Symbols for Technical Sessions

Symbols for Days of a Week

T	=	Thursday
F	=	Friday
S	=	Saturday

Symbols for Session Start Times

Session A	=	09:00
Session P	=	14:00
Session E	=	16:00

Symbols for Room Assignments

Room ID	Room
Room 1	Meeting Room I
Room 2	Meeting Room II
Room 3	Meeting Room III
Room 4	Meeting Room VI

Oral Sessions Information

Award Session (TP1-1)

Room 1 | Thursday, December 17, 2026 | 14:00-18:00

Session Chair: Pengyu Wang

ID	Time	Title and Authors
120	14:00-14:10	**Multi-Horizon Forecasting of Safety-Filter Activation Onsets from Pre-QP Human–Robot Histories** *Yongwen Guo, Shiru Huang, Lingyun Guo, Juntao Huang, Jianqiang Li and Chengwen Luo*
279	14:10-14:20	**UniLoop: Unified Loop Closure Detection from Retrieval to Geometric Verification and Relative Pose Estimation** *Jingwen Yu, Pengyu Wang, Jin Wu, Weinan Chen, Ping Tan and Hong Zhang*
157	14:20-14:30	**Conceptual Design and Workspace Analysis of Double-Stage Thrustered Cable-suspended Parallel Robot For Concave Workspace** *Yifan Feng and Yusuke Sugahara*
576	14:30-14:40	**Universal Robot Kinematic Modeling with a Neural Solver for Surgical Manipulation under Reconfigurable RCM Constraints** *Tiancheng Zhou, Jiajun Li, Chao He, Fusheng Zha, Lining Sun and Bo Lu*
567	14:40-14:50	**IMU Motion State-Aware Adaptive Multi-Sensor Fusion for Localization** *Shiquan Yi, Sehua Ji, Qi Zhang, Lei Zhu, Weinan Chen, Yisheng Guan, Haifei Zhu and Xuefeng Zhou*
587	14:50-15:00	**Video2SIMPLE: An Agentic Framework for Converting Human Videos into Scalable Humanoid Robot Demonstrations** *Jie Liu, Zhiyu Ding, Jiajie Yu, Meiyuan Zou, Xielei Shi, Lining Sun and Wenzheng Chi*
309	15:00-15:10	**Phase Based Framework for Learning Multi-Gait Transitions in a Unified Policy** *Udula Ranasinghe, Rafiqul Islam, Xiaogang Li, Yu Zhou, Sreenatha Anavatti and Matthew Garratt*
579	15:10-15:20	**Fracture Reduction Trajectory Planning Based on Hierarchical Reinforcement Learning and Dynamic Movement Primitives** *Tingting Su, Yue Zhang and Xu Liang*
91	15:20-15:30	**Forward Jumping by A Legged Robot with Bi-articular Muscle Tendon Complexes in the Upper and Lower Legs** *Atsushi Iwamoto, Nozomi Majima, Ryuki Sato and Aiguo Ming*
155	15:30-15:40	**A Virtual Spring Mapping Method for Pressure–Displacement–Force Constitutive Modeling of Airbags as Pneumatic Actuating Units** *Enchi Chen, Zhiyong Gu, Zhang Sheng, Manjia Su, Weinan Chen, Haifei Zhu and Yisheng Guan*
445	15:40-15:50	**Information-Aware Trajectory Modulation for RCM-Constrained Eye-to-Hand Self-Calibration** *Jiahao Wang, Zeyu Wang, Xingguang Duan and Changsheng Li*
456	15:50-16:00	**Generative Prior-Guided Image Restoration for Miniaturized Metalens-Based Vision Systems** *Wentao Pan, Wuyang Li, Xiaoyuan Liu, Weihao Yu, Shengyuan Liu, Mu Ku Chen and Yixuan Yuan*
208	16:00-16:10	**Multi-Scale Temporal Meta-Learning for Domain-Adaptive Inertial Odometry** *Xinyi Wang, Qing Wang, Zining Gao, Shaoze Jiang, Hongbo She, Zuxuan Guo, Yibin Li, Song Rui and Chaoqun Wang*

ID	Time	Title and Authors
457	16:10-16:20	**Multi-Condition Adaptive Cable Routing Motion Generation Based on Language Instructions and Visual Attention Using CLIP** *Haoyu Zhao, Satoshi Funabashi, Tai Yamada, Pei-Chun Chien, Tetsuya Ogata and Shigeki Sugano*
167	16:20-16:30	**Single-Port Multi-Calyx Motion Planning for a Continuum Robot in Percutaneous Nephrolithotomy** *Zhihao Xu, Guohao Zheng, Shuang Song and Jiaole Wang*
100	16:30-16:40	**Neuroadaptive Safety Control for Maglev Vehicle Robots With Unmodeled Dynamics and Air-Gap Constraints** *Jiaqi Zhou, Tong Yang, Yougang Sun and Ning Sun*
582	16:40-16:50	**Task Recognition and Safety-Aware Planning for Long-Horizon Autonomous Surgery** *Fan Qiao, Yanran Wei, Meng Guo and Zhongkui Li*
561	16:50-17:00	**COR-FEM: A Physics-Constrained Corotational Finite Element Method for MR and Robotic TRUS Registration in Prostate Biopsy** *Shixing Ma, Chunna Yang, Yuhao Wei, Shuwei Shao, Jiaxin Zhuang, Qichao Cheng, Yipeng Hu and Zhe Min*
390	17:00-17:10	**SPARTA: Soft Pneumatic Actuator Reconfigurable Through Attachments** *Ryota Fukushima, Kenjiro Tadakuma and Tetsuyou Watanabe*
458	17:10-17:20	**Design and Modeling of a Single-Port Three-Arm Robotic Tool for Minimally Invasive Neurosurgery** *Nazia Hasan Dana, Harith Sandeepa Gallage, Ismail A. Auta, Dhanvi Yuvaraj and Ronghuai Qi*

Regular Session (FP1-1): Robot Learning and Planning

Room 1 | Friday, December 18, 2026 | 14:00-15:40

Session Chair: Pengyu Wang

ID	Time	Title and Authors
23	14:00-14:10	**MSE-Free Post-Checkpoint Latent-Space Diagnosis of Trajectory Segmentation Candidates for Diffusion Policy** *Yingkai Mao, Lingye Jiang, Fuyu Ma and Zhibo Pang*
27	14:10-14:20	**RKILPlanner: Risk-based Kinematic Imitation Learning Planning Towards Human-Like Driving in Highway Scenarios** *Yiwei Shu, Shuquan Wang and Li Jun*
83	14:20-14:30	**Mamba-E2E: Mamba-Enhanced Deep Reinforcement Learning for End-to-End Autonomous Driving** *Siyi Lu, Run Liu, Dongsheng Yang, Lei He and Keqiang Li*
198	14:30-14:40	**SKiL: A Skill-centric Intelligent Layered Architecture for Long-Horizon Robotic Manipulation with Zero-Shot Generalization** *Yingxin Li, Lipei Xie, Ningkai Zhu, Feng Xiao, Zhifeng Wang, Huiping Zhuang and Xiaoqi Chen*
228	14:40-14:50	**TRACT: Temporally Routed Action Chunks with Chronological Phase Authority for Contact-Rich Manipulation** *Jiahao Liu, Kento Kawaharazuka, Tasuku Makabe and Kei Okada*
236	14:50-15:00	**Ambiguity-Aware Semantic-Geometric Grounding and Failure Recovery for Open-Vocabulary Robotic Tool Retrieval** *Lele Li, Tianjiao Zheng, Chuanyu Si, Jiaqi Ma, Mingqi Li, Rui Sun, Tianyu Zheng, Jie Zhao and Yanhe Zhu*
240	15:00-15:10	**TrySee: Modular Perception-Enhanced VLM Grounding for Closed-Loop Robot Task Planning in Specialized Domains** *Elias Hofele, Thomas Trapp, David Timmermann, Tristan Schnell, Georg Heppner and Arne Roennau*
266	15:10-15:20	**Part Order Changes the Task: Auditing Sequence Priors in 3D Assembly** *Qingyan Yang*
314	15:20-15:30	**Stereo CNS: Stereo Depth-Augmented Correspondence-Encoded Neural Visual Servoing** *Yancheng Wang, Yue Wang, Anzhe Chen, Hongxiang Yu and Huiru Pan*
450	15:30-15:40	**SurfaceCopilot: A Verifier-Mediated LLM Agent for Process Design in Robotic Precision Micro-Milling** *Qi Han, Tianyi Sun, Yan Zhuang and Zhe Peng*

Regular Session (FP1-2): Autonomous Navigation and Perception

Room 2 | Friday, December 18, 2026 | 14:00-15:40

Session Chair: Hao Cheng

ID	Time	Title and Authors
13	14:00-14:10	**A Real-Scale Simulation Framework for Articulated Loaders in Concrete Batching Plant Environments** *Keyu Ruan, Fulu Wei, Zonghao Lu, Xinxu Ma, Guanghua Yin and Jing Xia*
69	14:10-14:20	**Farm-Nav: Semantic Pixel-Guided Visual Navigation for Quadruped Robots in Complex Farm Environments** *Zihan Wang, Jinru Lyu, Zhenfeng Xue and Zhonghua Miao*
88	14:20-14:30	**BDFusion: Diffusion-Based All-in-One Framework for Visible-Infrared Image Fusion under Blind Degradations** *Shu Zhao, Yifei Zhang, Zhongtian Sun, Jianan Xie and Kenji Hashimoto*
145	14:30-14:40	**From Instruction Decomposition to Trajectory Cost: Controllable Language-Guided Autonomous Navigation** *Reynaldy Widjaja, An Li, Ding Yuan Zhang, Yadan Zeng, Siting Zhu and I-Ming Chen*
399	14:40-14:50	**Localization and Path Planning Method for Autonomous Mobile Robot in Ring Spinning** *Lei Zhou, Qitao Huang, Xubo Liu, Tianyi Wang, Yuliang Yan and Xin Li*
501	14:50-15:00	**MSGM-Net (SM): Multi-Scale Guidance-Driven Network for Remote Sensing Change Detection** *Xin Chen, Zhong Chen and You Guo Wang*
519	15:00-15:10	**From Coarse Urban Navigation to Active Rescue Search in a Semantic Symbolic Space** *Yibo Xu, Qinghua Yu, Jiarun Yan and Huimin Lu*
546	15:10-15:20	**BurstODE: Continuous-Time Extrapolation and Confidence-Gated Recalibration for Agricultural Visual Navigation under Burst Occlusion** *Bolong Liu, Rongqiang Zhao, Qiang Wang and Jie Liu*
556	15:20-15:30	**BioPhys-RowNav: Event-Triggered Projection Neural Dynamics for Robust Agriculture-Robot Row Navigation under Slip and Visual Uncertainty** *Bolong Liu, Rongqiang Zhao, Qiang Wang and Jie Liu*
559	15:30-15:40	**NSGA-II-RE: Multi-Objective Evolutionary Optimization for Safe and Efficient Robot Path Planning** *Matthew Hicks, Tingjun Lei, Ph.D., Chaomin Luo, Daqi Zhu, Erfu Yang and Umar Iqbal*

Regular Session (FP1-3): Aerial and Swarm Robotics

Room 3 | Friday, December 18, 2026 | 14:00-15:40

Session Chair: Chaoxin Yang

ID	Time	Title and Authors
60	14:00-14:10	**A Simplified Crested Ibis Algorithm for Robust Three-Dimensional UAV Path Planning** *Yuefeng Xu, Chengyu Cao, Akira Takahashi and Jun Yu*
108	14:10-14:20	**An Onboard Embedded Real-Time Visual Perception System for Ground-Target Observation on a Large Flapping-Wing Robot** *Zhenkun Gong, Jiahao Fan, Wenfu Xu and Pan Erzhen*
110	14:20-14:30	**Flexible Autonomous Navigation for Fixed-Wing UAVs with Visual Memory** *Jiarun Yan, Yangguang Yu, Yinbo Xu and Xiangke Wang*
119	14:30-14:40	**Distributed Formation Control via Hybrid Ratio-of-Distance and Distance Rigidity** *Ruidi Liu, Yangguang Yu, Chuanlu Liu, Dong Yin and Xiangke Wang*
200	14:40-14:50	**Multi-Objective Configuration Optimization of a Four-UAV Aerial Cable-Driven Parallel Robot** *Yu Zhou, Xinyu Gao, Siliang Li and Qiang Wang*
243	14:50-15:00	**Communication-Free Vision-Based Leader-Follower UAV Circumnavigation Control** *Chuanlu Liu, Ruidi Liu, Yangguang Yu, Guang He and Xiangke Wang*
315	15:00-15:10	**Sensorless Contact Detection and Geometric State-Aware Compliant Control for Aerial Grasping** *Tong Li, Chen Hongwei, Gao Lingchong, Yilun Sun and Qirong Tang*
391	15:10-15:20	**Feeling the Balance: State-Tactile Fusion for Stable Aerial Grasping** *Han Zou, Shuqiang Chai, Jianan Wang, Chunyu Li and Jiaqi Jiang*
482	15:20-15:30	**Bio-inspired 3D Cooperative Control for UAV Swarms: A Hierarchical Weighting Vicsek Approach** *Han Zhou, Guangchen Xie, Xiaojia Xiang, Dengqing Tang and Jun Lai*
515	15:30-15:40	**Calibration-Margin Airffow Feedforward for Quadrotor Tracking in Held-Out Wind Regimes** *Dibo Pan, Bolong Liu, Yaxin Xie and Xuan Zhao*

Regular Session (FP1-4): Aquatic and Bioinspired Robotics

Room 4 | Friday, December 18, 2026 | 14:00-15:40

Session Chair: Yanrui Liu

ID	Time	Title and Authors
12	14:00-14:10	**VLM-Skill: Hierarchical Stage-Skill-Algorithm Orchestration for Cooperative Multi-AUV Missions** *Mingda Yu, Yilun Sun, Qi Gu and Qirong Tang*
64	14:10-14:20	**Base Swaying Compensation Control of Underwater Manipulator with Spatial and Temporal Heterogeneity Alignment and Dual-Loop Kalman Filter** *Zilu Yu, Chong Shen, Fanghao Huang, Deqing Mei and Zheng Chen*
130	14:20-14:30	**A Cyborg Rat Sensing System for High-Accuracy Awake Olfactory Decoding via Invasive Brain-Computer Interfaces** *Wenxu Ni, Mingze Sun, Tianming Zhao, Wenxue Wang and Lianqing Liu*
180	14:30-14:40	**A Miniature Amphibious Robotic Fish Driven by a Pre-Arched Antagonistic HASEL Joint** *Zhi Wang, Zhongnan Li, Wuxiang Zhang and Xilun Ding*
334	14:40-14:50	**Safety-completion Trade-offs of Innovation-triggered Reference Governance for Pre-contact UVMS Manipulation** *Tao He, Yilun Sun, Shibo Su and Qirong Tang*
344	14:50-15:00	**A Modular Dual-Rotor Robot with a Bio-inspired Variable-Stiffness Tail for Wall Climbing and Aerial Reconfiguration** *Qiang Fu and Yunjiang Lou*
361	15:00-15:10	**Ridge-Regularized Data-Driven Koopman Modeling and Control of an Underwater Articulated Robot** *Junpu Wang and Chao Ren*
469	15:10-15:20	**Water-Surface Locomotion of an Inflatable Snake Robot** *Yuta Komyoji and Ryuma Niiyama*
510	15:20-15:30	**Data-Driven PPO for Onboard Vision–Sonar Target Seeking and Obstacle Avoidance of a Biomimetic Robotic Fish** *Qilong Zhong, Chuyang Du, Morel Groper, Daniel Qi Tan and Mingyi Liu*
573	15:30-15:40	**Adaptive Speed and Depth Tracking for Hybrid Aerial-Aquatic Vehicle Surface Planing** *Wenshuai Wang, Kun Liu, Yizhou Zhang, Kaihong Huang, Hui Peng and Junhao Xiao*

Regular Session (FE2-1): Humanoid and Human Interaction

Room 1 | Friday, December 18, 2026 | 16:00-17:40

Session Chair: Pengyu Wang

ID	Time	Title and Authors
156	16:00-16:10	**A Stage-Wise and Multi-Mode Avoidance Framework for Safe pHRI: Integrating Pre-Collision Avoidance and Post-Collision Compliance** *Ruize Wang, Ken Lin, Yuwei Xie, Peng Cheng, Jiming Chen and Gaofeng Li*
159	16:10-16:20	**RetargetFormer: Sequence-Aware Spatiotemporal Transformers for Human-to-Humanoid Motion Retargeting** *Jiehui Chen, Wencong Gan, Haiming Mou and Qingdu Li*
164	16:20-16:30	**IMU-Based Gait Recognition via CNN-Mamba Temporal Modeling of Physiological Motion Signals** *Zijun Hu, Bingbing Song, Zhuoyue Zhao, Fei Guo, Wu Yang and Weibing Lu*
204	16:30-16:40	**Force-Guided Compliant Pre-Adhesion Alignment for a Biped Wall-Climbing Robot on Pose-Uncertain Surfaces** *Weijian Zhang, Yuanzhe Feng and Qingsong Xu*
206	16:40-16:50	**Coordinated Facial and Body Expression for Robots via a Shared Speech Timeline** *Jingcheng Huang, Xinrong Zhang and Min Li*
233	16:50-17:00	**Blind Sitting for Humanoid Robots with a Contact-Conditioned Generative Motion Prior** *Zetao Yan, Dongqi Wang, Liang Zhang, Haodong Zhang, Xingwen Zheng and Rong Xiong*
488	17:00-17:10	**Model Predictive Control with Speed-Dependent Torque Constraints for Heavy-Payload Quadrupedal Jumping** *Congfei Li, Di Qiu, Hao Sun and Yuxiang Sun*
490	17:10-17:20	**Patient Identification-Verified Medication Delivery Using an Optical Tracking Sensor-Guided Mobile Manipulator** *Janghyeop Lee, Yonghyeon Kim and Hyun-Soo Yoon*
516	17:20-17:30	**End-to-End Autonomous Soccer Shooting of Humanoid Robots via Reinforcement Learning and Spatial Adaptive Training** *Luoyun Wang and Linqi Ye*
590	17:30-17:40	**EEG-DiT: Anchor-Supervised Diffusion for EEG-to-Text Generation** *Cheng Li, Zhan Yang and Hongmiao Zhang*

Regular Session (FE2-2): Robot Dynamics and Control

Room 2 | Friday, December 18, 2026 | 16:00-17:40

Session Chair: Hao Cheng

ID	Time	Title and Authors
249	16:00-16:10	**Deformation Detection of a High-Speed Rotating Blade Using Galvanometer-Assisted Monocular Active Vision with UV-Excited Fluorescent Markers** *Jiayu Wang, Junfeng Zhu, Tianyi Zhang, Guiyuan Peng, Chaoyang Zhang, Yan Hu and Lihui Wang*
263	16:10-16:20	**Transpose-Jacobian-based Compliant Position Controller with Bounded Torques** *Ryoga Tsuchida and Ryo Kikuuwe*
267	16:20-16:30	**Motion Generation and Impact Attenuation for Hammering Tasks Using a Redundant Robot** *Haruto Ueda and Ryo Kikuuwe*
339	16:30-16:40	**Mitigating Impulsive Contact Forces by Momentum-Transfer Reshaping Using NMPC-Based Virtual Impedance Regulation** *Jian Liu, Taku Senoo and Atsushi Konno*
378	16:40-16:50	**Joint-space impedance control with friction and gravity compensation for a self-built ROS 2-based 6-DOF robotic manipulator** *Xiaotian Jiang, Ruitong Liu and Kenji Hashimoto*
405	16:50-17:00	**Joint-Feasibility Margin Feedback for Bounded-Input Second-Order Control Barrier Functions** *Siyuan Yang and Shaoming He*
432	17:00-17:10	**Physics-Informed Adaptive Control Framework for Integrated Joint Modules** *Ruixin Wu, Haisheng Xia, Zhijun Li and Guoxin Li*
517	17:10-17:20	**Design and Kinematic Optimization of a Compact 2T2R Parallel Platform for Residual Pose Alignment in Robot-Assisted Pedicle Screw Placement** *Krittanat Tanthuvanit, Jackrit Suthakorn and Sorayouth Chumnanvej*
521	17:20-17:30	**Application of Inverse Kinematics with Prioritized Targets to Collision Avoidance in Mobile Manipulators** *Hayato Sekiguchi, Masanori Sekiguchi and Naoyuki Takesue*
565	17:30-17:40	**Robotic Disassembly and Reassembly of Rotary Locking Pins via Release-Event Detection and Selective Compliance Control** *Yuan Li, Haonan Ma, Peng Xu and Bing Li*

Regular Session (FE2-3): Space and Field Robotics

Room 3 | Friday, December 18, 2026 | 16:00-17:40

Session Chair: Chaoxin Yang

ID	Time	Title and Authors
10	16:00-16:10	**Efficient Multi-Modal 3D Reconstruction via LiDAR-Augmented Line Structured Light** *Guangcong Liang, Zhong Chen, Changfeng Chen and Xianmin Zhang*
58	16:10-16:20	**Contact-Force Estimation from Structural Deformation in Compliant Fin-Ray Grippers via Co-Rotational Modeling and Surrogate Learning** *Qiong Wu, Haisheng Liu, Wenfu Xu and Han Yuan*
127	16:20-16:30	**Dissipative Drag Corrections to an MBD-RFT Model for a Grouser-Wheeled Skid-Steer Mobile Robot in Granular Media** *Chuang Cao, Feiyu Zhang, Yufeng Yuan and Yuehong Yin*
153	16:30-16:40	**A Dual Fin-Ray Soft End-Effector with Embedded Strain-Based Force Sensing for Single-Arm Cooperative Manipulation** *Haoqi Peng, Xiangkun Zhang, Chutan Lin, Wenfu Xu, Shilong Sun, Jingguo Liu and Han Yuan*
340	16:40-16:50	**Degeneracy-driven Constraints Augmentation-based LiDAR-Inertial Odometry for Autonomous Field Robot** *Desheng Huang, Kezhi Wang, Huijing Huang, Zonghai Chen and Jikai Wang*
394	16:50-17:00	**DAMF-SFMNet: Direction-Aware RGB-Infrared Sensor Fusion Network for Robust UAV Power Line Perception** *Qiaokang Liang, Yaoxin Lai, Songyun Deng, Shiyong Yang and Hai Qin*
402	17:00-17:10	**Design of a Hexapod Climbing Robot with Adaptive Suction Cups** *Jianheng Guo, Yao Zhang, Yiming Li, Yang Chen, Bing Li and Yao Li*
505	17:10-17:20	**Morphology Selection of Modular Supernumerary Robotic Limbs for Active Illumination in Astronaut Tasks** *Yijian Zhang, Ye Li, Yuelei Fang, Sikai Zhao, Ziming He, Yuxi Wu, Dawei Liang, Tianjiao Zheng, Jie Zhao and Yanhe Zhu*
530	17:20-17:30	**Force-Sensorless Dual-Time-Scale Physical Latent-State Estimation and LPV-MPC for Long-Term Operation of Space Cable-Driven Robots** *Tianhong Cheng and Wenfu Xu*
586	17:30-17:40	**Adaptive Entropy Regularized PPO for Stable Humanoid Robot Locomotion in Low-Gravity Planetary Environments** *Yugang Geng, Yifan Jiang, Xiao Haung, Hui Li and Zhihong Jiang*

Regular Session (FE2-4): Continuum and Soft Robotics

Room 4 | Friday, December 18, 2026 | 16:00-17:40

Session Chair: Yanrui Liu

ID	Time	Title and Authors
89	16:00-16:10	**A High-Performance Shape Memory Alloy Soft Actuator Based on a Honeycomb-Perforated Structure** *Chunlong Li, Kaiyue Niu, Xiaoman Shi, Qi Wen, Xiao Yan, Qiqiang Hu and Junyang Li*
226	16:10-16:20	**Ex-Situ Force Sensing Method for a Cable-Driven Segmented Linkage Manipulator Based on Transmission-Chain Kinematic and Dynamic Modeling** *Junming Wang, Junhao Liu, Zitong Liang, Peng Kang and Wenfu Xu*
247	16:20-16:30	**Design of a 3D-Printed Multimaterial Continuum Robot With Enhanced Torsional Stiffness** *Yilun Sun, Yuze Si, Tao He, Mingda Yu, Houde Dai, Qirong Tang and Tim C. Lueth*
289	16:30-16:40	**Integrated Pre-Shaped Deployment and Vision-Guided Magneto-Pneumatic Tip Control for a Soft Growing Film Robot** *Tianyi Yang, Ziqi Wang, Shuangyi Wang, Zhiqin Yang and Yuanrui Huang*
360	16:40-16:50	**Effect of Flexible-Rod Configuration on Wrist Reaction Forces in a Continuum Rehabilitation Robot** *Ming Jiang, Keita Oikawa, Tomoya Kitani and Yukio Takeda*
401	16:50-17:00	**Damage-Aware Design Optimization of a Tendon-Driven Gripper for Soft Fruit Grasping** *Guodong Xiu and Ikuo Mizuuchi*
417	17:00-17:10	**Transurethral Photoacoustic Imaging Enabled by Concentric-Tube Robotic Control of Intracorporeal Light Delivery: Bladder Phantom Validation** *Yuwei Luo, Junjie Liu, Xianghu Yu, Rui Yang, Shenfu Xie, Jia Gu and Li Liu*
442	17:10-17:20	**A Roller-Cable-Coupled Soft Gripper With Online Semi-Markov Decoding for Octopus-Arm-Inspired Grasping Stage Recognition** *Chengjing Zhong, Hanchen Yao, Chengwei Huang, Yulin Chen, Houde Dai and Tim C. Lueth*
508	17:20-17:30	**Elastic-Torque-Aware Adaptive Fractional-Order Admittance Control of a Parallel Variable Stiffness Actuator for an Ankle Exoskeleton** *Cong Zhou, Qitao Lu, Hongpeng Liao, Hugo Hung-Tin Chan, Shiping Zuo, Luyao Jin, Jiajun Xu, Huan Zhao and Wei-Hsin Liao*
563	17:30-17:40	**Design and Modeling of a Magnetically Actuated Spring Catheter with an Electromagnetic Coil Array** *Natalie Joyce Saidi, Xiaoyang Wu and Shuang Song*

Regular Session (SA1-1): Surgical and Medical Robotics

Room 1 | Saturday, December 19, 2026 | 09:00-11:00

Session Chair: Pengyu Wang

ID	Time	Title and Authors
202	09:00-09:10	**Design and Experimental Evaluation of a Two-Finger Needle-Twirling End-Effector for Robot-Assisted Acupuncture** *Kunning Wu, Qiaokang Liang and Hai Qin*
235	09:10-09:20	**BeliefTopo-Cover: Topology-Aware Frontier Learning for Magnetic Microrobot Exploration of Unknown Vascular Networks** *Qianyun Cao, Yichun Shen, Shiqi Yang, Junhui Law and Xingzhou Du*
242	09:20-09:30	**Intraoperative Feasibility-Aware Automatic Preoperative Puncture Path Planning for Liver Radiofrequency Ablation** *Masayuki Nakayama, Bo Zhang, Ryoko Kuromatsu, Masahito Nakano, Yu Noda, Takumi Kawaguchi, Wei Wang, Simin Ruan, Manxia Lin, Ming Kuang, Masakatsu G. Fujie and Shigeki Sugano*
244	09:30-09:40	**Towards Autonomous Robot-Assisted Minimally Invasive Surgery: A Dexterous Wristed Robotic Kit (DWRK) for Surgical Tasks** *Qiming Wu, Xingbo Chen, Binghong Chen, Fanghao Wang, Sibo Hao, Youmao Zheng, Qiong Yang, Mingchuan Zhou and Limin Zeng*
258	09:40-09:50	**Dynamic State-Based Filtering for Tremor Suppression in High-Precision Surgical Robotics** *Yanlin Li, Hongyuan Wang, Rihui Song and Kai Huang*
317	09:50-10:00	**HFUT Open-Source Surgical Robot Platform: Kinematic Modeling, Simulation, and Experimental Validation** *Bo Ouyang, Qikai Zha, Wanyue Li and Jian Chu*
406	10:00-10:10	**Toward Reliable Cross-platform Deployment of Hospital-trained Cardiac AI in Autonomous Robotic Echocardiography** *Hsu Thiri Soe and Hiroyasu Iwata*
409	10:10-10:20	**Actively Detachable Surgical Tool Modules for the Surgenoid: Toward Skin-Surgery Tasks with General-Purpose Robots** *Michitoshi Tsubaki, Tasuku Makabe, Shun Hasegawa, Soonhyo Kim, Kento Kawaharazuka, Akihiro Miki, Yoshiki Obinata, Iori Yanokura and Kei Okada*
467	10:20-10:30	**Puncture Identification and Footprint Estimation of Microneedle-Guided Ultraflexible Probe Implantation with Force Sensing** *Hanwei Chen, Bo Han, Chao Liu and Xinjun Sheng*
495	10:30-10:40	**An Integrated Wireless Piezoelectric Force-Sensing System for 3D-Printed Talus Implants** *Zhongliang Ren, Haisu Liao, Sheng Li, Xu Tao and Fei Gao*
380	10:40-10:50	**A Dual-Kernel Registration-Based Navigation Framework for Vascular Intervention Robots** *Sheng Cao, Shuxiang Guo, Jian Guo, Chunying Li, Bin Wang and Mingchao Ding*
424	10:50-11:00	**Magnetic Distal-Orientation Feedback for Topology-Guided Robotic Guidewire Branch Entry** *Miaozhang Shen, Zixu Wang, Haoyu Xie, Weihao Wu, Pengcheng Li, Chunying Li, Mingchao Ding, Bing Wang and Shuxiang Guo*

Regular Session (SA1-2): Rehabilitation and Assistive Robotics

Room 2 | Saturday, December 19, 2026 | 09:00-11:20

Session Chair: Hao Cheng

ID	Time	Title and Authors
46	09:00-09:10	**Acceleration-Level Adaptive Visual Servoing via Deep Reinforcement Learning for Robot-Assisted Feeding** *Hong Jun Kai, Zheng Hua Qiang, Li Zong Dao and Li Qing Du*
82	09:10-09:20	**A Preliminary Study on Non-Invasive Evocation of Plantar Tactile Sensation for Human-machine Interaction in Rehabilitation Robots** *Zhengxuan Wu, Qiyun Tan, Hao Deng, Xin Wang, Guanglin Li, Wenyuan Liang and Peng Fang*
232	09:20-09:30	**Development of Nonlinear Target Mechanical Characteristics and Design of an Elastic Actuator for Knee Assistance Based on Gait Biomechanics** *De Yan, Yuan Liu, Jiahao Zhang and Wenjie Zhang*
251	09:30-09:40	**A Rolling-Guided Low-Friction Hand Exoskeleton for Improved Motion Transmission** *Honghao Zheng, Zhaocheng Zhou, Xiangyu Wang, Jiewei Lu, Jianda Han and Ningbo Yu*
275	09:40-09:50	**Manifold Learning-Based Analysis of Short-Time MEG Brain-State Dynamics in Epilepsy** *Mengyan Wu, Ke Cui, Wenke Wang, Jiewei Lu, Ruijuan Lv and Ningbo Yu*
403	09:50-10:00	**Multimodal Intelligent Home Rehabilitation System for PD Patients** *Chengjia Shi, Zhiwei Luo and Changqin Quan*
416	10:00-10:10	**Impedance Control with Energy Regulation for a Single-Actuator Origami-Driven Back-Support Exoskeleton in Load Assistance** *Jinsheng Lv, Xiaoyu Zhou, Guoxin Li, Haisheng Xia and Zhijun Li*
425	10:10-10:20	**Wrist-Worn Single-Element A-Mode Ultrasound System for Physician-Side Sensing in Robot-Assisted Endovascular Teleoperation** *Shenfu Xie, Rui Yang, Xianghu Yu, Zhijun Zhang, Sanshuai Cui and Li Liu*
434	10:20-10:30	**A Markerless Vision-Based Three-Link Framework for Center-of-Pressure Reconstruction Toward Sit-to-Stand Stability Assessment** *Jian Zheng, Mikel Diez, Nicholas L. Hunt, Holly L. Olvera, Paul Diego, Ming Jiang and Yukio Takeda*
444	10:30-10:40	**ARISE-Hand: Compensation-Aware AI Supervision for Assist-as-Needed Pneumatic Impedance Control in Stroke Rehabilitation** *Sirinat Tangsunawan and Aueaphum Aueawatthanaphisut*
529	10:40-10:50	**A Physics Consistent Benchmark for Contact Rich Human-Robot-Interaction in Assistive Care** *Chengxiao He, Shenghai Yuan, Liuqun Fan and Shenzhe Zhu*
572	10:50-11:00	**Thoracoabdominal Motion Dynamics Fused Respiration Pattern Classification based on a CNN-MLP Framework** *Yinnan Jin, Xinyu Liu, Rongchuan Sun and Shumei Yu*
464	11:00-11:10	**A Lightweight Force–Torque State Graph Based Safety Assessment for Teleoperated Endovascular Robots** *Haoyu Xie, Shuxiang Guo, Weihao Wu, Pengcheng Li, Chunying Li, Bin Wang and Mingchao Ding*
481	11:10-11:20	**MonoVesselSim: Anatomy-Constrained Multi-Hypothesis 3D Coronary Lifting from Single-Plane Angiography** *Weihao Wu, Shuxiang Guo, Haoyu Xie, Sheng Cao, Pengcheng Li, Chunying Li, Bin Wang and Mingchao Ding*

Regular Session (SA1-3): Grasping and Manipulation

Room 3 | Saturday, December 19, 2026 | 09:00-11:10

Session Chair: Chaoxin Yang

ID	Time	Title and Authors
32	09:00-09:10	**CESS: A Compact Event State-Space Network with Activity-Guided Tokenization for Robotic Slip Detection** *Zihan Wang, Senlin Fang, Shilan Liu, Xinyi Gao, Xinyu Wu and Zhengkun Yi*
126	09:10-09:20	**Coarse-to-Fine Visual Servoing for Robotic Grasping of Flexible Optical Fibers** *Zhaobo Gao, Zhong Chen, Lihui He and Xianmin Zhang*
169	09:20-09:30	**Wrist-Driven Gripper: An Actuator-Free Mechanically Adaptive End-Effector for Robotic Manipulation** *Ziyuan Tang and Chenxi Xiao*
274	09:30-09:40	**Empowering Mobile Manipulators with Pre-trained AI Agents for Fetch-and-Deliver** *Lianxin Zhang, Zexu Zhang, Yan Han and Jun Jiang*
354	09:40-09:50	**Implicit Contact State Guided Robot Re-centering and Alignment Method for Catenary Bolt Tightening** *Huanhai Zhu, Lei Ma, Deqing Huang, Wenru Lu, Jian Xu and Xiaofen Zhong*
367	09:50-10:00	**Tactile-VLM: A Vision-Language-Guided Framework for Compliant Grasping via Human Grasping Force Demonstration Transfer** *Chengyong Xu, Xiaohui Ouyang, Dafeng Xu, Fei Pan and Mingyang Xie*
408	10:00-10:10	**Design and Implementation of an Enveloping Three-Finger Gripper for Stable Cable Manipulation** *Duolin Wang, Pei Hong, Zelin Chen, Junqi Zhang, Yiming Ouyang, Hu Jin and Shiwu Zhang*
443	10:10-10:20	**A Mask-Segmentation and Curvature-Weighted Contour Matching Method for Robotic Fabric Grasping and Stacking** *Jiang Liu, Longjia Sang, Tianyu Fu and Rui Song*
494	10:20-10:30	**From Cluttered Picking to Precision Assembly: Staged Compliant Manipulation for Autonomous Robotic Spot Welding** *Wei Shuai, Yang Gao, Guowei Cui, Yu Liu, Jiapei Yan, Fupeng Zhou and Peichen Wu*
498	10:30-10:40	**TWIST: A Multimodal Human Screwdriving Dataset for Contact-Rich Manipulation** *Keyao Liang, Fusheng Zha, Xiaojian Geng, Yuanjie Liu and Lining Sun*
500	10:40-10:50	**A Co-Simulation Framework for Deformable Object Manipulation: Coupling SOFA and MuJoCo** *Ricardo Rosales Martinez, Hannibal Paul, Zhongkui Wang and Kazuhiro Shimonomura*
532	10:50-11:00	**3D Shape Reconstruction with Multi-Finger Robot Motion and Tactile Perception Using DeepSDF** *Shota Urashima, Satoshi Funabahi, Shardul Kulkarni, Naoya Chiba, Alexander Schmitz, Shigeki Sugano and Tetsuya Ogata*
527	11:00-11:10	**Medium-Dependent Model-Assisted Residual Linear Active Disturbance Rejection Control for a Coaxial Hybrid Aerial-Underwater Vehicle** *Qirong Lei, Le Huang, Jinglei Nie, Minghao Wang, Chunying Li, Pengcheng Li and Shuxiang Guo*

Poster Session Information

Grand Ball Room | Thursday, December 17, 2026 | 14:00–18:00

Paper ID	Poster ID	Title and Authors
1	1-10	**MLP-SLAM: A Multi-feature Visual-Inertial SLAM with Large Language Model Perception for Structured Environments** *Yidan Zheng, Songhao Tan, Shuhuan Wen, Yaohui Chang, Yunxiao Li, Tairen Sun, Jin Ma and Hongfei Chu*
3	1-11	**Reachability-Aware Base Pose Selection for Mobile Manipulation in Dynamic Shared Workspaces** *Yi Ji, Xiaohan Wu, Zhuang Hu and Wenping Wang*
5	1-12	**Multi-stage Path Planning and Obstacle Avoidance for Autonomous Berthing of Unmanned Surface Vehicles** *Tianheng Ma, Yundi Zhao and Zheng Chen*
6	12-6	**SPACE: Swarm Pheromone Fields for Adaptive Collision-Aware Exploration** *Haohua Que, Haojia Gao, Mingkai Liu, Qian Zhang, Jiajun Sun, Lei Mu and Fei Qiao*
7	1-1	**Current-Domain Friction Identification With Trajectory-Validated Online Adaptation for Batch-Deployed Collaborative Robots** *Shigui Chen, Ziyao Liu, Yizhuo Zhang, Hu Liu and Yuxin Yang*
9	14-7	**Joint Angle Estimation with Customized Wristband Based on Online Incremental Learning** *Shuo Wang, Xiaobin Chen and Xiaoming Tao*
11	1-2	**An Adaptive Admittance Control Method Based on Incremental PI Control** *Yian Qian, Lijin Fang and Jiale Chen*
15	4-18	**Embodied Adversarial Data Generation for Cross-Domain Object Detection** *Yue Zhang, Xiaohu Yuan and Shuli Lou*
16	4-19	**Embedded point-cloud segmentation for real-time staircase identification in lower-limb exoskeletons** *Silvester Ofori Ampomah, Giammarco Tonti and Corrado Guarino Lo Bianco*
18	10-10	**Automatic Navigation of Robotic Catheters for Dynamic Obstacle Avoidance Based on Deep Reinforcement Learning** *Guangjun Zeng, Yuezhen Liu, Yibin Wang, Kaiwen Fang and Jiangfan Yu*
20	10-1	**Stability-Aware Prompt Strength Control for Nighttime UAV Tracking** *Kaifeng Zhang, Wei Li and Penglin Li*
21	1-13	**A Whole-Body Planning Approach for Mobile Manipulators Based on Digital Twins** *Junlin Deng, Muhua Zhang, Wenjie Huang, Jing Wen, Yujing Wu, Zhengjie Xie and Yongkui Sun*
22	14-8	**3D Socially-Aware Dynamic Obstacle Avoidance for Mobile Manipulators in Constrained Human-Robot Shared Environments** *Mingyu Gu*
24	10-11	**Lunar Quadruped Locomotion Control via Bayesian PD Optimization and Curriculum Reinforcement Learning** *Lingjie Han, Jule Zhang, Qiang Sheng, Dong Guo and Nan Li*
25	1-14	**WiFi-based Global Localization in Large-Scale Environments Leveraging Structural Priors from osmAG** *Xu Ma, Jiajie Zhang, Fujing Xie and Sören Schwertfeger*
26	14-12	**An Automated MRI-Based Musculoskeletal Modeling for Personalized Exoskeleton Torque Generation** *Rong Zhang, Yao Liu, Zhujin Chen, Yanpeng Ouyang, Aoshuang Ye, Chunjie Chen and Xinyu Wu*

Paper ID	Poster ID	Title and Authors
33	10-2	**Fast Recovery Across the pi-Region for Quadrotor Aerobatics: SE(3) Geometric Control with Hybrid Error-Branch Selection** *Yuting Yu, Jianping Zong, Qinghao Zhang, Qi Chen and Hongpeng Wang*
34	14-9	**Embedded Gait-Based Stress Detection for Lower-Limb Exoskeletons via Few-Shot Personalized Adaptation** *Aoshuang Ye, Shengjie Chen, Rong Zhang, Yanpeng Ouyang, Mingtang Li, Chunjie Chen and Xinyu Wu*
35	14-13	**Shape Reconstruction for Tension-Aware Fiber-Actuated Continuum Robots Using Transfer Learning-Based Networks** *Jinfeng Lin, Jingyuan Xia, Qianshuo Wang, Yun Zou, Zecai Lin and Anzhu Gao*
36	14-14	**StenoVLA: A Geometry-Aware Vision-Language-Action Model for Autonomous Navigation in Gastrointestinal Stenosis and Strictures** *Tamima Tabassum, Chi Kit Ng, Shuchang Liu and Hongliang Ren*
39	1-15	**Context-Adaptive Vision-Wrench Diffusion Policy for Precise Contact-Rich Insertion and Assembly** *Yuecheng Shao, Silong Zhang, Xiaoguang Ma and Jianmin Ji*
40	5-18	**Real-Time Polyp Segmentation in Intelligent Colonoscopy via Parameter-Efficient Adaptation of EfficientViT-SAM** *Jingyu Zhang, Haichen Zhao and Qin Fang*
41	1-16	**HKTPP: A Hierarchical Keypoint-based Trajectory Prediction Paradigm** *Jianxin Shi, Xiaolong Chen, Pei Liu and Jun Ma*
42	5-19	**Erase, then Redraw: A Novel Data Augmentation Approach for Free Space Detection Using Diffusion Model** *Fulong Ma, Weiqing Qi, Guoyang Zhao and Jun Ma*
43	1-3	**Optimization-Based Follow-the-Leader Motion Control for Collision-Free Navigation of Concentric Continuum Robots** *Jieyang Zhang, Guangmei Huang, Shizhen Yang, Zhen Deng, He Zhang and Huifang Zhou*
44	14-15	**Modulating the Inter-Joint Perceptual Structure of Multi-DOF Kinesthetic Illusion by Joint-Specific Vibration** *Wenbin Liu, Yue Hou, Congzhe Wang, Taukim Xu and Kazuo Kiguchi*
47	12-7	**Reachability-Aware Dual-Track Replanning for Service Robot Task Recovery** *Yuhang Sun, Fei Lu, Zhongyang Li, Tengfan Fu, Guohui Tian and Youcheng Lan*
49	4-5	**Dual-Attention Visual-Force Residual Reinforcement Learning for Contact-Rich Dual-Arm Assembly** *Jinpo Zheng, Xinyu Ma, Zhengwei Li and Jianhua Su*
50	4-6	**BiQ-ACT: Arm-Decoupled Action Queries with Gated Cross-Arm Temporal Exchange for Bimanual Manipulation** *Zhaoyang He, Jun Li, Yinhui Xie and Zhiqin Guo*
51	4-7	**QR-ILSM: QR-Based Iterative Least Squares for Extreme Learning Machine** *Weidong Zou, Yuanqing Xia, Zhengyan Liao, Zhuonan Lai, Dachuan Li and Weipeng Cao*
52	10-12	**A Miniature Hybrid-Actuated Soft Manipulator with FBG-Based Shape Sensing for Confined Medical Procedures** *Yumeng Cai, Lu Gan, Yunxiang Zhang, Xiaojie Wang and Yitong Zhou*
53	6-10	**FTSplat: Feed-forward Triangle Splatting Network** *Xiong Jinlin, Li Can, Shen Jiawei, Qi Zhigang, Sun Lei and Zhao Dongyang*

Paper ID	Poster ID	Title and Authors
54	14-16	**An Integrated IMU-Based Platform for Online Estimation of Lower-Limb Biomechanics and Post-Hoc Gait Assessment** *Yanpeng Ouyang, Yao Liu, Zhujin Chen, Rong Zhang, Aoshuang Ye, Chunjie Chen and Xinyu Wu*
55	6-11	**Hierarchical Graph Signal Processing with Time-Frequency Fusion for EEG-Based Emotion Decoding** *Xinyuan Li, Beibei Zhang, Xinrou Zhao, Zilong Yin, Haoyu Wang, Angie Lee and Bin Chen*
56	1-17	**Semantic-Driven Cooperative Passage Planning for Multiple UAVs in Dynamic Mixed-Obstacle Environments** *Junhui Huang, Haoyu Wang, Zilong Yin, Xinrou Zhao, Yu Zhang, Angie Lee and Bin Chen*
59	10-13	**Stable In-Pipe Soft Robot Crawling with Single-Bellows-Driven Radial Anchoring Units and Stride-Frequency Matching** *Lechen Sun, Jingjing Wan, Tao Yu, Weihao Mao, Qingyan Sheng, Zhiguang Xing, Yongchang Zhang and Jianwen Zhao*
62	6-12	**From Transparent Labware Segmentation to Collision Avoidance: A Real-Time Edge-Aware Perception Pipeline** *Shijun Ding, Chen Qian, Weiwei Shang and Junlin Xiong*
63	1-18	**Biomimetic Mapping and Surface-Enveloping Locomotion of a Serial-Gear-Chain Magnetic Climbing Robot** *Dapeng Zhang, Jialin Zang, Shasha Wang, Yongchang Zhang, Zhiguang Xing and Jianwen Zhao*
65	10-14	**Fuzzy Higher-Order Sliding Mode Control of Antagonistic PAM-Driven Joints Based on Improved PSO Parameter Optimization** *Pingwei Jiang, Yuanquan Dai, Dongdong Zhang, Qiming Li, Jun Li and Yinhui Xie*
67	12-8	**User Behavior Prediction Method Driven by Complementary Masked Modeling and Contrastive Learning for Service Robot** *Fei Lu, Tengfan Fu, Xinhong Miao and Yuhang Sun*
68	10-3	**Reachable-Region-Aware Multi-UAV Encirclement in Obstacle-Rich Environments** *Qiting Liu, Meixuan Jade Li and Xianqiang Zhu*
73	15-7	**RA-MoE: Residual-Augmented Mixture-of-Experts for Humanoid Robot Multi-Gait Control** *Shao Xu, Teng Ren, Ziluo Ding, Teng Chen, Zhiyuan Xu, Guoteng Zhang and Xuewen Rong*
74	1-4	**DEIR: Enhancing Safe Reinforcement Learning with Dual-Encoder Information Reconstruction for Humanoid Locomotion** *Xin Guo, Baoshuo Feng, Guanglin Lu and Bin Li*
77	6-13	**Anchor-Guided Targetless Thermal Point Cloud Generation via Feed-Forward Pose Priors and Radiometry-Aware Fusion** *Wu Yuan, Zhu Weijie, Wei Haikun and Zhang Kanjian*
78	1-5	**Task-Aligned Tactile Representation Learning for Robotic Manipulation** *Min Joong Kim, Zhengrong Ling and Yajing Shen*
80	10-4	**TRACER-Planner: A Goal-Conditioned Decision Framework for Clearance-Aware One-Stage UAV Navigation** *Dexing Yao, Junhao Wei, Haochen Li, Yifu Zhao, Yanxiao Li, Baili Lu, Zikun Li, Xu Yang, Sio-Kei Im, Dingcheng Yang and Yapeng Wang*
84	14-17	**Force-Augmented Physical Human–Robot Collaboration for Pelvic Fracture Reduction** *Zhe Wang, Jiawei Deng, Yuanyuan Yang, Xiaozhi Qi, Baoliang Zhao and Ying Hu*

Paper ID	Poster ID	Title and Authors
86	1-6	**Robotic Manipulator Grasping System for Sorting Irradiated Samples** *Chongguang Zhao, Zhiyi Dong, Zhouteng Wu, Zhiduo Li, Wen Yin and Xuchong Zhang*
87	1-7	**Context-Conditioned Synergy Learning for Multi-Joint Coordination in Humanoid Locomotion** *Dongchun Fan, Haoyu Wang, Hangling Sun, Junhui Huang, Angie Lee and Bin Chen*
90	4-8	**Validation-Based Inference Profile Selection for Diffusion Policy** *Zeyu Wang, Yueming Fang, Hu Deng, Deyin Zhuang and Feng Wei*
93	1-19	**NDLoc:non-stationarity-aware dual-branch geomagnetic localization** *Yuhe Duan, Yongsheng Ou, Kunmo Li and Dongjie Xiao*
94	2-10	**Vision-Guided Search Planning for Maritime Search and Rescue Using a Multi-Mission UAV** *Pengyu Wang, Chaoxin Yang, Jiankun Wang and Max Q.-H. Meng*
95	12-9	**Constraint-Aware Cooperative Inspection for Heterogeneous Multi-Robot in Field Environments** *Pengyu Wang, Hao Cheng, Jiankun Wang and Max Q.-H. Meng*
96	10-15	**Motion Analysis and Planning for Hurdle Jumping of a Skating Quadrupedal Robot with Passive Wheels** *Jiazhen Liu, Cheng Chen, Zhijun Zhao, Yaobing Wang, Haoyuan Liu, Tao Zhang, Jiawei Chen, Kun Xu and Xilun Ding*
97	10-16	**A Modular Crawling Robot with Multiple Locomotion Modes Driven by Roll Dielectric Elastomer Actuators** *Zhongrui Gong, Yang Shen and Junbo Peng*
98	15-8	**Motion Representation and Compensation Methods for Spatially-Constrained Whole-Body Humanoid Teleoperation** *Jiachen Ding, Ziyao Wang, Zhongzheng Zhu, Weiran Zhang, Jiacheng Zhen, Kanjian Zhang and Haikun Wei*
99	14-18	**Identification of Vascular Flow Field Parameters Based on a Probe Catheter Robot** *Yuqiao Jing and Jiaole Wang*
101	10-17	**Dynamic Control for Quadruped Locomotion with an Active Spine via Time-Varying Single Rigid Body Dynamics** *Liangyu Dong, Yuhong Huang, Xiangtong Yao, Haibin Zeng, Yulong Xiao, Zhenshan Bing, Yixuan Dang, Zitao Zhang and Alois Knoll*
102	2-11	**A Transitional Goal-Guided A* Path Planning Algorithm for Multi-Goal Navigation of Legged Robots in Complex Outdoor Environments** *Jingui Meng, Shao Xu, Zhicheng Zhao, Weikai Ding and Guoteng Zhang*
103	14-19	**Template-Constrained Hierarchical Semantic Alignment for Echocardiography Report Generation** *Liang Yao, Xi Zhang, Yun Zhang, Baoliang Zhao, Peng Zhang, Faqin Lv and Ying Hu*
105	15-12	**P-SWAN Hand: A Pediatric Prosthetic Hand with Single-Motor Adaptive Grasping and a Multi-DOF Passive Wrist** *Yukiko Makiura and Masahiro Yoshikawa*
107	2-12	**EAGLE: Egocentric Agentic Graph Layout for Embodied Navigation** *Yunzhen He, Yuxiang Cui, Feng Zhang and Genke Yang*
109	15-9	**QoELfD Toward QoE-driven Remote Learning from Demonstration Using Time-Delayed Teleoperation with Force Feedback** *Zican Wang, Basak Guelecyuez, Xiao Xu, Dong Yang and Eckehard Steinbach*
112	10-18	**Modeling and Analysis of a Tendon-Driven Continuum Robot with Tapered Tendon Routing** *Qin Fang and Jingyu Zhang*

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113	13-6	**HSLLM: hidden state-augmented prompt-based LLM for long-term time series forecasting in industrial process** *Cong Liu, Chaobo Zhang, Xiaojun Liang, Yang Li, Xiaohao Wang, Jun Liu and Xinghui Li*
114	6-14	**A Multimodal Automated Indentation System for Characterizing 3D Food Shape and Young's Modulus** *Yu Wan and Zhongkui Wang*
115	10-5	**Planning-Enhanced Two-Stage Reinforcement Learning for Cooperative Multi-AUV Cable Tracking under Intermittent Visibility** *Xiaotian Li, Zhijie Chen, Wenkai Zhang, Yuhao Cai, Yilun Sun and Qirong Tang*
116	10-6	**An Unmanned Underwater Salvage Robot with Split Design, PID Underwater Hovering System and Full-IP IoT Networking Architecture for Multi-Water-Domain Operations** *Rongzhang Tang, Jinqi Shi, Haoran Zhang, Yizhe Feng, Zaisong Long, Xinhang Chen, Zhen Li and Chenghao Cai*
117	4-9	**MizuVLA: A Simulation Benchmark and SmolVLA Control Framework for Leafy Vegetable Harvesting** *Di Gao and Zhongkui Wang*
118	2-13	**MirrorSentinel: Suppressing Mirror-Induced Ghost Structures in Elevator LiDAR Maps with Visual Depth** *Yugong Wang, Shengzhe Gan, Yu Zhan, Zhuoli Ouyang, Chuyao Fu, Yitao Zeng and Hong Zhang*
122	10-19	**Wireless BCI-Enabled Bilateral Differential Stimulation for Precision Control of Cyborg Fish** *Mingze Sun, Linjie Liu, Wenxu Ni, Tianming Zhao, Zijun Wang and Wenxue Wang*
123	13-7	**Low-Degree-of-Freedom Door-Opening and Passage Mechanism for Mobile Transport Robots** *Hibiki Deguchi, Hiroaki Seki, Tokuo Tsuji and Tatsuhiro Hiramitsu*
124	11-10	**Cephalopod-Inspired HASEL Skin Unit with Coupled Color Change and Protrusion** *Zhongnan Li, Zhi Wang and Wuxiang Zhang*
125	2-14	**FRN-Explore: A Hierarchical Framework with Forced and Regret Backtracking for Goal-Directed Quadruped Robot Navigation** *Mengwei Du, Zhenfeng Xue, Zhonghua Miao and Yu-Long Wang*
129	10-7	**A Hybrid Inverse Kinematics Model for Space Tensegrity Robots** *Yuan Fang*
131	15-13	**Resting-state EEG Microstates and Motor Function Recovery under Brain-controlled Supernumerary Robotic-Limb Training in Stroke Patients: a Longitudinal Pilot Study** *Zhaoqi Li, Zhuang Wang, Shuaifei Huang, Huimin Huang, Wenlai Wu, Zhuolan Gui, Chen Xu, Hao Zhang, Jun Guo, Yuan Liu and Dong Ming*
132	11-11	**Modeling and Grasping Experiments of a Bio-Inspired Hyper-Redundant Tendon-Driven Soft Manipulator** *Yujie Gu, Yaoyao Wang, Yayi Shen and Tianwei Zhang*
133	6-15	**Self-Supervised Geometry-Aware Deep Unrolling RPCA for Dynamic X-Ray Coronary Angiography Sequence Decomposition** *Zihan Guo, Mingwei Zhai, Cheng Tian, Yanding Qin and Hongpeng Wang*
135	10-8	**RollBot: Rolling and Flying Transition for Caged Quadrotors without Pre-Takeoff Alignment** *Songyan Xin and Robert Richardson*

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136	11-12	**PSG: Privileged Style-Guided Locomotion for Legged Robots on Complex Terrain** *Yuhan Wei, Qiqi Zhou, Xinya Zhang, Teng Chen, Guoteng Zhang, Xuewen Rong, Bin Li, Guanglin Lu and Yibin Li*
137	10-9	**An Occlusion-Aware Aerial Target Tracking System: From Detector-Tracker-Depth Perception to Prediction and Planning** *Fansheng Wu, Dadong Fan, Kanjian Zhang, Shixiong Fang and Haikun Wei*
138	2-15	**CC-DIG: Category-Conditioned Deformable Interaction Graph for Multi-modal Trajectory Prediction in Mixed-VRU Scenes** *Dong Liu, Peili Song, Chenyang Zhao, Yue Sun and Jingtai Liu*
140	11-13	**Gravity-Adaptive Locomotion Control with Low-Disturbance Foot Trajectory Planning for Quadruped Robots** *Xinya Zhang, Yuhan Wei, Luxin Man, Xuewen Rong, Guoteng Zhang, Guanglin Lu and Teng Chen*
142	2-16	**DGPoseGrasp: Uncertainty-Aware Online Re-Ranking of 6-DoF Grasps for Transparent and Specular Objects** *Linhua Dong, Zihang Peng and Qujiang Lei*
143	6-16	**DepTR-MOT: Unveiling the Potential of Depth-Informed Trajectory Refinement for Multi-Object Tracking** *Buyin Deng, Lingxin Huang, Kai Luo, Fei Teng and Kailun Yang*
144	2-17	**Experimental Evaluation of S-RFT for Lugged-Wheel Motion Prediction in Granular Media** *Jiaxin Liu and Zhongkui Wang*
147	1-9	**PSO-Optimized Offline PID Tuning for Balance Control of a High-Center-of-Mass Wheeled Inverted Pendulum** *Ruitong Jia, Naimeng Cang, Yuhua Zheng, Jiaoyang Lin and Shuai Li*
148	11-1	**Quality-Guided Iterative Optimization for Active LiDAR–Visual Gaussian Reconstruction** *Wenhao Zhang, Zhongzhi Cao, Jianping Zong, Qichang Zhou and Hongpeng Wang*
149	16-1	**Automated Stair Modeling and Adaptive Gait Generation for Humanoid Robots Using RGB-D Fusion Perception** *Meiling Wang, Chi Zhang, Junhong Zhao, Huaibo Zhang, Hao Chen and Hao Qin*
151	11-14	**Perception-Guided Two-Stage PPO for Autonomous Stair Climbing of Quadruped Robots** *Zhiying Tan, Chi Zhang, Bo Hu, Huaibo Zhang, Hao Chen, Hao Qin and Fei Dong*
152	11-15	**Learning Long-Duration Stable Quadruped Locomotion with Disturbance-Aware Gait Activation** *Xu Lu, Jialong Liang, Isabel Guan and Zhenzhong Jia*
154	2-18	**Design and Research of a Multi-DOF Dual-Wheel Magnetic Wall-Climbing Robot for Complex Steel Structures** *Hua Ju, Mingyuan Wang, Lichao Cui, Meng Li, Ziqing Gu and Jianjun Yuan*
158	2-1	**PCA-Constrained Contact-GraspNet Candidate Fusion for Planning-Aware Grasp Generation with a Multi-Fingered Hand** *Jiameng Liu, Ping Lan, Weinan Chen, Haifei Zhu and Yisheng Guan*
160	2-2	**Precise tracking control of the maglev variable stiffness bionic joint under low stiffness conditions** *Zhang Lu, Zhai Mingda, Lu Yunlong and Long Zhiqiang*
161	16-2	**Hybrid Stream-Based Speech Interaction of a Humanoid Robot for Elderly Companion** *Wenhao Chen, Junhao Li, Weinan Chen, Haifei Zhu and Yisheng Guan*

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163	13-8	**Robotic Brush Calligraphy in Semi-cursive Script: Structural Decoupling and Vision-Based 3D Trajectory Mapping** *Junhao Li, Wenhao Chen, Weinan Chen, Haifei Zhu and Yisheng Guan*
165	13-9	**Consistency-Aware Formation Pseudo-Measurements for RI-EKF-Based Cooperative Localization** *Xiaobo Zhou and Ju Chen*
170	6-17	**Integrity-Aware Cine-CMR Motion Profiles for Offline Regional Decision Stability** *Jiarui Li, Hua Shu, Zihan Sun, Canqi Qiu and Siruo Wu*
171	5-5	**Uncertainty-Aware Foothold Selection for Physiologically Plausible Bipedal Locomotion over Stairs and Irregular Terrain** *Dongchun Fan, Haoyu Wang, Hangling Sun, Junhui Huang, Angie Lee and Bin Chen*
172	11-2	**A Miniature Buoyancy-Driven Profiling Robot with Axial Ballast: Design and Validation** *Lanqi Gao, Ru Tong, Shihan Kong, Junzhi Yu and Pan Liao*
173	15-14	**Design and Validation of a Hybrid Dual-Segment Continuum Robot for ERCP** *Can Lei, Yiyao Zhang, Xinxiang Duan, Keya Kuang and Jiankun Wang*
174	16-3	**TR-MoRE: Temporal Reliability-Aware Mixture of Residual Experts for Humanoid Locomotion with Degraded Depth** *Xing Fang, Qian Zhang, Mingxing Zhang, Yanyun Chen, Wenhao Tan and Ran Song*
175	11-3	**Improved A*-Based Navigation for Tethered UAVs with Tether-Obstacle Collision Avoidance** *Xianbang Meng, Hai Yu, Xiao Liang and Jianda Han*
176	15-15	**Box-Supervised Dental Hard Tissue Segmentation via Structural Prior-Constrained Two-Layer Level Set** *Dongyue Li, Xiheng Yu, Yingnan Li, Fang Wu, Aocheng Luo, Boyang Qin and Junzhi Yu*
177	16-4	**Command-Matched Demonstration Sampling for Adversarial Motion Priors in Humanoid Robot Locomotion** *Yu Xiang, Zhen Chen, Xiaoyu Lang and Xiangdong Liu*
178	6-18	**SGR³ Model: Scene Graph Retrieval-Reasoning Model in 3D** *Zirui Wang, Ruiping Liu, Yufan Chen, Junwei Zheng, Weijia Fan, Kunyu Peng, Di Wen, Jiale Wei, Jiaming Zhang and Rainer Stiefelhagen*
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