

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 – 15:40 | 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 | |
| 15:40 – 16:00 | 茶歇 | | | 邀请者/注册者 |
| 16:00 – 18:00 | Session 1-2 VIP 2 Room | Session 2-2 VIP 3 Room | BIRob Editorial Board Meeting VIP 1 Room | |
| 18:30 – 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 |
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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

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