

Session Sequence	Paper No	Paper Title	Authors
Monday 14.09.2026			
Keynote Speaker 1 10:00 - 11:00		Machine Learning for Resolving Conflicts in Physical Human–Robot Interaction	Prof. Çağatay Başdoğan
Session 1 Medical Robotics 11:30 - 12:30	7	Edge Machine Learning on an Embedded IMU Core for Stationary State and Walking Speed Level Detection in Microprocessor-Controlled Prosthetic Knees	Günaydın, Y., Uzun, B., Adıgüzel, E., Konukseven, E.
	14	Design Requirements and Conceptual Development of a Pediatric Lower-Limb Rehabilitation Device	Zhetenbayev, N., Sagynbayev, N., Rysbek, A., Nurgizat, Y., Sultan, A., Sergazin, G.
	22	Upper Limb Rehabilitation Robot Based on 5-bar Linkage with Variable Stiffness	Nelson, C., Li, Y.
	24	Design and Experimental Validation of an Active Ankle Prosthesis Based on BLDC Actuation and Spherical Gear Coupling	Zhetenbayev, N., Akhmejanov, S., copilusi, C., Sergazin, G., Ozhikenov, K.
Session 2 Mobile Robots 14:00 - 15:00	2	Real-Time NMPC Unifying Planning and Tracking for 6 × 6 Skid-Steer UGVs Under Energy Constraints	Ulusoy, K., Beşir, M., Konukseven, E.
	8	Monitoring the soil respiration with an autonomous mobile robotic system	Scalera, L., Musso, S., Tiozzo Fasiolo, D., Gasparetto, A., Alberti, G.
	10	Robust Six-DOF Motion Control of a Fully-Actuated Tricopter with Independently Tilting Rotors	Baspinar, C., Gülec, Y., Alaca, H.
	11	Development of Disaster Victim Search Robot Equipped with Starfish-shaped Wheels and a Jumping Mechanism	Mineshita, H., Lim, H.
Session 3 Robot Control 15:30 - 16:30	18	Considerations on Dynamic Modeling of a Macro-Micro Manipulator and Controller Design	Brückmann, N., Knobloch, T., Mirz, C., Schicks, F., Hüsing, M., Corves, B., Tanaka, T., Miura, S., Akatani, K., KATO, K., Takeda, Y.
	25	On the Implementation of MATLAB Simscape Multibody and Arduino: A Simplified Case Study on a Remotely Controlled 2 DOF Parallel Manipulator	Erdal, B., Özden, İ., Bulut, F., Koçak, M., Gezgin, E.
	37	Learning Multimodal Motion Behavior of Human-Controlled Robots in a Shepherd Task	Wenger, I., Eberhard, P., Ebel, H.
	38	A geometry-driven approach towards trajectory control of objects on a robotic morphing surface	Frasch, S., Weidmann, M., Sata, S., Scholz, A., Noack, B.
Session 4 Robot Mechanisms 17:00 - 18:00	36	CGA Based Kinematic Analysis and Networked Design of Platonic-Archimedean Polyhedral Mechanisms	Zhang, J., Kiper, G., Li, D., Guo, F., Ma, W., Huang, X., Lu, Q.
	9	STRUCTURAL AND CONSTRUCTIONAL SYNTHESIS OF NEW MANIPULATORS WITH GENERAL CONSTRAINT TWO	Alizade, R., Huseynzade, K.
	15	Passive Cable Tension Maintenance Using Flexible Cables in 3-DOF Cable-Driven Robot for Moving Scaffold Application in a Vertical Plane	Güleç, M., Şafak, K.
	17	Development of a 6 DOF Stewart Platform for Precise Inkjet Printhead Positioning with a Macro-Micro System Architecture	Knobloch, T., Brückmann, N., Mirz, C., Schicks, F., Hüsing, M., Corves, B., Tanaka, T., Miura, S., Akatani, K., KATO, K., Takeda, Y.
Tuesday 15.09.2026			
Session 5 Special Topics in Robotics 09:00 - 10:00	34	An Adaptive Granular Jamming-Based Fixture for Hybrid Additive–Subtractive Robotic Manufacturing of Composite Parts	Botta, A., Tagliavini, L., Visconte, C., Quaglia, G., Kurt, B., Dede, M.
	40	Haptic Enabled Multi-Master Multi-Slave Teleoperation of Soft Arms: Puppeteering Method	Cezayirli, H., Dede, M.
	52	Stretchable Piezoelectric Sensing for Slip Detection in Soft Robotic Grippers	İLMAN, M., Sarı, A., Yıldız, Z., Koç, M., Paralı, L.
	59	Design Requirements and Preliminary Tests of a Soft-Rigid Hand for Tomato Harvesting	Malyshev, D., Boninsegna, M., Bernardi, B., Carbone, G.
Keynote Speaker 2 10:00 - 11:00		Integration of Structural Compliance and Intrinsic Sensing of Rigid-Flexible Hybrid Mechanisms	Prof. Genliang Chen
Session 6 Medical Robotics 11:30 - 12:30	31	Design and Task Space Evaluation of 3-URS Parallel Human Neck Assistance Robot	Sadić, A., Sugahara, Y.
	35	Velocity Kinematics and Jacobian Analysis of a 2-DOF Above-Knee Prosthetic Leg Using the Denavit-Hartenberg Convention	Küçük, S., Alqasemi, R., Mayetin, U., Dubey, R.
	46	Preliminary Design of a MR-Safe Parallel Manipulator for a Surgical Manipulator	Dikmen, Z., Çetin, L., Gezgin, E.
	53	Design and Analytical Inverse Kinematic Formulation of 5-DOF RRP RR Manipulator for Limb Rehabilitation	Karagöz, İ., Küçük, S.
Session 7 Mobile Robots 14:00 - 15:00	12	Advanced Bilinear Koopman Models for Predictive Control of Nonholonomic Systems	Krauspenhaar, J., Krendelsberger, E., Rosenfelder, M., Bold, L., Schimperna, I., Worthmann, K., Eberhard, P., Ebel, H.
	19	Ant Colony Algorithm Tuned Sliding Mode Control of a Novel Adjustable Active Arm for Multirotor Drones	ÖZBEK, C., ÖZGÜNEY, Ö.
	21	Learning-Accelerated Optimization-based Trajectory Planning for Cooperative Aerial-Ground Handover Missions	Chen, J., Yu, B., Ebel, H., Eberhard, P.
	23	NatureCleanerBot: Design of a Sustainable Smart Robotic System for Outdoor Plastic Waste Collection	Maarroof, O., abduhahedh, M., AlNaimi, M., Alglamy, S.
Session 8 Robot Control 15:30 - 16:30	42	A Hardware Design for Assisting in Payload Positioning on Surfaces via Physical Human-Robot Interaction	Naibant, U., Dede, M.
	48	Joint Limit Avoidance in Redundant Manipulators Using the Gradient Projection Method with Optimal Tuning	Kütük, M., Kapucu, S.
	54	Design and Experimental Evaluation of an Antagonistic SMA Actuator with Control-Oriented Hysteresis Analysis	KOCABAŞ, K., Kaya, O., Ertugrul, S., Tağlıoğlu, G.
	60	Experimental Analysis of Admittance Control Transparency Improvement by Digital Filtering	Hoffmann, A., Kecskeméthy, A.
Wednesday 16.09.2026			
Session 9 Special Topics in Robotics 09:00 - 10:00	13	Size by Finger (SBF) design approach to overcome ergonomic limitations of standardized hand sizes	Gelli, M., Brogi, C., Di Natale, A., Ridolfi, A., Secciani, N.
	30	Scent-Based Landmark and Communication for EM Hostile Environments	McGuinness, D.
	57	An Active Shoulder–Elbow Exoskeleton for Industrial Applications	Zhetenbayev, N., Madikhov, S., Ceccarelli, M.
Keynote Speaker 3 10:00 - 11:00		Controlling Deformability in Robotics: From Soft Robots to Large Deformable Objects	Assoc. Prof. Cosimo Della Santina
Session 10 Medical Robotics 11:30 - 12:30	55	Toward Assist-as-Desired Sit-to-Stand Assistance: A Preliminary Investigation of a Handrail Interface for Recognizing Assistance Desire	Zheng, J., Jiang, M., Takeda, Y.
	56	Experimental Assessment and Characterization of a Six-Degree-of-Freedom Hybrid Haptic Interface intended for Medical Application	Koszulinski, A., Sandoval, J., Chaker, A., Zeghoul, S., Laribi, A.
	58	An Endoscope Handling Robot’s Base Placement and Wrist Configuration Considerations	Deniz, M., Dede, M.
	63	Control-Oriented Integration of a Spherical Parallel Robot for Minimally Invasive Surgery	Vaida, C., Pîslă, D., Miclaus, M., Gherman, B., Horvath, D., Zima, I., Caillean, A., Tucan, P.
Session 11 Robot Modelling and Analysis 14:00 - 15:00	1	Estimating Excavation Forces in Front-End Loader Mechanisms Based on Kinematic and Dynamic Analysis	Karanfil, D., Ravani, B.
	16	Understanding the Nature of Vibration Modes in Serial Robots by Experimental Modal Analysis	Ibarrola-Chamizo, J., Agirre-Olabide, I., Iriarte, X., Merino-Olagüe, M., Aginaga, J.
	33	A Hamiltonian Formulation of First-Order Decoupled Equations of Motion for Robotic Mechanisms	Mitra, S., Ravani, B.
	41	Effect of End-Effector Mounting Angle for a Robotic Arm	Gündüz, G., Kiper, G., Dede, M., Witte, M., Corves, B.
Session 12 Robot Modelling and Analysis 15:30 - 16:30	32	Test and Validation of an Energy Consumption Model of an Industrial Robot	Pérez-Anaut, J., Aginaga, J., Ibarrola-Chamizo, J., Agirre-Olabide, I., Huarte, M., García, F., Garriz, C.
	4	Collision Avoidance for a Heterogeneous Multi-Robot Arm System by 3D-Extended Buffered Voronoi Cells	Sun, X., Noda, S., Makino, K., Terada, H.
	6	Design and Experimental Evaluation of a Non-Pitching Arm for a Humanoid Pitching Robot	Nakazawa, Y., Fukuda, T., Kuno, M., Sato, Y., Wang, B., Nago, S., Katayama, Y., Mineshita, H., Otani, T., Kawakami, Y., Lim, H., Takanishi, A.
	44	Preliminary Design of a Series Elastic Actuator Based Delta Robot Manipulator	Tüfekci, S., Yıldırım, S., Doğan, S., Akyüz, B., Koçak, M., Gezgin, E.
Session 13 Robot Mechanisms 17:00 - 18:00	20	Parametric Generative Design Framework for Serial Robots	Sands, C., Jin, Y., Zhao, Z., Kirkland, F., Price, M.
	47	Structural Synthesis of Overconstrained Platform Type Manipulators via Method of Divisions	YAZICI, M., Koçak, M., Uslu, T., Selvi, Ö., Gezgin, E.
	50	Experimental Validation of Overconstrained Mechanisms Modeling Methods	Wojtyra, M., Gajda, W., Pełal, M.
	62	Development of a Novel Three-satellite Planetary Gear with a Composite Carrier	Fomin, A., Gerasimov, S.