**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**  郭雷院士，北京航空航天大学 | | 五洲厅 | 邀请者/注册者 |
| 9:20 – 9:40 | **Plenary Talk 3**  郭书祥院士，南方科技大学 | | 五洲厅 | 邀请者/注册者 |
| 9:40 – 10:00 | **Plenary Talk 4**  顾建军院士，达尔豪斯大学 | | 五洲厅 | 邀请者/注册者 |
| 10:00 – 10:20 | **Plenary Talk 5**  吴新宇教授，中科院深圳先进院 | | 五洲厅 | 邀请者/注册者 |
| 10:20 – 10:30 | 茶歇 | | 五洲厅 | 邀请者/注册者 |
| 10:30 – 10:50 | **Keynote Talk 1**  迟文政教授，苏州大学 | | 五洲厅 | 邀请者/注册者 |
| 10:50 – 11:10 | **Keynote Talk 2**  王超群教授，山东大学 | | 五洲厅 | 邀请者/注册者 |
| 11:10 – 11:30 | **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 |

**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**

Mengya Xu ( CUHK )

Mengya Xu (NUS)

Ziqi Guo (CUHK)

An WANG (CUHK)

Hongliang Ren (Chinese University of Hong Kong)

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

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

Yang Chen ( Zhejiang University )

Haihui Yuan (Southwest Automation Research Institute)

DU Ruilong (Zhejiang University)

sumian song (Southwest Automation Research Institute)

Yungang Hao ( Zhejiang University )

Zheng Chen (Zhejiang University)

Jason Gu (Dalhousie University)

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

**Title: A SLAM framework based spinal endoscopic localization method**

yang yang (Shandong university)

Guoliang Li ( Shandong university )

Li Qianqian (Shandong University)

Rui Song ( Shandong university )

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

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

Guifu Luo (State Key Laboratory of Fluid Power and Mechatronic Systems, Zhejiang University)

DU Ruilong (Zhejiang University)

sumian song (Southwest Automation Research Institute)

Haihui Yuan (Southwest Automation Research Institute)

Hua Zhou ( State Key Laboratory of Fluid Power and Mechatronic Systems, Zhejiang University )

Jason Gu (Dalhousie University)

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

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

Yijia Chen (Northeastern University)

Jiapeng Li (Northeastern University)

Haoze Yu ( Northeastern University )

Lin Qi (Northeastern University)

Yongchun Li ( Shenyang Contain Electronic Technology Co )

**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**

ruijie tang (The Chinese University of Hong Kong)

Beilei Cui (The Chinese University of Hong Kong)

Hongliang Ren (Chinese University of Hong Kong)

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

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

Yong Zhong (South China University of Technology)

Haoyu Huang (South China University of Technology)

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

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

zixu Wang (Southern University of Science and Technology)

Anran Zheng ( CAS Key Lab of Bio-Medical Diagnostics Suzhou Institute of Biomedical Engineering and Technology, Chinese Academy of Sciences )

Shuxiang Guo ( Southern University of Science and Technology )

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

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

Yu Lei (Zhejiang University)

Pengkun Du ( Zhejiang University )

Minghao Xie ( Dalian University of Technology )

Zheng Chen (Zhejiang University)

Jason Gu (Dalhousie University)

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

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

Juntian Shi (Shanghai Jiao Tong University)

Weichao Guo (Shanghai Jiao Tong University)

Xinjun Sheng (State Key Laboratory of Mechanical System and Vibration, Shanghai Jiao Tong University)

**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**

Tian Zhuangzhuang (East China normal university)

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

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

Yi Zheng (Jianghan University)

Qiang He ( Jianghan University )

Hongxing Zhang ( Jianghan University )

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

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

Jie Wang (Tsinghua University)

Jiayuan Liu (Tsinghua University)

Hee Guan Khor (Tsinghua University)

Tianqi Huang ( Shanghai Jiao Tong University )

Longfei Ma ( Tsinghua University )

Hongen Liao (Tsinghua University)

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

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

Min WANG (City University of Hong Kong)

Xiaozhen Zhang ( City University of Hong Kong )

Junxian Zhou ( City University of Hong Kong )

Tianqi Yang ( City University of Hong Kong )

Wei Dai (City University of Hong Kong)

Jun Liu (City University of Hong Kong)

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

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

Ziqiang Chen (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences)

Mengbo Luan (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences)

Feng Li (International Conference on Intelligent Robotics and Applications)

dingkui tian ( Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences )

jianquan sun ( Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences )

ansi peng ( Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences )

Xinyu Wu (Chinese University of Hong Kong)

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

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

Xue Li (Beijing Institute of Technology)

Yuxin Ji ( Beijing Institute of Technology )

Qingyao Liu ( beijing institute of technology )

Xingguang Duan ( beijing institute of technology )

Changsheng Li (Beijing Institute of Technology)

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

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

Derun Di (Qilu Hospital of Shandong University)

Lianlei Wang (Qilu Hospital of Shandong University)

Suomao Yuan (Qilu Hospital of Shandong University)

Yonghao Tian (Qilu Hospital of Shandong University)

Xinyu Liu (Qilu Hospital of Shandong University)

**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**

Hui Wang (Shandong University Qilu Hospital)

SUN Xiaogang (Tengzhou Central People’s Hospital)

Yonghao Tian (Shandong University Qilu Hospital)

Suomao Yuan (Shandong University Qilu Hospital)

Lianlei Wang (Shandong University Qilu Hospital)

Xinyu Liu (Shandong University Qilu Hospital)

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

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

Yanbin Li (Beijing University of Posts and Telecommunications)

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

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

Chuanlong Wu (Ruijin Hospital, Shanghai Jiao Tong University School of Medicine)

Hongyi Wang (Ruijin Hospital, Shanghai Jiao Tong University School of Medicine)

Jiong Zhang (Ruijin Hospital, Shanghai Jiao Tong University School of Medicine)

Zhihong Liu (Ruijin Hospital, Shanghai Jiao Tong University School of Medicine)

Jianmin Feng (Ruijin Hospital, Shanghai Jiao Tong University School of Medicine)

Chuan He (Ruijin Hospital, Shanghai Jiao Tong University School of Medicine)

**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**

Qingsong Yu (ANHUI UNIVERSITY OF TECHNOLOGY)

Xiangrong Xu (Anhui University of Technology)

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

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

Chengxi Huang (Xiamen University)

Yulin Huang (Xiamen University)

Yang Hu (Xiamen University)

Jianxiong Guan (Xiamen University)

Dongxu Zhang (Xiamen University)

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

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

Ang Li (CUHK)

Jiayi Yao (Tianjin University)

DETIAN KONG (CUHK)

Qinghu MENG (Southern University of Science and Technology; The Chinese University of Hong Kong)

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

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

Ruidong Xi (Southern University of Science and Technology)

Tie-Nan Ma (University of Macau)

Bingyi Xia (SUSTech)

Xue Zhang (Southern University of Science and Technology)

Yixuan Yuan (Chinese University of Hong Kong)

Jiankun Wang (Southern University of Science and Technology)

Qinghu MENG (Southern University of Science and Technology; The Chinese University of Hong Kong)

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

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

Qin-Yi Zhang (Institute of Automation, Chinese Academy of Sciences)

Xiao-Hu Zhou (Institute of Automation, Chinese Academy of Sciences)

Xiaoliang Xie (Institute of Automation, Chinese Academy of Sciences)

Shiqi Liu ( Institute of Automation, Chinese Academy of Sciences)

Zhen-Qiu Feng ( Institute of Automation, Chinese Academy of Sciences)

MeiJiang Gui (Institute of Automation Chinese Academy of Sciences)

Hao Li (Chinese Academy of Sciences)

Tianyu Xiang (Institute of Automation, Chinese Academy of Sciences)

De-Xing Huang (Institute of Automation, Chinese Academy of Sciences)

Zengguang Hou (Chinese Academy of Sciences)

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

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

Peng Tu (Shandong University)

Zihao Sun (Shandong University)

yuxuan Gao (SDU)

Pingping Liu (Shandong University)

Rui Song (Shandong University)

Yong Song (Shandong University)

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

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

Wang Yuchao (Dongguan Institute of Technology)

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

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

Tienan Ma (University of Macau)

Ruidong Xi (Southern University of Science and Technology)

Weixiang Liang (University of Macau)

Zhi-Xin Yang (University of Macau)

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

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

Jason Gu (Dalhousie University)

Hanxiang Zhang (Dalhousie University)

Nagamalar Nagarajan (Dalhousie University)

Wei Liu (Southern University of Science and Technology)

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

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

Bowen Zhang (The Chinese University of Hong Kong)

Ying Chen (Pazhou Lab)

Long Bai (The Chinese University of Hong Kong)

Yan Zhao (University of Science and Technology Beijing)

Yuxiang Sun (City University of Hong Kong)

Yixuan Yuan (Chinese University of Hong Kong)

Jianhua Zhang (University of Science and Technology Beijing )

Hongliang Ren (Chinese University of Hong Kong)

**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**

Tianyong Ao (Henan University)

Qiuping Liu (Henan University)

Le Fu (Henan University)

Yi Zhou (Henan University)

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

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

Gaoming Chen (Shanghai Jiaotong University)

Xiang Xu (Shanghai Jiaotong University)

Jiawei Hu (Shanghai Jiaotong University)

Xinjun Sheng (State Key Laboratory of Mechanical System and Vibration, Shanghai Jiao Tong University)

Zhenhua Xiong (Shanghai Jiao Tong University)

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

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

Chayut Bunterngchit (Institute of Automation, Chinese Academy of Sciences)

Jiaxing Wang (CASIA-BCI)

Jianqiang Su (Institute of Automation, Chinese Academy of Sciences )

Yihan Wang (Institute of Automation, Chinese Academy of Sciences )

Shiqi Liu ( Institute of Automation, Chinese Academy of Sciences)

Zengguang Hou (Chinese Academy of Sciences)

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

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

Mengya Xu (NUS)

Hongliang Ren (Chinese University of Hong Kong)

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

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

TIANTIAN WANG (Harbin Institute of Technology (Shenzhen))

Chao Zhang (Harbin Institute of Technology (Shenzhen))

Botao Lin (Harbin Institute of Technology (Shenzhen))

Erli Lyu (Macao Polytechnic University)

Shuang Song (Shenzhen Graduate School of Harbin Institute of Technology)

Jiaole Wang (HITSZ)

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

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

Jiale Huan (Beijing Institute of Technology)

Tengfei Cui (Beijing Institute of Technology)

Zhe Han (Beijing Institute of Technology)

Pu Chen (Beijing Institute of Technology)

Ye Tian (Beijing Institute of Technology)

Xingguang Duan (Beijing Institute of Technology)

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

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

Sheng Cao (Beijing Institute of Technology)

Shuxiang Guo (Beijing Institute of Technology/SUSTech)

Jian Guo (Shenzhen Institute of Advanced Biomedical Robot Company Limited)

Jian Wang (Shenzhen Institute of Advanced Biomedical Robot Company Limited)

Bin Wang (Beijing Institute of Technology)

Mingchao Ding (Beijing Institute of Technology)

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

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

hui chen (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences)

Chunjie Chen (Shenzhen Institute of Advanced Technology,Chinese Academy of Sciences)

zhuo wang (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences)

fangliang yang (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences)

heng pan (University of Chinese Academy of Sciences)

Xinyu Wu (Chinese University of Hong Kong)

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

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

Shilong Sun (Harbin Institute of Technology Shenzhen)

Zida Zhao (Harbin Institute of Technology)

Haodong Huang (Harbin Institute of Technology, Shenzhen)

Wenfu Xu (Harbin Institute of Technology)

Qingbin Gao (Harbin Institute of Technology, Shenzhen)

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

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

Hongjia Chen (Guangdong University of Technology)

Weinan Chen ( Guangdong University of Technology)

Shilang Chen (Guangdong University of Technology)

Yisheng Guan (Guangdong University of Technology)

Mingjun Li (Shenzhen Institute of Modern Agricultural Equipment)

Xiangyu Wen (Shenzhen Institute of Modern Agricultural Equipment)

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

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

Su zerong (Institute of Intelligent Manufacturing, Guangdong Academy of Sciences)