

# ICBIR+MRF 2024 Conference Program

## 7.26, 2024

14:00 – 17:30	会议注册		邀请者/注册者
18:00 – 21:00	晚宴自助餐		邀请者/注册者

## 7.27, 2024

8:30 – 8:55	<b>Plenary Talk 1</b> 唐佩福院士，解放军总医院		五洲厅	邀请者/注册者
8:55 – 9:20	<b>Plenary Talk 2</b> 郭书祥院士，南方科技大学		五洲厅	邀请者/注册者
9:20 – 9:40	<b>Plenary Talk 3</b> 顾建军院士，达尔豪斯大学		五洲厅	邀请者/注册者
9:40 – 10:00	<b>Plenary Talk 4</b> 吴新宇教授，中科院深圳先进院		五洲厅	邀请者/注册者
10:00 – 10:10	茶歇		五洲厅	邀请者/注册者
10:10 – 10:35	<b>Plenary Talk 5</b> 郭雷院士，北京航空航天大学		五洲厅	邀请者/注册者
10:35 – 10:55	<b>Keynote Talk 1</b> 迟文政教授，苏州大学		五洲厅	邀请者/注册者
10:55 – 11:15	<b>Keynote Talk 2</b> 王超群教授，山东大学		五洲厅	邀请者/注册者
11:15 – 11:35	<b>Keynote Talk 3</b> 闵哲教授，山东大学		五洲厅	邀请者/注册者
12:00 – 14:00	午饭自助餐		五洲厅	邀请者/注册者
14:00 – 15:40	<b>Session 1-1</b> VIP 2 Room	<b>Session 2-1</b> VIP 3 Room	<b>青年学者论坛@VIP 1 Room</b> 麦晓春教授，深圳大学 陈炜楠教授，广东工业大学 房钰棋教授，南京大学	
15:40 – 16:00	茶歇			邀请者/注册者
16:00 – 18:00	<b>Session 1-2</b> VIP 2 Room	<b>Session 2-2</b> VIP 3 Room	<b>BIRob Editorial Board Meeting</b> VIP 1 Room	
18:30 – 21:00	颁奖晚宴			邀请者/注册者

## 7.28, 2024

8:00 – 17:30	当地旅游		需26日注册
--------------	------	--	--------

## Session 1-1

7 min presentation, 3 min Q and A; Chair: Wenzheng Chi, Yixuan Yuan

**No. 20, 14:00-14:10**

Title: DAUA-Plane: Depth Anything with Uncertainty Map and Attention-based Plane Reconstruction of Surgical Scenes

**No. 25, 14:10-14:20**

Title: Terrain Recognition in Real-Time for a Legged Robot based on Ontology Information

**No. 22, 14:20-14:30**

Title: A SLAM framework based spinal endoscopic localization method

**No. 34, 14:30-14:40**

Title: Running and Steering Gait Generation Based on Double-Leg 3D-SLIP Model for Bipedal Robots

**No. 36, 14:40-14:50**

Title: Source-Free Unsupervised Domain Adaptation Fundus Image Segmentation via Entropy Optimization and Anatomical Priors

**No. 40, 14:50-15:00**

Title: Head Pose Estimation and 3D Neural Surface Reconstruction via Monocular Camera in situ for Navigation and Safe Insertion into Natural Openings

**No. 41, 15:00-15:10**

Title: A hybrid drive bionic robotic fish with pectoral-fin propellers and caudal-fin propulsion

**No. 42, 15:10-15:20**

Title: Performance Evaluation of a Highly Sensitive Digital Microfluidic Chip for Single-Molecule Enzyme Kinetics Studies

**No. 23, 15:20-15:30**

Title: Prototype Design and Experimental Test for A Hydraulic-Driven Soft Robotic Arm

**No. 44, 15:30-15:40**

Title: A High-Speed Centerline Extraction Method for Multiple Laser Stripe based on Hessian Matrix

## Session 2-1

7 min presentation, 3 min Q and A; Chair: Hongliang Ren, Chaoqun Wang

**No. 2, 14:00-14:10**

Title: Learning Adaptive Legged Locomotion Skills Using Hierarchical Learning

**No. 11, 14:10-14:20**

Title: Hand Acupoint Localization with Deep Learning Integrating Reflex Zones and Topological Keypoints

**No. 16, 14:20-14:30**

Title: Cone-based Automatic Instrument Interchange Interface for Autonomous Robotic Surgical System

**No. 32, 14:30-14:40**

Title: Synergy Actuation of Magnetic Catheter for On-site Biopsy Using Global and Local Magnetic Field

**No. 19, 14:40-14:50**

Title: Anthropomorphic Viscoelastic Compliance Control Method for Self-balancing Lower Limb Exoskeletons

**No. 38, 14:50-15:00**

Title: Surgical instrument segmentation algorithm based on improved DeepLab-V3+

**No. 10, 15:00-15:10**

Title: A comparative study of robot-assisted and freehand pedicle screw placement in scoliosis surgery

**No. 14, 15:10-15:20**

Title: Accuracy and surgical efficiency in minimally invasive transforaminal lumbar interbody fusion: a comparison of two different modalities of orthopaedic robots

**No. 49, 15:20-15:30**

Title: A unimodal degradation detection method for particle filter-based slam algorithms

**No. 5, 15:30-15:40**

Title: Restricted kinematic alignment(r-KA) achieves good gap balancing in Robotic-Assisted TKA

## Session 1-2

7 min presentation, 3 min Q and A; Chair: Jiyu Cheng, Zhe Min

**No. 24, 16:00-16:10**

Title: YOLOv7-Tiny Road Target Detection Algorithm Based on Attention Mechanism

**No. 26, 16:10-16:20**

Title: Numerical studies of ultrasound-assisted magnetic beads mixing based on acoustic streaming effect

**No. 13, 16:20-16:30**

Title: Localization of Pedicle Screw Placement Plane Based on Reinforcement Learning

**No. 8, 16:30-16:40**

Title: Disturbance Rejection Control for Autonomous Trolley Collection Robots with Prescribed Performance

**No. 30, 16:40-16:50**

Title: A Learning-Based Acceleration Framework for Transient Hemodynamic Simulations

**No. 29, 16:50-17:00**

Title: Robotic Skill Acquisition in Peg-in-hole Assembly Tasks Based on Deep Reinforcement Learning

**No. 31, 17:00-17:10**

Title: Numerical Study of The Ground Effect on Bionic Hovering Flapping Wing with Different Trajectory Style

**No. 33, 17:10-17:20**

Title: Disturbance Observer-Based Robust Control for Redundant Manipulators Towards Conditional Monitoring

**No. 35, 17:20-17:30**

Title: Multi-Objective Optimization of RTAB-Map parameters using Genetic Algorithm for indoor 2D SLAM

**No. 37, 17:30-17:40**

Title: Learning to Adapt Foundation Model DINOv2 for Capsule Endoscopy Diagnosis

**No. 50, 17:40-17:50**

Title: SkyvoltRobot: A Novel Rail-Mounted Charging Robot for Electric Vehicles

## Session 2-2

7 min presentation, 3 min Q and A; Chair: Yuxiang Sun, Li Liu

**No. 27, 16:00-16:10**

Title: A Spiking Neural Network Action Decision Method Inspired by Basal Ganglia

**No. 43, 16:10-16:20**

Title: Active Scene Reconstruction by Multi-Robots in Unknown Environments

**No. 7, 16:20-16:30**

Title: AMFN: Autoencoder-led Multimodal Fusion Network for EEG-fNIRS Classification

**No. 21, 16:30-16:40**

Title: MRAC: Memory Rehearsal Augmented Recurrent Attention-based Captioning under Domain Shifts

**No. 28, 16:40-16:50**

Title: Robust Control of Hand-held Concentric-tube Robot Based on Nonlinear Disturbance Observer

**No. 39, 16:50-17:00**

Title: A Method for Target Detection and Tracking of Recycling Robot in Nuclear Power Plant

**No. 45, 17:00-17:10**

Title: Elastic Collision Based-Interactive Path Planning System for Vascular Intervention Robots

**No. 9, 17:10-17:20**

Title: Transformer-Based Fusion of RGB and Depth Images for Terrain Recognition

**No. 18, 17:20-17:30**

Title: Design and Control of Continuous Jumping Gaits for Humanoid Robots Based on Motion Function and Reinforcement Learning

**No. 46, 17:30-17:40**

Title: Monocular Centralized Edge-Cloud Collaborative SLAM Combining Direct and Feature Methods

**No. 47, 17:40-17:50**

Title: Dynamic Feature-Aware Visual Inertial Odometry in Dynamic Environments