

ACCAS2025 – Program at a glance

ACCAS2025 - Program at a glance (2025/09/28 - 2025/09/30 @ Centennial Hall Kyushu University School of Medicine, Fukuoka, Japan)

ACCA32023 - Program at a glance (2025/09/28 - 2025/09/30 @ Centennial Hall Kyushu University School of Medicine, Fukuoka, Japan)															
2025/09/28(Sun)				Date	2025/09/29(Mon)					Date	2025/09/30(Tue)				
Date / Room		Main Hall	Hall 1 & 2	Hall 3	Date / Room		Main Hall	Hall 1 & 2	Hall 3	Conference Room 1	Date / Room		Main Hall	Hall 1 & 2	Hall 3
				8:30 -		Registration starts from 8:30					8:30 -		Registration starts from 8:30		
				9:00 - 9:10		Opening Ceremony					9:00 - 10:35		Oral Session 5		Oral Session 6
				9:10 - 10:45		Oral Session 1			Oral Session 2		10:35 - 10:50		Coffee Break		
				10:45 - 11:00		Coffee Break					10:50 - 12:25		Oral Session 7		Oral Session 8
				11:00 - 12:40		Educational Session				12:25 - 14:00			Lunch + Prototype Demo Session		
				12:40 - 14:10			Lunch + Poster Session			14:00 - 14:15			Award Ceremony and Closing		
				14:10 - 15:10		Plenary talk									
14:30 -				Registration starts from 14:30					15:10 - 15:25		Coffee Break				
15:00 - 17:00			Rising Star Session		15:25 - 17:00		Oral Session 3			Oral Session 4					
					17:00 - 18:00					Networking Session with drinks	Board Meeting				
					18:00 - 20:00			Banquet							

* The following sections show the session allocations for selected oral presentations, the poster session, the prototype demonstration session and special sessions.

Oral Presentations (55)

Instruction for Presentation

- Please note that the order of oral presentations within each session will be finalized shortly and announced in the final program for ACCAS 2025.
- Oral presentation time: 10 minutes presentation + 3 minutes Q&A
- Please bring your own PC with presentation.

Oral Session 1 – Machine Learning and Deep Learning for CAS (7)

- Real-Time Surgical Instrument Segmentation using Efficient Deep Learning
- Autonomous Tissue Traction for Surgical Dissection using Deep Reinforcement Learning: A Proof of Concept Study
- Contact-aware Prediction and Motion Switching for Reliable Autonomous Tissue Retraction in Robotic Surgery
- Semantic Segmentation Enhanced Sim-to-Real Image Translation for Surgical Simulation
- AI-Driven Autonomous Spatial Registration of Pre-clinical Images to Patient for Bronchoscope Robot
- Proposal of a Hyperparameter Selection Method for TimeGAN to Generate Training Data for Robotic Needle Insertion
- Markerless Pose Estimation of Continuum Manipulator using Multi-Task Learning and Realistic Synthetic Dataset

Oral Session 2 – Surgical Robotics and Instrumentation I (7)

- Sim2Real Object Detection for Continuum Robots using Isaac Sim
- Catheter-based Flexible Ureteroscope for Balanced Omnidirectional Bending using Crossed Wiring
- Development of a Cell Isolation Device for Continuous Brain Tumor Resection Surgery Support System - Optimization of Roller Gap for Efficient Cell Isolation
- Comparing Wrist Joint Angle by Armrest Positioning during Simulated Suturing Task in Pediatric Surgery
- Determining the Necessity of Force Feedback in Robot-Assisted Surgery
- Design and Control of a Robotic Flexible Endoscope for Automatic Intervention

- Design and Evaluation of a Wireless Robotic System for Fracture Reduction Surgery: Compliance with EMC and Autoclave Sterilization Standards

Oral Session 3 – Advances in Image Processing and Surgical Visualization (7)

- 3D Shape Difference Derived System in Real-time Processing for Evaluating Facial Morphology
- Quality-driven Prompt Scoring for Depth-aware Bronchoscopic Lumen Segmentation
- DepthAnythingV2-Based Depth Prediction for Telesurgery
- Color Beyond Layers: Contrastive Dual-Band Endoscopic Imaging with Difference-aware Fusion
- Two-Step Anatomical Feature Point Estimation of the Mandible using 3D U-Net-Based Initialization and Surface Curvature-Based Non-Rigid Image Registration
- Ultrasound Image-Based 3D Bone Reconstruction and Registration with CT Models
- Stacked Adversarial Learning for Boundary-Aware Segmentation in Corneal Slit Lamp Images

Oral Session 4 – Surgical Robotics and Instrumentation II (6)

- Evaluation of Optical Displacement Sensor for Surgical Robotic Forceps in Repeated Grasping
- Evaluation of Wide-Angle Lens Distortion Impact on Angle Recognition in 3D Endoscopic Images
- Omnidirectional Steerable Catheters for ERCP using Non-straight and Crossed Wiring
- Motor Command Prediction via Reinforcement-Informed Neural Networks for Flexible Continuum Manipulator
- Investigation of Robotic Forceps Mechanism based on Biomimetics
- Diffusion-Prior Contrastive and Physics-Informed for Unpaired Endoscopic Image Restoration

Oral Session 5 – Computer-Aided Diagnosis and Imaging (7)

- A Mask-Based Conditional Diffusion Model for DISE Image Synthesis and Quality Evaluation
- Pixel-Aware Alert Mapping for Bleeding Localization in Minimally Invasive Procedures
- Image-based Joint Inflammation Estimation for Rheumatoid Arthritis with Virtual Hands
- Performance Comparison of Fetal Assessment Systems Based on CNN-based Architectures Depending on the Feature Regions of the Input Data
- Stereoscopic Surgical Exoscope for Simultaneous Visualization of Fluorescence and White-Light Images
- MAPS-Net: A Modality-weighted Asymmetric Pseudo Discrete Fusion Segmentation Network for PET/CT
- Surgical Procedure Analysis of Cervical Laminoplasty

Oral Session 6 – Surgical Robotics and Instrumentation III(7)

- An MRI-guided Prostate Biopsy Device with a Compliant Constant-Force Mechanism: Design and Preliminary Testing
- Design of a Surgical Forceps with Force and Hardness Sensing Capability for MIS
- Improvement of a Stiffness Tunable Mechanism by Asymmetrical Beam Structure
- Design of a Patient Positioning Robotic System for Orthopedic Surgery
- Design and Evaluation of multi-Material Compliant Joint for Endoluminal Surgery
- Design and Evaluation of a Compact Catheter Robot System for Cardiovascular interventions
- A Single Scale Doesn't Fit All: Adaptive Motion Scaling for Efficient and Precise Teleoperation

Oral Session 7 – Navigation and Simulation in Computer-Assisted Surgery (7)

- Assistive System for Pre-operative Wire-Localization for Microcalcifications Breast Lesion under Mammogram Guidance
- Resolving Disorientation in Robotic Kidney Access through Visual Guidance: A User Study
- Integrated Point Tracking by Combining Optical Flow with Keypoint-based Tracking

- Enhancing Augmented Reality Surgical Navigation with High-Fidelity Airway Segmentation
- Contactless Hand Gesture Control for Intraoperative Flap Harvesting in Breast Reconstruction
- Leader-follower Registration for Intuitive Control in Robot-assisted Endoscopic Surgery
- Face-skull Modeling for Craniomaxillofacial Surgical Planning via A Progressive Shape Transform Network

Oral Session 8 – Emerging Technologies and Clinical Applications of CAS (7)

- Reinforcement Learning for Autonomous Robotic Cutting using Virtual Reality Simulation
- Confocal Laser Endomicroscopy for Artificial Intelligence-Assisted Diagnosis of Intestinal Metaplasia
- Multi-Scale Vessel Segmentation Framework with Orthogonal Convolution for Safer Endoscopic Submucosal Dissection
- Endoscopic Tissue Deformation Recovery-Driven Surgery Support System for Visual Distraction Removal and Dissection Planning
- Evaluation of a Wireless Robotic System for Fracture Reduction in a Cadaver Model
- Bone Marrow Aspiration Training System using a Pediatric Foot Model
- Mitigating Hysteresis using Vibration Excitation on Tendon-Sheath Mechanism

Poster Session (16)

Instruction for Poster Presentation

- Onsite presentation at poster area
- Poster size (A0, Width 841 mm x Height 1,190 mm)
- A 3-minute podium presentation will be given at the beginning of the session. Please prepare your slide(s) and upload them to the following URL by 26th September.
- https://archive.iii.kyushu-u.ac.jp/public/oppiA1IJ9CD_eRZXNTtZ8SbSemXOK9hOBqxrUBSYf43
- Please save your file using the format: Title_PresenterName.pptx

List of Posters (16)

- YOLOv11-Based Liver Deformation Prediction from Monocular Images: A Preclinical Study using Augmented Reality on 3D-Printed Models
- Computer-Aided Diagnosis using the Large-Scale Visual Language Models in Screening of Digestive Endoscopy
- Design and Experimental Evaluation of an Assistive Arm for Laparoscopic Surgery
- Development of a System for Searching for the Same Section in Prostate Biopsy
- Evaluation of Automated Segmentation of Interstitial Lung Abnormality Patterns in CT Images using Deep Learning
- Feature-Guided Segmentation of Cranium Anatomy for Point Cloud Registration using Mask2Former
- Surgical Tool Detection in Open Surgery using Temporal Information
- Does Real-time Force Feedback Matter? A Pilot Study with Robot-assisted fURS
- Development of a Magnetically Actuated Guidewire for Minimally Invasive Robotic Interventions
- Analysis of Multimodal Sensory Signals using New Auto-Stopping Drill Model
- Expanding Mechanism for Anchoring in Continuum Robots for Medical Applications
- Optical Coherence Tomography As A Non-Invasive Tool For Accurate Cortical Surface Reconstruction
- Reducing Tissue Damage in Cylindrical Cutter-Based Extraction for Minimally Invasive Autopsy
- Biomechanical Evaluation of Polymer-Based Lumbar Disc Replacements using Advanced Infill Geometries.
- AR-Enhanced Surgical Robot Setup: Interactive Preoperative Guidance at the LIROS Innovation Hub
- A Surgical Navigation System for Fracture Reduction Integrating 3D Slicer and ROS2

Prototype Demo Session (5)

Instruction for Presentation at the Demo Session

- Onsite presentation at demonstration area
- A 3-minute podium presentation will be given at the beginning of the session. Please prepare your slide(s) and upload them to the following URL by 26th September.
- <https://archive.iii.kyushu-u.ac.jp/public/ip5hAQKJtADk0RkJNdHSCQ46rWTXe5QnNCi9BMZKvu2j>
- Please save your file using the format: Title_PresenterName.pptx

List of Presentation (5)

- Adaptive MR Smart Classroom for Children with Developmental Disorders: using Biosignal Monitoring and Haptic Feedback.
- Thin and Long Flexible Manipulators for Endoscopic Submucosal Dissection
- SMOVE : A Hand Rehabilitation Robot
- RONA VIS: A Robotic and Navigation System for Efficient, Accurate, and Safe Long Bone Fracture Management
- A Wire-Reduced Mechanism for Distal Rolling and Grasping using Torque Coils in Continuum Manipulators

Special Sessions (3)

Plenary talk

Prof. Yoko Yamanishi, Kyushu University

Title: Emergent functions of electrically induced bubbles

Educational Session (5)

- Digital Healthcare 2025 : Age of Generative AI – Prof. Koon Ha Rha
- Light Field 3D Display for Medical Visualization - Assistant Prof. Tianqi Huang
- Shaping Robotics Education: Curriculum Innovation and Hands-On Learning - Associate Prof. CHUI Chee Kong
- Advancing Patient Care through Medical Robotics in Surgery, Rehabilitation, and Hospital Services - Prof. Jackrit Suthakorn
- Multi-Agent Orchestration for Advanced AIs and Its Applications in Emergency Rooms - Prof. Yoshikazu Nakajima

Rising Star Session (5)

- Flexible Endoscopic Robots and Surgical Task Automation - Assistant Prof. Minho Hwang
- Driving Next-Generation Robotic Surgery for Future Sustainable and Value-Driven Care in Singapore - Associate Prof. Chua Chin Heng Matthew
- SurgSim: Bridging Surgical Simulation and Innovation – A Journey from Research to Impact - Dr. Nantida Nillahoot
- Bridging Human and Machine Intelligence for Safer Surgical Environments - Assistant Prof. D.S.V. Bandara
- Research on Autonomous Robotic Bone Drilling Methods for Deep Irregular Bone Tissues - Associate Prof. Liang Li