://sites.google.com/view/ccsr2026>

2/17： 招聘者講演 2 件、口頭発表 2 セッション 6 件、パネルディスカッション 1 セッション

2/18： 招聘者講演 1 件、口頭発表 2 セッション 7 件、セミナー 1 件、ポスター発表 1 セッション 9 件

2/19： 招聘者講演 1 件、口頭発表 1 セッション 4 件、セミナー 3 件、シンポジウム 1 セッション（口頭発表 5 件）、ラボツアー

2/20： 招聘者講演 2 件、口頭発表 4 件、ポスター発表 9 件

CcSR 2026

February 17th to 20th, 2026.

International Symposium on Community-centric Systems and Robots 2026 (CcSR 2026)

Recently, the importance of community-centric systems (CcS) is increasing as a new paradigm in a highly aging society. The emerging synthesis of ICT and robot technology (RT) is one of the most promising approaches towards information support for the next generation in both personal and public areas. Human-centric systems (HcS) can enhance the accessibility and usability of complicated systems and devices supporting human activities, communication, and interactions. Furthermore, the HcS can improve quality of life (QOL), in particular, information support, physical care, and mental care to maintain autonomy and independence in activities of daily living. If the improvement of QOL is done by the bottom-up construction, QOC can be considered as a top-down constraint to human daily life.

<https://sites.google.com/view/ccsr2026/>



Organizer:

Research Center for Community Centric Systems, Tokyo Metropolitan University, Japan

Co-Organizer:

serBOTinQ, Tokyo Metropolitan University, Japan

Robot Intelligence Innovation based on Local 5G (RiiL5G) Consortium, Japan

For Presenters <https://sites.google.com/view/ccsr2026/for-presenters?authuser=0>

The presenter can make a research presentation with/without submitting a paper.

If you submit your paper, we will include it in our proceedings.
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Submission presentation title and abstract:

<https://forms.gle/yNCCtdmWftkHw5HCA>



Registration Type and Fee

Full Registration : 25,000JPY

Student Registration : Free

Online participation : Free

(Notice; only a part of will be conduct online, no all)

<https://forms.gle/YvPE1BgJJkACFeYf9>



TOPICS OF INTEREST

Robotics

Computational Intelligence

Quantum Computing

Mechatronics

Human sensing

Machine Learning

Cognitive development

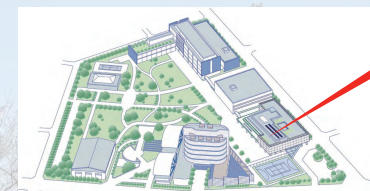
Recommender system

5G network

IoT

But are not limited. We welcome various research for components of community-centric systems.

Tokyo Metropolitan University, Hino Campus



Innovation space in #6 building.

6-6 Asahigaoka, Hino-shi, Tokyo

191-0065, Japan Tel. +81-42-585-8606

International Symposium
on Community-centric Systems and Robots 2026
(CcSR 2026)

February 17-20, 2026

PROGRAM				
17-Feb				
10:30 - 10:50	Opening		General Chair: Kazuyoshi Wada, Tokyo Metropolitan University General Co-Chairs: Eri Sato-Shimokawara, Tokyo Metropolitan University Takenori Obo, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
11:00 - 12:00	Oral Session 1		Chairperson: Kazuyoshi Wada, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
	O1-1	From Commands to Capabilities A Technician LLM Interface for a ROS 2 Nav2 Mobile Manipulator Grounded by Semantic Topological Cognitive Maps	Anhar Risnumawan, Hasan Imaduddin, and Naoyuki Kubota	
	O1-2	An Enacted Learning Framework for Robot Cognition via Viability-Driven Symbolization	Faadhil Assayfullooh	
	O1-3	Optimization of Speech Timing Using Q-Learning for Robotized Plants and Emotional Expression Through LEDs	Koki Utsumi, Eri Shimokawara(Sato)	
12:00 - 13:00	Lunch Time			
13:00 - 14:00	Keynote Speech 1		Chairperson: Naoyuki Kubota, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
	Building Weighted Commonsense Knowledge Graph with Vision and LLM for Possibilistic Reasoning		Professor Dr. Marek Reformat, University of Alberta	
14:00 - 14:10	Coffee Break			
14:10 - 14:50	Invited Talk 1		Chairperson: Naoyuki Takesue, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
	Energy-Free Adaptive Mechanisms for Community Robotics: Enabling Gravity Balancing From Assistive Devices to Reconfigurable Systems		Senior Lecturer Dr. Chin-Hsing Kuo, University of Wollongong	
14:50 - 15:00	Coffee Break			
15:00 - 16:30	serBOTinQ Symposium (Japaneses session)		Chairperson: Keiko Kasamatsu, TokyoMetropolitan University	@Bldg. 6, 2F Room 202
	AI 時代のサービスロボット開発			
	Panel Framing Talk		Sr. Asst. Prof Takeo Ainoya	
	Panel Discussion		Prof. Naoyuki Takesue, Prof. Kunihiro Yamada, Prof. Fumio Kojima, Prof. Takeo Ainoya	
16:30 - 17:30	Oral Session 2		Chairperson: Eri Sato-Shimokawara, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
	O2-1	MiLo Store: A Rearrangeable Display Shelf Robot System for Retail Automation	Masashi Seki,Kazuyoshi Wada	
	O2-2	Development of Operation Support System for Slewing Cranes	Sora Ishikawa, Naoyuki Takesue	
	O2-3	Cooperative Compliance Control of Redundant Lightweight Manipulators for Space-Constrained Community Environments	Muhammad Ramadhan Hadi Setyawan, Syadza Atika Rahmah, Naoyuki Kubota, Naoyuki Takesue	

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PROGRAM				
18-Feb				
10:30-11:50	Oral Session 3		Chairperson: Naoyuki Takesue, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
	O3-1	Design and Implementation of a Robot System for Rice Bowl with Salmon Roe in Conveyor Belt Applications	Fahmi Aziz Sasono, Kentaro Maeda, Isao Hara, Kazuyoshi Wada	
	O3-2	Approaches to Simultaneous Localization And Mapping Problems in Mini 4WD AI	Norikazu Ikoma	
	O3-3	Multiscopic Task Decomposition and Collaborative Planning for Heterogeneous Multi-Robot Systems in Cognitive Environments	Raditya Artha Rochmanto, Achmad Fahrul Aji, Anhar Risnumawan, Teuku Zikri Fatahillah, Naoyuki Kubota	
	O3-4	Development of walking method for flapping robot	Yoshihiro Yamashita, Hidaka Sato, Kaspul Anuar, Muhammad Labiyb Afakh, Algeli Yopiandi, Naoyuki Takesue	
12:00 - 13:00	Luncheon Seminar		Chairperson: Eri Sato-Shimokawara, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
	Reflection as Internal Action: Cognitive Dynamics in Reflective Processing and the Free-Energy Principle		Assistant Professor Dr Yosuke Fukuchi, Tokyo Metropolitan University	
13:10 - 14:10	Oral Session 4		Chairperson: Naoyuki Kubota, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
	O4-1	The potential of gamification of the Trail Making Test for attention rehabilitation	Akihiro Yorita, Motoki Tanaka, Kenichi Uemura, Naoyuki Kubota	
	O4-2	Investigation of the relationship between caregiver and patient characteristics and methods in robot assisted therapy for dementia	Kaname Yamauchi, Kazuyoshi Wada	
	O4-3	Feature Selection for Webcam-based Confidence Estimation toward Adaptive Learning Support	Shuto HATANAKA, Yuki Kawano, Eri SATO-SHIMOKAWARA	
14:10 - 14:20	Coffee Break			
14:20 - 15:00	Invited Talk 2		Chairperson: Hiroki Shibata, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
	Humanised Quantum AI		Senior Lecturer Dr Amir Pourabdollah, Nottingham Trent University	
15:00 - 15:10	Coffee Break			
15:10 - 17:10	Poster Session 1		Chairperson: Hiroki Shibata, Tokyo Metropolitan University	@Innovation Space, Bldg. 6, 1st floor
	P1-1	Clustering-Based Analysis of Sensor-Derived Action Logs for Community-Specific Embodied Knowledge	Umemura Keishin, Shimokawara Eri	
	P1-2	Analysis and Motion Control of Upper-Body Humanoid Robot	Rana Nagatani, Takenori Obo, Naoyuki Takesue	
	P1-3	Development of a Compact Wall-Climbing Robot	Hitomi Noda,Naoyuki Takesue	
	P1-4	Development of MiLo Bot	Daiki Kudo, Kazuyoshi Wada	
	P1-5	Development of Multi Agents Path Planning for Micro-Logistic Platform	Oktavia Nur Rizky Angelina, Kazuyoshi Wada	
	P1-6	A Feasibility Study on Conversion Models for Onomatopoeic Features and Physical Movements	Tomoo KIKUCHI, Yuki YOSHINAGA, Shoji YAMAMOTO, Eri SATO-SHIMOKAWARA	
	P1-7	Research on Enhancing the Stability of SRDM Clustering Using NetworkX	Youxi Xin, Naho Saito, Kazuyoshi Wada	
	P1-8	Proposal of space-time probability model for intelligence on physical space	Hiroki Shibata, Shota Shimizu, Yasufumi Takama, Naoyuki Kubota	
	P1-9	Estimation of the Traversable Area for Locomotion of a Two-Legged Wheeled Robot Based on a Gaze Mechanism	Soichiro Kamiyama, Takenori Obo, Naoyuki Kubota	

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PROGRAM			
19-Feb			
10:00-11:30	Rehabilitation Symposium: Connecting Laboratory-Hospital-Home in Behavior Rehabilitaiton	Chairperson: Jun'ichi Yamamoto	@Bldg. 6, 2F Room 202
	Muscle Strength Assessment Using Sub-Maximal Effort as a Foundation for Safe Assistive Robotics	Yoshitsugu OMORI, Yuji MORIO, Mikayo OMORI, Junichi YAMAMOTO	
	Voice Gamification for Home Practice: A Hybrid Intervention in Older Adults	Yuji Morio, Yoshitsugu Omori, Yoshimi Sakurai, Masayuki Tsuchida, Jun'ichi Yamamoto	
	The effects of individualized home-based exercise therapy on older adults with Urinary symptoms	Yoshimi SAKURAI	
	Developing Innovative and Accessible Technological Interventions to Optimize Activities of Daily Living Rehabilitation - The Effect of Errorless Learning-	Tomoharu Nakayama	
	AI-Assisted Motor Analysis of Elderly Individuals Using VP-Ergono: A Workflow Demonstration	Tianyi Han, Junichi Yamamoto	
11:30-11:45	Coffee Break		
11:45-13:00	Luncheon Seminar	Chairperson: Keiko Kasamatsu, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
	The Specific Effects of Cognitive Function on Motor Function	Assistant Professor Dr Katsuya Sakai, Tokyo Metropolitan University	
	Designing Shared Haptic Experiences for Children and People with Disabilities	Assistant Professor Dr Mina Shibasaki, Tokyo Metropolitan University	
	Design Insights for Supporting Physical Activity in Manual Wheelchair Users	Senior Lecturer Dr Xu Han, iU Professional University of Information and Management for Innovation	
13:00 - 14:00	Keynote Speech 2	Chairperson: Eri Sato-Shimokawara, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
	Quantum Computational Intelligence and Generative AI for Human-Machine Co-Learning	Professor Dr. Chang-Shing Lee, National University of Tainan	
14:00-17:00	LAB TOUR		
18:00	Banquet		

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PROGRAM				
20-Feb				
10:00 - 11:20	Oral Session 5		Chairperson: Takenori Obo, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
	O5-1 ONLINE	Development of a Wet Suction Cleaning System for Restroom Floors	Yoshiteru Morii, Kazuyoshi Wada	
	O5-2	Growing Neural Gas Algorithm for Embedded and FPGA	Teuku Zikri fatahillah, Raditya Artha Rochmanto, Achmad Fahrul Aji, Anhar Risnumawan, Adnan Rachmat Anom Besari, Naoyuki Kubota	
	O5-3	Topology-Guided Transfer Learning for Low-Resource Human Daily Action Recognition	Yuning Shi	
	O5-4	Multi-Task BERT for Event Extraction and Self-Efficacy Assessment in Rehabilitation Chatbot Dialogues	Yuqing Zhang, Yuning Shi, Han Shi, Naoyuki Kubota	
11:20 - 12:20	Keynote Speech 3		Chairperson: Akihiro Yorita, Daiichi Institute of Technology	@Bldg. 6, 2F Room 202
	From Rulebook to Road: Lessons Learned from Our VDI Automotive Driving Challenge Campaign		Professor Dr. Michael Danner, Bochum University of Applied Sciences	
12:20 - 13:30	Lunch Time			
13:30 - 15:30	Poster Session 2		Chairperson: Akihiro Yorita, Daiichi Institute of Technology	@Innovation Space, Bldg. 6, 1st floor
	P2-1	Investigation on User Simulation in Reinforcement Learning-based Recommender Systems	Mingxuan Zhang, Hiroki Shibata, Yasufumi Takama	
	P2-2	Modeling the Encoding and Embodied Learning of Tacit Expertise in Shodo Writing through Pressure–Motion Coupling	Ainul Yaqin, Eri Sato-Shimokawara	
	P2-3	Investigation of Temporal Resolution in Grasping Motion Measurement Using a Ball-Shaped Sensor	CheukLung Yeung, Yuki Yoshinaga, Tomoo Kikuchi, Eri Shimokawara	
	P2-4	Topological Motion Planning based on Perceiving-Acting Cycle with Attention Mechanism for Robot Manipulators	Takumi Miya, Takenori Obo, Naoyuki Kubota	
	P2-5	Proposal on Emotion-Aware, Video-Driven Bundle Recommendation	Ying-Yu Chen, Hiroki Shibata, Lieu-Hen Chen, Yasufumi Takama	
	P2-6	Development of a Squat Exercise Feedback System and Its Evaluation through Home-Based Experiments	Yugo Okamoto, Muhammad Firdaus Maulana, Kohei Okabe, Eri Sato-Shimokawara, CheukLung Yeung	
	P2-7	Ball-Type Sensing Device for Measuring Ball Grip	Yuki Yoshinaga, Tomoo Kikuchi, Shoji Yamamoto, Eri Shimokawara	
	P2-8	Advancing DX in Piling Construction: Precision Sensing and Remote Inspection via Integrated Cloud Systems	Naofumi Kato	
	P2-9	Dynamic Obstacle Avoidance for Robot Manipulators Using Effectivity Maps	Haruto Uraki, Takenori Obo, Naoyuki Kubota	
15:30 - 16:30	Keynote Speech 4		Chairperson: Takenori Obo, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202
	Stabilizing the Quantum Edge - Privacy Preserving Quantum Fuzzy Federated Model with Continual Learning		Professor Dr. Loo CHU KIONG, Universiti Malaya	
16:30 - 17:00	Closing		Advisory: KUBOTA Naoyuki, Tokyo Metropolitan University, NAKAJIMA Hiroshi, Tokyo Metropolitan University YAMADA Kunihiro, Tokyo Metropolitan University	@Bldg. 6, 2F Room 202

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WORKSHOP

PROGRAM			
24-Feb			
2026 IEEE R10 EAC on Quantum Computational Intelligence for Pre-University and Undergraduate Students			
Workshop: 2026 IEEE R10 EAC Workshop on Quantum CI & AI		Chang-Shing Lee and NUTN Team, Taiwan	
10:30-11:00	Opening Address		@Bldg. 6, 2F Room 202
Concept-based Learning			
11:00 - 11:30	Introduction to Quantum Computational Intelligence	Chang-Shing Lee and NUTN Team, Taiwan	
11:30 - 12:30	Stage I.1: QCI Data Model (Software)		
12:30 - 13:30	Lunch Break		
Experience-based Learning and Operation-based Learning			
13:30 - 14:30	Stage I.2: QCI Data Model (Hardware)		
14:30 - 15:00	Stages II to III: QCI Knowledge Model & Inference Model		
15:00 - 15:30	Stages IV to V: QCI Fine-Tuned Model and Quantum Fuzzy InferenceExperience		
15:30 - 16:00	Expression-based Learning and Learning Experience Sharing		

PROGRAM		
25-Feb		
Workshop: Community-Centric Autonomous Systems: Human Sensing, Collaborative Robotics, and Mobile Robots		Professor Dr. Michael Danner, Bochum University of Applied Sciences
10:00	Welcome + Introduction	
10:10	Lecture: What “community-centric autonomy” means	
10:30	Hands-on #1: Build a tiny activity recognizer	
11:00	Lecture: Collaborative robotics for people-facing tasks	
11:20	Coffee Break	
11:40	Hands-on #2 (teams): Community scenario design sprint	
12:10	Lecture: Mobile robots & “human-aware” navigation	
12:30	Coffee Break	
12:40	Hands-on #3 (Colab): Socially-aware path planning	
13:00	Closing discussion & wrap-up	
13:10	End	