**ICBIR+MRF 2024 Conference Program**

**7.26, 2024**

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| 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**

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| 8:30 – 8:55 | **Plenary Talk 1**  唐佩福院士，解放军总医院 | | 五洲厅 | 邀请者/注册者 |
| 8:55 – 9:20 | **Plenary Talk 2**  郭书祥院士，南方科技大学 | | 五洲厅 | 邀请者/注册者 |
| 9:20 – 9:40 | **Plenary Talk 3**  顾建军院士，达尔豪斯大学 | | 五洲厅 | 邀请者/注册者 |
| 9:40 – 10:00 | **Plenary Talk 4**  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 | **Plenary Talk 5**  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 | **Keynote Talk 1**  迟文政教授，苏州大学 | | 五洲厅 | 邀请者/注册者 |
| 10:55 – 11:15 | **Keynote Talk 2**  王超群教授，山东大学 | | 五洲厅 | 邀请者/注册者 |
| 11:15 – 11:35 | **Keynote Talk 3**  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 – 15:50 | **Session 1-1**  VIP 2 Room | **Session 2-1**  VIP 3 Room | **青年学者论坛**@VIP 1 Room  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  陆波教授，苏州大学 | |
| 15:50 – 16:10 | 茶歇 | | | 邀请者/注册者 |
| 16:10 – 18:10 | **Session 1-2**  VIP 2 Room | **Session 2-2**  VIP 3 Room | **BIRob Editorial Board Meeting**  VIP 1 Room | |
| 19:00 – 21:00 | 颁奖晚宴 | | | 邀请者/注册者 |

**7.28, 2024**

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| 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**

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| 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 |
| No. 51, 15:40-15:50  A Comparative Study of Non-Rigid Point Set Registration Approaches for Image-Guided Liver Surgery |

**Session 2-1**

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

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| 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 |
| No. 52, 15:40-15:50  Intraoperative Multi-View 2D/3D Image Registration via Differentiable X-Ray Rendering |

**Session 1-2**

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

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| 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**

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| 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 |