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	Nota di contenuto	Soft and Compliant Robots -- A Scalable Variable Stiffness Revolute Joint based on Layer Jamming for Robotic Exoskeletons -- A Universal Stiffening Sleeve Designed for all Types of Continuum Robot Systems -- A Passively Compliant Idler Mechanism for Underactuated Dexterous Grippers with Dynamic Tendon Routing -- An Inhomogeneous Structured Eversion Actuator -- Resistance Tuning of Soft Strain Sensor based on Saline Concentration and Volume Changes -- A low cost Series Elastic Actuator Test Bench -- Shape Reconstruction of Soft-Body Manipulator: a Learning-based Approach -- Silicone Based Capacitive E-skin Sensor for Soft Surgical Robots -- Soft Hinge for Magnetically Actuated Millimetre-size Origami -- An Adaptable Robotic Snake using a Compliant Actuated Tensegrity Structure for Locomotion -- Mobile Robots -- Topological Robot Localization in a Large-Scale Water Pipe Network -- Visual Topological Mapping Using an Appearance-based Location Selection Method -- Building a Navigation System for a Shopping Assistant Robot from off-the-shelf Components -- Testing an Underwater Robot Executing Transect Missions in Mayotte -- Modelling and Control of an End-Over-End Walking Robot -- Deep Learning-based Decision Making for Autonomous Vehicle at Roundabouts -- Learning, Mapping, Planning -- A Comparative Study

for Obstacle Avoidance Inverse Kinematics: Null-space based vs. Optimisation-based -- A Structural Approach to Dealing with High Dimensionality Parameter Search Spaces -- Self-Supervised Learning Through Scene Observation for Selective Item Identification in Conveyor Belt Systems -- A 4D Augmented Flight Management System based on Flight Planning and Trajectory Generation merging -- Real World Bayesian Optimization Using Robots to Clean Liquid Spills -- LocalSPED: A Classification Pipeline that Can Learn Local Features for Place Recognition using a Small Training Set -- Towards Robust Mission Execution via Temporal and Contingent Planning -- Human-robot Interaction -- An Experiment on Human-Robot Interaction in a Simulated Agricultural Task -- Expression of Grounded Affect: How Much Emotion Can Arousal Convey? -- Towards Safer Robot Motion: Using a Qualitative Motion Model to Classify Human-Robot Spatial Interaction -- Tactile Feedback in a Tele-Operation Pick-and-Place Task Improves Perceived Workload -- Touch it, Rub it, Feel it! Haptic Rendering of Physical Textures with a Low Cost Wearable System -- ShearTouch - Towards a Wearable Tactile Feedback Device to Provide Continuous Shear Force Sensation in Real Time -- A Pressure Controlled Membrane Mechanism for Optimising Haptic Sensing -- Experiment Establishing Spatiotemporal Resolution of Human Thermal Perception for Developing a Prosthetic Robotics Hand Thermal Interface -- Robotic Systems and Applications -- An Upper Limb Fall Impediment Strategy for Humanoid Robots -- Requirements Specification and Integration Architecture for Perception in a Cooperative Team of Forestry Robots -- OpenKilo: A truly Open-Source Kilobot Design Revision that Aids Repair and Extensibility -- Towards Growing Robots: A Piecewise Morphology-Controller Co-Adaptation Strategy for Legged Locomotion -- A Novel Shape Memory Alloy (SMA) Wire-Based Clutch Design and Performance Test -- Prototyping Sensors and Actuators for Robot Swarms in Mixed Reality -- ROSMonitoring: a Runtime Verification Framework for ROS -- One-shot 3D Printed Underactuated Gripper -- A Cable-based Gripper for Chemistry Labs -- Magnetic Force Driven Wireless Motor.

Sommario/riassunto	The volume LNAI 12228 constitute the refereed proceedings of the 21th Annual Conference "Towards Autonomous Robotics," TAROS 20120, held in Nottingham, UK, in September 2020.* The 30 full papers and 11 short papers presented were carefully reviewed and selected from 63 submissions. The papers present and discuss significant findings and advances in autonomous robotics research and applications. They are organized in the following topical sections: soft and compliant robots; mobile robots; learning, mapping and planning; human-robot interaction; and robotic systems and applications. * The conference was held virtually due to the COVID-19 pandemic.