

TA1-A: SLAM I (Analytical Issues)

TA1-A1

[Use of Sensitivity for Optimal Self-Localization with Landmarks](#)

Yukihiko Ono, Takayuki Takahashi, Eiji Nakano

TA1-A2

[Sensor Based Robot Localisation and Navigation: Using Interval Analysis and Unscented Kalman Filter](#)

Immanuel A. R. Ashokaraj, Antonios Tsourdos, Peter M. G. Silson, Brian A. White

TA1-A3

[Analysis of Positioning Uncertainty in Simultaneous Localization and Mapping \(SLAM\)](#)

Anastasios I. Mourikis, Stergios I. Roumeliotis

TA1-A4

[Improving the Real-Time Efficiency of Inertial SLAM and Understanding its Observability](#)

Jonghyuk Kim, Salah Sukkarieh

TA1-A5

[Conditions for Suboptimal Filter Stability in SLAM](#)

Teresa Vidal-Calleja, Juan Andrade-Cetto, Alberto Sanfeliu

TA1-B: OS: Robotics for Disaster Response, Urban Search and Rescue I

TA1-B1

[ROBHAZ-DT3 : Teleoperated Mobile Platform with Passively Adaptive Double-Track for Hazardous Environment Applications](#)

Woosub Lee, Sungchul Kang, Munsang Kim, Mignon Park

TA1-B2

[Development of Helios VII: an Arm-Equipped Tracked Vehicle for Search and Rescue Operations](#)

Michele Guarnieri, Paulo Cesar Debenest, Takao Inoh, Edwardo Fumihiko Fukushima, Shigeo Hirose

TA1-B3

[Development of a Transformational Mobile Robot to Search Victims under Debris and Rubbles](#)

Katsuhiko Tabata, Akio Inaba, Qin Zhang, Hisanori Amano

TA1-B4

[Development of "Souryu-III": Connected Crawler Vehicle for Inspection inside Narrow and Winding Spaces](#)

Masayuki Arai, Toshio Takayama, Shigeo Hirose

TA1-B5

[Core-Bored Search-and-Rescue Applications for an Agile Limbed Robot](#)

Richard Voyles, Amy Larson, Monica Lapoint, Jaewook Bae

TA1-C: Cyber Cars

TA1-C1

[Vision-Based Adaptive Cruise Control for Intelligent Road Vehicles](#)

Miguel Angel Sotelo Vázquez, David Fernández Llorca, José Eugenio Naranjo, Carlos González, Ricardo García, Teresa de Pedro, Jesús Reviejo

TA1-C2

[Fast Shape-Based Road Sign Detection for a Driver Assistance System](#)

Gareth Blake Loy, Nick Mark Barnes

TA1-C3

[Digitizing and 3D Modeling of Urban Environments and Roads Using Vehicle-Borne Laser Scanner System](#)

Iyad Abuhadrous, Fawzi Nashashibi, François Goulette, Claude Laugeau, Samer Ammoun

TA1-C4

[High-Speed Autonomous Navigation with Motion Prediction for Unknown Moving Obstacles](#)

Dizan Alejandro Vasquez, Frédéric Large, Thierry Fraichard, Christian Laugier

TA1-C5

[Situation-Based Multi-Target Detection and Tracking with Laserscanner in Outdoor Semi-Structured Environment](#)

Abel Mendes, Urbano Nunes

TA1-D: Dexterous Manipulation

TA1-D1

[Deformational Features of Soft-Fingertips Applied to Object Manipulations: Theoretical and Experimental Analyses](#)

Byoung-Ho Kim, Shinichi Hirai

TA1-D2

[Perception of Human Manipulation Based on Contact State Transition](#)

Masahiro Kondo, Jun Ueda, Yoshio Matsumoto, Tsukasa Ogasawara

TA1-D3

[Design and Analysis of a New Parallel Grasper Having Spherical Motion](#)

Byung-Joon Park, Byung-Ju Yi, Whee-Kuk Kim

TA1-D4

[Nonlinear Cyclic Pattern Generation Using an Excitable Chemical Medium Controller for a Robotic Hand](#)

Hiroshi Yokoi, Andy Adamatzky, Ben De Lacy Costello, Chris Melhuish

TA1-D5

[Grasp-Based Visual Servoing for Gripper-to-Object Positioning](#)

Gabriel Recatalá, Pedro J. Sanz, Enric Cervera, Ángel P. del Pobil

TA1-E: Humanoid Robots I

TA1-E1

[Posture Modification for Biped Humanoid Robots Based on Jacobian Method](#)

Dirk Wollherr, Martin Buss

TA1-E2

[Feasibility of Humanoid Robots Stepping over Obstacles](#)

Yisheng Guan, Kazuhito Yokoi, Neo Ee-Sian, Kazuo Tanie

TA1-E3

[A Running Experiment of Humanoid Biped](#)

Takashi Nagasaki, Shuuji Kajita, Kenji Kaneko, Kazuhito Yokoi, Kazuo Tanie

TA1-E4

[Analysis of Motions of a Small Biped Entertainment Robot](#)

Tatsuzo Ishida, Yoshihiro Kuroki, Taro Takahashi

TA1-E5

[Design and Development of a Light-Weight Biped Humanoid Robot Saika-4](#)

Satoru Shirata, Atsushi Konno, Masaru Uchiyama

TA1-F: Human-Robot Interaction for Safety

TA1-F1

[Mobile Manipulator Collision Control with Hybrid Joints in Human-Robot Symbiotic Environments](#)

Zhijun Li, Aiguo Ming, Ning Xi, Makoto Shimojo, Makoto Kajitani

TA1-F2

[A Safety Service Manipulator System: The Reduction of Harmful Force by a Controllable Torque Limiter](#)

Seong-Hee Jeong, Takayuki Takahashi, Eiji Nakano

TA1-F3

[Multi-Modal User Interface for Teleoperation of ROBHAZ-DT2 Field Robot System](#)

Dongseok Ryu, Sungchul Kang, Munsang Kim, Jae-Bok Song

TA1-F4

[On the Dynamic Version of the Minimum Hand Jerk Criterion](#)

Mikhail M. Svinin, Yohei Masui, Zhi-Wei Luo, Shigeyuki Hosoe

TA1-F5

[An Investigation of MML Methods for Fault Diagnosis in Mobile Robots](#)

Jennifer Carlson, Robin R. Murphy

TA1-G: OS: Intelligent Environment I

TA1-G1

[A Distributed Knowledge Network for Real World Robot Applications](#)

Nak Young Chong, Hiroshi Hongu, Kohtaro Ohba, Shigeoki Hirai, Kazuo Tanie

TA1-G2

[Construction of an Intelligent Room Based on Gesture Recognition - Operation of Electric Appliances with Hand Gestures -](#)

Kota Irie, Naohiro Wakamura, Kazunori Umeda

TA1-G3

[Appearance Based Object Identification for Distributed Vision Sensors in Intelligent Space](#)

Kazuyuki Morioka, Hideki Hashimoto

TA1-G4

[Development of a Concept Model of a Robotic Information Home Appliance, ApriAlpha](#)

Takashi Yoshimi, Nobuto Matsuhira, Kaoru Suzuki, Daisuke Yamamoto, Fumio Ozaki, Junko Hirokawa, Hideki Ogawa

TA1-G5

[Personal Navigation System](#)

Jari Saarinen, Jussi Suomela, Seppo Heikkilä, Mikko Elomaa, Arne Halme

TA1-H: Micro Manipulation

TA1-H1

[Precise Automatic Guiding and Positioning of Micro Robots with a Fine Tool for Microscopic Operations](#)

Daigo Misaki, Shiro Kayano, Yutaka Wakikaido, Ohmi Fuchiwaki, Hisayuki Aoyama

TA1-H2

[H2-Optimal Controller Design for Micro-Teleoperation with Delay](#)

Moussa Boukhnifer, Antoine Ferreira

TA1-H3

[A New Micro-Tools Exchange Principle for Micromanipulation](#)

Cédric Clévy, Arnaud Hubert, Nicolas Chaillet

TA1-H4

[Visually-Guided Protein Crystal Manipulation Using Micromachined Silicon Tools](#)

Atanas Georgiev, Peter K. Allen, William Edstrom

TA1-H5

[An Integrated Bio Cell Processor for Single Embryo Cell Manipulation](#)

Jungyul Park, Seng-Hwan Jung, Young-Ho Kim, Byungkyu Kim, Seung-Ki Lee,
Byungkwon Ju, Kyo-Il Lee

TA1-I: OS: Bio-Robotics I

TA1-I1

[Back Handspring Robot - Target Dynamics-Based Control](#)

Sang-Ho Hyon, Naoto Yokoyama, Takashi Emura

TA1-I2

[Segmentation Architecture of Multi-Axis SMA Array Actuators Inspired by Biological Muscles](#)

Kyujin Cho, H. Harry Asada

TA1-I3

[A RLWPR Network for Learning the Internal Model of an Anthropomorphic Robot Arm](#)

Davide Bacciu, Loredana Zollo, Eugenio Guglielmelli, Fabio Leoni, Antonina Starita

TA1-I4

[Design, Fabrication and Preliminary Results of a Novel Anthropomorphic Hand for Humanoid Robotics: RCH-1](#)

Stefano Roccella, Maria Chiara Carrozza, Giovanni Cappiello, Paolo Dario, John John Cabibihan, Massimiliano Zecca, Hiroyasu Miwa, Kazuko Itoh, Munemichi Matsumoto, Atsuo Takanishi

TA1-I5

[Mimicry of Human Speech Sounds Using an Anthropomorphic Talking Robot by Auditory Feedback](#)

Kazufumi Nishikawa, Toshiharu Kuwae, Hideaki Takanobu, Takemi Mochida, Masaaki Honda, Atsuo Takanishi

TA1-J: Human Body Motion Tracking & Recognition I

TA1-J1

[High-Precision and High-Speed Motion Capture by Combining Heterogeneous Cameras](#)

Katsu Yamane, Tomofumi Kuroda, Yoshihiko Nakamura

TA1-J2

[Matching and Blending Human Motions Using Temporal Scaleable Dynamic Programming](#)

Atsushi Nakazawa, Shinichiro Nakaoka, Katsushi Ikeuchi

TA1-J3

[View-invariant Hand-Posture Recognition Method for Soft-Remocon-System](#)

Hyoyoung Jang, Jun-Hyeong Do, Jinwoo Jung, Kwang-Hyun Park, Zeungnam Zenn Bien

TA1-J4

[Real-Time Template-Based Tracking of Non-rigid Objects Using Bounded Irregular Pyramids](#)

Rebeca Marfil, Antonio Bandera, Juan Antonio Rodríguez, Francisco Sandoval

TA1-J5

[Development of an Unobtrusive Vital Signs Detection System Using Conductive Fiber Sensors](#)

Hiroshi Kimura, Kuniaki Kawabata, Hisato Kobayashi, H. F. Machiel Van der Loos

TA1-K: Sensors

TA1-K1

[Mobile Robot Navigation Using Vision and Olfaction to Search for a Gas/Odor Source](#)

Hiroshi Ishida, Hidenao Tanaka, Haruki Taniguchi, Toyosaka Moriizumi

TA1-K2

[Sensor-Based Machine Olfaction with a Neurodynamics Model of the Olfactory Bulb](#)

Baranidharan Raman, Ricardo Gutierrez-Osuna, Agustin Gutierrez-Galvez, Alexander Perera-Lluna

TA1-K3

[Locating Underground Chemical Sources by Tracking Chemical Gradients in 3 Dimensions](#)

Robin Andrew Russell

TA1-K4

[Slip Detection with Distributed-Type Tactile Sensor](#)

Nobutaka Tsujiuchi, Takayuki Koizumi, Akihito Ito, Hiroko Oshima, Yoshiro Nojiri, Yotaro Tsuchiya, Shiro Kurogi

TA1-K5

[Putting Olfaction into Action: Using an Electronic Nose on a Multi-Sensing Mobile Robot](#)

Amy Loutfi, Silvia Coradeschi, Lars Karlsson, Mattias Broxvall

TA1-L: Visual Servoing I

TA1-L1

[Central Catadioptric Visual Servoing from 3D Straight Lines](#)

Youcef Mezouar, Hicham Hadj Abdelkader, Philippe Martinet, François Chaumette

TA1-L2

[New Shortest-Path Approaches to Visual Servoing](#)

Ville Kyrki, Danica Kragic, Henrik I. Christensen

TA1-L3

[Multi-Attribute Utility Analysis in the Choice of a Vision-Based Robot Controller](#)

Nicholas R. Gans, Seth A. Hutchinson

TA1-L4

[Auto-Epipolar Visual Servoing](#)

Jacopo Piazzi, Domenico Prattichizzo, Noah J. Cowan

TA1-L5

[Examination of Ball Lifting Task Using a Mobile Robot](#)

Ryosuke Mori, Koichi Hashimoto, Fumiaki Takagi, Fumio Miyazaki

TA1-M: Collective Robotic Systems I

TA1-M1

[Biologically Inspired Decision Making for Collective Robotic Systems](#)

Chris Arthur C. Parker, Hong Zhang

TA1-M2

[Automatic Synthesis of Communication-Based Coordinated Multi-Robot Systems](#)

Chris Jones, Maja Mataric

TA1-M3

[Collaboration among a Group of Self-Autonomous Mobile Robots with Diversified Personalities - Learning Others' Personalities Results in Better Task Efficiency -](#)

Makiko Tauchi, Yuji Sagawa, Toshimitsu Tanaka, Noboru Sugie

TA1-M4

[Cooperative Search Algorithm for Distributed Autonomous Robots](#)

Chee Kong Cheng, Gerard Leng

TA1-M5

[Coordinated Movement of Multiple Robots for Searching a Cluttered Environment](#)

Wee Kiat Ng, Gerard Leng, Yee Leong Low

TA2-A: SLAM II (Outdoor)

TA2-A1

[A Fast Forest Road Segmentation for Real-time Robot Self-navigation](#)

Ramin Ghurchian, Satoshi Hashino, Eiji Nakano

TA2-A2

[A Hierarchical Object Based Representation for Simultaneous Localization and Mapping](#)

Chieh-Chih Wang, Charles Thorpe

TA2-A3

[Towards 3D Mapping in Large Urban Environments](#)

Andrew Howard, Denis F. Wolf, Gaurav S. Sukhatme

TA2-A4

[Relative RADAR Cross Section Based Feature Identification with Millimetre Wave RADAR for Outdoor SLAM](#)

Ebi Jose, Martin David Adams

TA2-B: OS: Robotics for Disaster Response, Urban Search and Rescue II

TA2-B1

[Development of Compound Eye Camera System for Searching in Rubble](#)

Shinobu Makita, Takumi Kishima, Masaki Minobe, Satoshi Tadokoro

TA2-B2

[Removal of Adherent Noises from Images of Dynamic Scenes by Using a Pan-Tilt Camera](#)

Atsushi Yamashita, Tomoaki Harada, Toru Kaneko, Kenjiro T. Miura

TA2-B3

[Development of a Laser Range Finder for 3D Map-Building in Rubble](#)

Masamitsu Kurisu, Yasuyoshi Yokokohji, Yusuke Shiokawa, Takayuki Samejima

TA2-B4

[Three-Dimensional Localization and Mapping for a Crawler-Type Mobile Robot in an Occluded Area Using the Scan Matching Method](#)

Hiroshi Ishida, Keiji Nagatani, Yutaka Tanaka

TA2-C: Field Robotics I

TA2-C1

[Adaptive and Predictive Non linear Control for Sliding Vehicle Guidance - Application to Trajectory Tracking of Farm Vehicles Relying on a Single RTK GPS -](#)

Roland Lenain, Benoit Thuilot, Christophe Cariou, Philippe Martinet

TA2-C2

[Global Performance of Agricultural Robots](#)

Satoru Sakai, Koichi Osuka, Mikio Umeda

TA2-C3

[A Novel Approach to Pneumatic Position Servo Control of a Glass Wall Cleaning Robot](#)

Houxiang Zhang, Jianwei Zhang, Rong Liu, Guanghua Zong

TA2-C4

[Autonomous Armoured Logistics Carrier for Natural Environments](#)

Javier Ibañez-Guzmán, Xu Jian, Chun Wah Chan, Alex Tay

TA2-D: Manipulation Control

TA2-D1

[Programming by Demonstration: Dual-Arm Manipulation Tasks for Humanoid Robots](#)

Raoul Zöllner, Tamim Asfour, Ruediger Dillmann

TA2-D2

[An Active Learning Approach for Assessing Robot Grasp Reliability](#)

Antonio Morales, Eris Chinellato, Andrew H. Fagg, Angel P. del Pobil

TA2-D3

[Biologically Inspired Optimal Robot Arm Control with Signal-dependent Noise](#)

Gavin Simmons, Yiannis Demiris

TA2-D4

[Real-Time Adaptive and Trajectory-Optimized Manipulator Motion Planning](#)

John Vannoy, Jing Xiao

TA2-E: Humanoid Robot II

TA2-E1

[Safe Knee Landing of a Human-Size Humanoid Robot while Falling Forward](#)

Kiyoshi Fujiwara, Fumio Kanehiro, Shuuji Kajita, Hirohisa Hirukawa

TA2-E2

[Marionette System for Operating and Displaying Robot Whole-Body Motion - Development of Similar Humanoid-Type Device -](#)

Tomohito Takubo, Kazutoshi Nishii, Kenji Inoue, Yasushi Mae, Tatsuo Arai

TA2-E3

[Simple and Low-Cost Compliant leg-foot system](#)

Friedrich Meyer, Alexander Sprowitz, Max Lungarella, Luc Berthouze

TA2-E4

[Visuo-Motor Learning for Behavior Generation of Humanoids](#)

Masaaki Kikuchi, Masaki Ogino, Minoru Asada

TA2-F: OS: Human-Robot Interaction and Interfaces I

TA2-F1

[New Wavelet-Based Pitch Detection Method for Human-Robot Voice Interface](#)

T.H. Tran, Q.P. Ha, G. Dissanayake

TA2-F2

[Study on a Method of Control to Improve Transparency of a Wearable Joint for Kinesthetic Feeling Induced by an Object](#)

Tetsuya Morizono, Yoji Yamada, Takuro Sasaki, Yoji Umetani

TA2-F3

[Guide Robot's Navigation Based on Attention Estimation Using Gaze Information](#)

Yoshihisa Adachi, Hiroyuki Tsunenari, Yoshio Matsumoto, Tsukasa Ogasawara

TA2-F4

[Fast Initialization of Active Contours - Towards Practical Visual Interfaces for Human-Robot Interaction -](#)

Hossein Mobahi, Majid Nili-Ahmadabadi, Babak Nadjar-Araabi

TA2-G: OS: Intelligent Environment II

TA2-G1

[Construction of Ceiling Adsorbed Mobile Robots Platform Utilizing Permanent Magnet Inductive Traction Method](#)

Tomomasa Sato, Rui Fukui, Hiroshi Morishita, Taketoshi Mori

TA2-G2

[Smart Navigation by Lightweight Components Coordination in Ubiquitous Computing](#)

Shigeyoshi Hiratsuka, Yutaka Matsuo, Akio Sashima, Akira Takagi, Noriaki Izumi, Koichi Kurumatani

TA2-G3

[An Integrated Intelligent Control Architecture for Mobile Robot Navigation within Sensor Network Environment](#)

Tae-Kyung Moon, Tae-Yong Kuc

TA2-G4

[Memory-Based Recognition of Human Behavior Based on Sensory Data of High Dimensionality](#)

Karl Fredric MacDorman, Hiroshi Nobuta, Takashi Minato, Hiroshi Ishiguro

TA2-H: Nano Manipulation

TA2-H1

[Path Planning of an AFM-Based Nanomanipulator Using Virtual Force Reflection](#)

Mehdi Ammi, Antoine Ferreira

TA2-H2

[Nano-Assembly of DNA Based Electronic Devices Using Atomic Force Microscopy](#)

Guangyong Li, Ning Xi, Heping Chen, Wen J. Li, Carmen K. M. Fung, Rosa H. M. Chan, Mingjun Zhang, Tzyh-Jong Tarn

TA2-H3

[Hybrid Nanorobotic Manipulation System inside Scanning Electron Microscope and Transmission Electron Microscope](#)

Masahiro Nakajima, Fumihito Arai, Lixin Dong, Moeto Nagai, Toshio Fukuda

TA2-H4

[CAD-Guided Manufacturing of Nanostructures Using Nanoparticles](#)

Heping Chen, Ning Xi, Guangyong Li, Ali Saeed

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TA2-I1

Optimization of the Flapping and Feathering Motions of a Robotic Bird Using “Stochastic Hill-Climbing Method”

Yoshiyuki Kawamura, Nobuki Kusuhashi

TA2-I2

Development of a Whisker Sensor System and Simulation of Active Whisking for Agent Navigation.

Hiroshi Yokoi, Miriam Fend, Rolf Pfeifer

TA2-I3

Building a 3D Simulator for Autonomous Navigation of Robotic Fishes

Jindong Liu, Huosheng Hu

TA2-I4

Getting Inspired from Bees to Perform Large Scale Visual Precise Navigation

Giovanni Michele Bianco

TA2-J: Human Body Motion Tracking & Recognition II

TA2-J1

[Design and Implementation of the MARG Human Body Motion Tracking System](#)

Xiaoping Yun, Eric R. Bachmann, Andreas Kavousanos-Kavousanakis, Faruk Yildiz,
Robert B. McGhee

TA2-J2

[A Color-Based Probabilistic Tracking by Using Graphical Models](#)

Yoshinori Satoh, Takayuki Okatani, Koichiro Deguchi

TA2-J3

[Vision-Based Multi-Person Tracking by Using MCMC-PF and RRF in Office Environments](#)

Kanji Tanaka, Eiji Kondo

TA2-J4

[Dual-Camera System for Multi-Level Activity Recognition](#)

Robert Bodor, Ryan Morlok, Nikolaos Papanikolopoulos

TA2-K: Biologically Inspired Robotic Systems and Control

TA2-K1

[A General Segmentation Mechanism From Biological Inspiration](#)

Remi Driancourt

TA2-K2

[Use of the Korenev's Formalism for Real Time Dynamic Simulation of the Hand Forearm System](#)

Martin Renault, Joe Chalfoun, Bachar Mohamed, Féthi Ben Ouezdou

TA2-K3

[An Anthropomorphic Robot Torso for Imitation: Design and Experiments](#)

Manuel Lopes, Ricardo Beira, Miguel Praça, José Santos-Victor

TA2-K4

[Support Vector Machines and Gabor Kernels for Object Recognition on a Humanoid with Active Foveated Vision](#)

Aleš Ude, Chris Gaskett, Gordon Cheng

TA2-L: Visual Servoing II

TA2-L1

[Multi-View Visual Servoing Using Epipoles](#)

Jacopo Piazzi, Noah John Cowan

TA2-L2

[Learning Based Visual Servoing](#)

Simon Léonard, Martin Jägersand

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[Hybrid Position-Based Visual Servoing with Online Calibration for a Humanoid Robot](#)

Geoffrey Richard Taylor, Lindsay Kleeman

TA2-L4

[Robust Model-Based Tracking for Robot Vision](#)

Andrew I Comport, Éric Marchand, François Chaumette

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TA2-M1

[Simple Auctions with Performance Guarantees for Multi-Robot Task Allocation](#)

Michail G. Lagoudakis, Marc Berhault, Pinar Keskinocak, Sven Koenig, Anton Kleywegt

TA2-M2

[Preliminary Results in Sliding Autonomy for Assembly by Coordinated Teams](#)

Jonathan Brookshire, Sanjiv Singh, Reid Simmons

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[Building a Loose Wall Structure with a Robotic Swarm Using a Spatio-temporal Varying Template](#)

Robert Logan Stewart, Robin Andrew Russell

TA2-M4

[Coordinated Multi-Robot Exploration through Unsupervised Clustering of Unknown Space](#)

Agusti Solanas, Miguel Angel Garcia

TP1-A: SLAM III (Technical Elements)

TP1-A1

[Sequential 3D-SLAM for Mobile Action Planning](#)

Peter Kohlhepp, Paola Pozzo, Marcus Walther, Rüdiger Dillmann

TP1-A2

[Biologically Inspired Visual Landmark Processing for Simultaneous Localization and Mapping](#)

David Peter Prasser, Gordon F. Wyeth, Michael J. Milford

TP1-A3

[An Efficient Multiple Hypothesis Filter for Bearing-Only SLAM](#)

Ngai Ming Kwok, Gamini Dissanayake

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[Bootstrap Learning for Object Discovery](#)

Joseph Modayil, Benjamin Kuipers

TP1-B: OS: Robotics for Disaster Response, Urban Search and Rescue III

TP1-B1

[Development of Remote Control System of Construction Machinery Using Pneumatic Robot Arm](#)

Takahiro Sasaki, Toshiyuki Miyata, Kenji Kawashima

TP1-B2

[Autonomous Flight Control of Hobby-Class Small Unmanned Helicopter -Trajectory Following Control by Using Preview Control Considering Heading Direction-](#)

Kensaku Hazawa, Jinok Shin, Daigo Fujiwara, Kazuhiro Igarashi, Dilshan Fernando, Kenzo Nonami

TP1-B3

[Preview Posture Control and Impact Load Control of Rough Terrain Vehicle with Interconnected Suspension](#)

Toshio Fukuda, Xu Zhang, Yasuhisa Hasegawa, Takayuki Matsuno, Haruo Hoshino

TP1-B4

[Dynamic Analysis of 3-dimensional Snake Robots](#)

Shugen Ma, Yoshihiro Ohmameuda, Kousuke Inoue

TP1-C: Field Robotics II

TP1-C1

[Feature Extraction for Topological Mine Maps](#)

David Silver, Dave Ferguson, Aaron Morris, Scott Thayer

TP1-C2

[Dynamic Robot Programming by FNet - Design of FNet Programming Environment -](#)

Kenichi Tokuda, Jerome Jadouille, Nicolas Lambot, Achbany Youssef, Yoshihisa Koji, Satoshi Tadokoro

TP1-C3

[Finding Organized Structures in 3-D Ladar Data](#)

Nicolas Vandapel, Martial Hebert

TP1-C4

[Development of TITAN XI: a Quadruped Walking Robot to Work on Slopes - Design of System and Mechanism -](#)

Ryuichi Hodoshima, Takahiro Doi, Yasushi Fukuda, Shigeo Hirose, Toshihito Okamoto, Junichi Mori

TP1-D: Force and Pose Control of Manipulators

TP1-D1

[Flexible Force-Vision Control for Surface Following Using Multiple Cameras](#)

Tomas Olsson, Rolf Johansson, Anders Robertsson

TP1-D2

[High Precision Contour Tracking with a Joystick Sensor](#)

Liangchuan Mi, Yan-Bin Jia

TP1-D3

[Grip Force Control for an Elastic Finger Using Vision-Based Incipient Slip Feedback](#)

Atsutoshi Ikeda, Yuichi Kurita, Jun Ueda, Yoshio Matsumoto, Tsukasa Ogasawara

TP1-D4

[Adaptive Implicit Hybrid Force/Pose Control of Industrial Manipulators: Compliant Motion Experiments](#)

Torsten Kröger, Bernd Finkemeyer, Markus Heuck, Friedrich M. Wahl

TP1-E: Humanoid Robot III

TP1-E1

[Planning Fine Motions for a Digital Factotum](#)

Gustavo Arechavaleta, Claudia Esteves, Jean-Paul Laumond

TP1-E2

[Design and Implementation of Reinforceable Muscle Humanoid](#)

Ikuo Mizuuchi, Hironori Waita, Yuto Nakanishi, Tomoaki Yoshikai, Masayuki Inaba, Hirochika Inoue

TP1-E3

[Inverse Dynamics of Humanoid Robot by Balanced Mass Distribution Method](#)

S. de Torre, L.M. Cabas, M. Arbulu, C. Balaguer

TP1-E4

[Kinematics Mapping and Similarity Evaluation of Humanoid Motion Based on Human Motion Capture](#)

Xiaojun Zhao, Qiang Huang, Zhaoqin Peng, Kejie Li

TP1-F: OS: Human-Robot Interaction and Interfaces II

TP1-F1

[Flexible Cooperation between Human and Robot by Interpreting Human Intention from Gaze Information](#)

Kenji Sakita, Koichi Ogawara, Shinji Murakami, Kentaro Kawamura, Katsushi Ikeuchi

TP1-F2

[Voice Coil Actuators for Human-Robot Interaction - An Exploration of the use of Electromagnetic Voice Coils as Compliant, Force-Controlled Actuators in Direct-Drive Robots for Visual and Tactile Interaction with Humans -](#)

John M. McBean, Cynthia Breazeal

TP1-F3

[Human-Machine Interface for Tele-Robotic Operation: Mapping of Tongue Movements Based on Aural Flow Monitoring](#)

Ravi Vaidyanathan, Lalit Gupta, Beomsu Chung, Massood Tabib-Azar, Joseph Zarycki, Thomas Allen, Roger Quinn, Joel Levin

TP1-F4

[Hand Posture Detection by Neural Network and Grasp Mapping for a Master Slave Hand System](#)

Tytus Wojtara, Kenzo Nonami

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TP1-G1

[Planning Expected-Time Optimal Paths for Searching Known Environments](#)

Alejandro Sarmiento, Rafael Murrieta-Cid, Seth Hutchinson

TP1-G2

[Model-Based Executive Control through Reactive Planning for Autonomous Rovers](#)

Alberto Finzi, Félix Ingrand, Nicola Muscettola

TP1-G3

[Reasoning of Motion through Task Order for Teaching by Non-professional User](#)

Rie Katsuki, Roland Siegwart, Jun Ota, Tamio Arai

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[Learning Hierarchical Models of Activity](#)

Sarah Osentoski, Victoria Manfredi, Sridhar Mahadevan

TP1-H: Novel Actuators & Mechanical Elements I

TP1-H1

[Multi-variable Port Hamiltonian Model of Piezoelectric Material](#)

Alessandro Macchelli, Arjan J. van der Schaft, Claudio Melchiorri

TP1-H2

[Study of a Recessless Screw and a Piezo Electric Screwdriver](#)

Hiroshi Kawano, Hideyuki Ando

TP1-H3

[Design and Fabrication of a Large-Deformed Smart Sensorized Polymer Actuator](#)

Jaewook Ryu, Jungyul Park, Seok Yun, Byungkyu Kim, Jong-Oh Park

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[Characterization of a New Interpenetrated Network Conductive Polymer \(IPN-CP\) as a Potential Actuator That Works in Air Conditions](#)

Johann Citérin, Abderrahmane Kheddar, Moustapha Hafez, Frederic Vidal, C. Plesse, Dominique Teyssié, Claude Chevrot

TP1-I: OS: Bio-Robotics III

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[An Empirical Exploration of Phase Resetting for Robust Biped Locomotion with Dynamical Movement Primitives](#)

Jun Nakanishi, Jun Morimoto, Gen Endo, Gordon Cheng, Stefan Schaal, Mitsuo Kawato

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[Locomotion Control of a Novel Snake-like Robot](#)

Changlong Ye, Shugen Ma, Bin Li, Yuechao Wang

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[A Biologically Inspired CPG-ZMP Control System for the Real-time Balance of a Single-Legged Belly Dancing Robot](#)

Jimmy Or, Atsuo Takanishi

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[Legged Locomotion in the Gastrointestinal Tract - Problem Analysis and Preliminary Technological Activity -](#)

Arianna Menciassi, Cesare Stefanini, Samuele Gorini, Giuseppe Pernorio, Paolo Dario, Byungkyu Kim, J. O. Park

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[Real-Time Image-Based Tracking of Planes Using Efficient Second-Order Minimization](#)

Selim Benhimane, Ezio Malis

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[Integrated Tracking and Control Using Condensation-Based Critical-Point Matching](#)

Brad James Chambers, Seth Hutchinson

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[Visual Motion Estimation of 3D Objects: An Adaptive Extended Kalman Filter Approach](#)

Vincenzo Lippiello, Bruno Siciliano, Luigi Villani

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[Learning Static Occlusions from Interactions with Moving Figures](#)

Bennett Jackson, Robert Bodor, Nikolaos Papanikolopoulos

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[Dynamic Turning Control of a Quadruped Robot Using Nonlinear Oscillators](#)

Katsuyoshi Tsujita, Hiroomi Toui, Kazuo Tsuchiya

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[A Predictive Constraints Selection Model for Periodic Motion Pattern Generation](#)

Toshiyuki Kondo, Takanori Somei, Koji Ito

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[Don't Try to Control Everything!: An Emergent Morphology Control of a Modular Robot](#)

Akio Ishiguro, Masahiro Shimizu, Toshihiro Kawakatsu

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[Biologically Inspired Adaptive Dynamic Walking in Outdoor Environment Using a Self-Contained Quadruped Robot: 'Tekken2'](#)

Hiroshi Kimura, Yasuhiro Fukuoka

TP1-L: Visual Servoing III

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[Tasks Sequencing for Visual Servoing](#)

Nicolas Mansard, François Chaumette

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[A Hessian Approach to Visual Servoing](#)

Jean-Thierry Lapresté, Youcef Mezouar

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[Plane-to-Plane Positioning from Image-Based Visual Servoing and Structured Light](#)

Jordi Pagès, Christophe Collewet, François Chaumette, Joaquim Salvi

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[Integration of Robust Visual Perception and Control for a Domestic Humanoid Robot](#)

Geoffrey Richard Taylor, Lindsay Kleeman

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[Tightly-Coupled Navigation Assistance in Heterogeneous Multi-Robot Teams](#)

Lynne E. Parker, Balajee Kannan, Fang Tang, Michael Bailey

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[Formation Control of SMC with Multiple Coordinate Systems](#)

Masaki Yamakita, Masahiro Saito

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[Turning Segways into Soccer Robots](#)

Jeremy Lawrence Searock, Brett Browning, Manuela Veloso

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[A Pushing Leader Based Decentralized Control Method for Cooperative Object Transportation](#)

Zhidong Wang, Yugo Takano, Yasuhisa Hirata, Kazuhiro Kosuge

TP2-A: SLAM IV (Computational Aspects)

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[A Computational Efficient SLAM Algorithm Based on Logarithmic-Map Partitioning](#)

H. Jacky Chang, C. S. George Lee, Yung-Hsiang Lu, Y. Charlie Hu

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[Combinatorial Maps for Simultaneous Localization and Map Building \(SLAM\)](#)

Delphine Dufourd, Raja Chatila, Dominique Luzeaux

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[SLAM with Corner Features Based on a Relative Map](#)

Manuel Altermatt, Agostino Martinelli, Nicola Tomatis, Roland Siegwart

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[Robust Robot Localization and Map Building Using a Global Scan Matching Method](#)

Masahiro Tomono

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[Learning Polyline Maps from Range Scan Data Acquired with Mobile Robots](#)

Michael Veeck, Wolfram Burgard

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[Tree Formation Multi-Robot System for Victim Search in a Devastated Indoor Space](#)

Yoshiki Matsuo, Yuka Tamura

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[Analysis of Search Activity via Remote Robot Towards Natural and Effective Human-Machine Collaboration Design](#)

Yukio Horiguchi, Tetsuo Sawaragi, Masayuki Kuwatani

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[Cooperative Task Execution by a Multiple Robot Team and Its Operators in Search and Rescue Operations](#)

Noritaka Sato, Fumitoshi Matsuno, Tatsuhiro Yamasaki, Tetsushi Kamegawa, Naoji Shiroma, Hiroki Igarashi

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[Evidence of the Need for Social Intelligence in Rescue Robots](#)

Thomas David Fincannon, Laura Elizabeth Barnes, Robin Murphy, Dawn L. Riddle

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[A SLAM Based Teleoperation and Interface System for Indoor Environment Reconnaissance in Rescue Activities](#)

Takashi Tsubouchi, Akichika Tanaka, Atsushi Ishioka, Masahiro Tomono, Shin'ichi Yuta

TP2-C: Underwater Robotics

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[Relative Navigation of an Autonomous Underwater Vehicle Using a Light-Section Profiling System](#)

Hayato Kondo, Toshihiro Maki, Tamaki Ura, Yoshiaki Nose, Takashi Sakamaki, Masaaki Inaishi

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[Experimental Analysis and Implementation of Redundant Thrusters for Underwater Robots](#)

Aaron Hanai, Song K. Choi, Kaikala Rosa, Junku Yuh

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[Adaptive Sampling for Marine Microorganism Monitoring](#)

Bin Zhang, Gaurav S. Sukhatme, Aristides A. G. Requicha

TP2-C4

[A Design Guide for Marine Robots Using Sonar](#)

Richard J. Rikoski

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[A Nonlinear Observer For AUVs In Shallow Water Environment](#)

Shuyong Liu, Danwei Wang, Eng Kee Poh

TP2-D: Robot Control

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[Dependable Execution Control for Autonomous Robots](#)

Frédéric Py, Félix Ingrand

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[Preliminary Studies on the Control of Tilting Mechatronic Systems](#)

Marion Sobotka, Martin Buss

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[Model-Matching Control for Steer-by-Wire Vehicles with Under-Actuated Structure](#)

Rui Cortesão, Naim Bajcinca

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[Adaptive Robust Controller Synthesis for Hard Disk Servo Systems](#)

H. D. Taghirad, E. Jamei

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[A Survey of Repetitive Control](#)

Cuiyan Li, Dongchun Zhang, Xianyi Zhuang

TP2-E: Humanoid Robots IV

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[Dynamical Balance of a Humanoid Robot Grasping an Environment](#)

Kensuke Harada, Hirohisa Hirukawa, Fumio Kanehiro, Kiyoshi Fujiwara, Kenji Kaneko, Shuuji Kajita, Masaru Nakamura

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[Environment Manipulation Planner for Humanoid Robots Using Task Graph That Generates Action Sequence](#)

Kei Okada, Atsushi Haneda, Hiroyuki Nakai, Masayuki Inaba, Hirochika Inoue

TP2-E3

[Mobile Manipulation of Humanoid Robots -Control Method for CoM Position with External Force-](#)

Tomohito Takubo, Kenji Inoue, Kotaro Sakata, Yasushi Mae, Tatsuo Arai

TP2-E4

[Hand-Centered Whole-Body Motion Control for a Humanoid Robot](#)

Yasutaka Fukumoto, Koichi Nishiwaki, Masayuki Inaba, Hirochika Inoue

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[Development of an Imitation Behavior in Humanoid Kenta with Reinforcement Learning Algorithm Based on the Attention during Imitation](#)

Tomoaki Yoshikai, Noritaka Otake, Ikuo Mizuuchi, Masayuki Inaba, Hirochika Inoue

TP2-F: OS: Human-Robot Interaction and Interfaces III

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[Acquisition of Reactive Motion for Communication Robots Using Interactive EC](#)

Yuki Suga, Tetsuya Ogata, Shigeki Sugano

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[In Haptics, the Influence of the Controllable Physical Damping on Stability and Performance](#)

Jinung An, Dong-Soo Kwon

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[Stable Haptic Interaction Control Using Energy Bounding Algorithm](#)

JongPhil Kim, Jeha Ryu

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[Co-Existing Communication Using a Robot as Your Agent - Creation of a Spatial Distance \(Maai\) by the Rhythm Controller Employing the Embodiment and 1/f Fluctuation -](#)

Shiroh Itai, Yoshiyuki Miwa

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[Influence of Auditory and Visual modalities on Skin Potential Response to Robot Motions](#)

Naohiko Hanajima, Masaki Fujimoto, Hiromitsu Hikita, Mitsuhisa Yamashita

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[Joint Replacement Optimization for Multi-Part Maintenance Problems](#)

Tao Sun, Qianchuan Zhao, Peter B. Luh, Robert N. Tomastik

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[An Inventory Control Policy for Maintenance Networks](#)

Ming Ni, Peter B. Luh, Bo Xiong, Shi-Chung Chang

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[Max-Plus Algebra Model for On-Line Task Scheduling of a Reconfigurable Manufacturing Work-Cell](#)

Qi Zhu, Weihua Sheng, Ning Xi

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[Development of Design Algorithm for Logistics Networks](#)

Takako Yasunaga, Jun Ota, Toyokazu Kobayashi, Tomio Ito, Toshimitsu Higashi, Hirofumi Tamura

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[Operations Planning for a Two-Stage Production System under Lumpy Demand](#)

Ding-Zhong Feng, Mitsuo Yamashiro

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[Transient Analysis of Bar-type Ultrasonic Motors](#)

Yosuke Nakagawa, Akira Saito, Takashi Maeno

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[Aquatic Robotic Propulsor Using Ionic Polymer-Metal Composite Artificial Muscle](#)

Jason W. Paquette, Kwang J. Kim, Woosoon Yim

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[Development of Output Coupling Mechanisms Using the Harmonic Drive](#)

Rintaro Haraguchi, Koichi Osuka, Toshiharu Sugie

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[Automating the Dispensing of Viscous Biomaterials](#)

Avinash Peddi, Yuan F. Zheng, Vadim Cherezov, Martin Caffrey

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[Basic Characteristics of Tendon-Driven Manipulator Using Belt Pulleys](#)

Hitoshi Kino, Naruyasu Okamura, Syuichi Yabe

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Muscle Forces Prediction of the Human Hand and Forearm System in Highly Realistic Simulation

Joe Chalfoun, M. Renault, R. Younes, F.B. Ouezdou

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Design and Fabrication of a Bio-Material Property Measurement System

Jiwoon Kwon, Sukho Park, Moon G. Lee, Yong-in Kim, Byungkyu Kim, Jong-Oh Park, Jahng-hyon Park

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Online Calibration of the EMG to Force Relationship

Christian Fleischer, Konstantin Kondak, Christian Reinicke, Günter Hommel

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Experimental Analysis of the Conditions of Applicability of a Robot Sensorimotor Coordination Scheme Based on Expected Perception

Edoardo Datteri, Gioel Asuni, Giancarlo Teti, Cecilia Laschi, Eugenio Guglielmelli, Paolo Dario

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Design and Development of a Biologically-Inspired Artificial Vestibular System for Robot Heads

Francesco Patanè, Cecila Laschi, H. Miwa, Eugenio Guglielmelli, Paolo Dario, A. Takanishi

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[People Detection and Tracking in High Resolution Panoramic Video Mosaic](#)

Raju Patil, Paul E. Rybski, Takeo Kanade, Manuela M. Veloso

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[Real-Time Face Detection Using Hybrid GA Based on Selective Attention](#)

Hidekazu Suzuki, Mamoru Minami

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[Real-Time Face Tracking Using Discriminator Technique on Standard PC Hardware](#)

Alexander Mojaev, Andreas Zell

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[Face-to-Face Interactive Humanoid Robot](#)

Masahiro Shiomi, Takayuki Kanda, Nicolas Miralles, Takahiro Miyashita, Ian Fasel, Javier Movellan, Hiroshi Ishiguro

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[Fast, Reliable, Adaptive, Bimodal People Tracking for Indoor Environments](#)

Matthias Scheutz, John McRaven, Gyorgy Cserey

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[Motion Control Technique for Practical Use of a Leg-Wheel Robot on Unknown Outdoor Rough Terrains](#)

Shuro Nakajima, Eiji Nakano, Takayuki Takahashi

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[Controlling Lateral Stepping of a Biped Robot by Swinging Torso Toward Energy Efficient Walking](#)

Masaki Ogino, Issei Tsukinoki, Koh Hosoda, Minoru Asada

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[Stability Analysis of a Simple Walking Model Driven by a Rhythmic Signal](#)

Shinya Aoi, Kazuo Tsuchiya

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[Modeling and Exploiting Behavior Patterns in Dynamic Environments](#)

David Michael Ball, Gordon Wyeth

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[Emergence of Multiple Sensory-Motor Response Patterns from Cooperating Bursting Neurons](#)

Shogo Yonekura, Yasuo Kuniyoshi

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[Preserving the Continuity of Visual Servoing despite Changing Image Features](#)

Nicolas M. Garcia, Ezio Malis

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[Robustness of Central Catadioptric Image-Based Visual Servoing to Uncertainties on 3D Parameters](#)

Youcef Mezouar, Ezio Malis

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[Combined Target Model Estimation and Position-Based Visual Servoing](#)

Lingfeng Deng, W. J. Wilson, F. Janabi-Sharifi

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[The Gait of Quadruped Robot including Positioning Control Using Linear Visual Servoing](#)

Yukinari Inoue, Noriaki Maru

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[Stair Climbing for Humanoid Robots Using Stereo Vision](#)

Jens-Steffen Gutmann, Masaki Fukuchi, Masahiro Fujita

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[Multi-Robot Area Exploration with Limited-range Communications](#)

Weihua Sheng, Qingyan Yang, Song Ci, Ning Xi

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[Determining the Fleet Size of Mobile Robots with Energy Constraints](#)

Yongguo Mei, Yung-Hsiang Lu, Y. Charlie Hu, C.S. George Lee

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[Probabilistic World Modeling for Distributed Team Planning](#)

Mark M. Chang, Gordon F. Wyeth

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[Hybrid Control for Visibility-Based Pursuit-Evasion Games](#)

Volkan Isler, Kostas Daniilidis, George J. Pappas, Calin Belta

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[Competing Sample Sizes for the Co-Evolution of Heterogeneous Agents](#)

Gary Bruce Parker, H. Joseph Blumenthal

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[Learning to Detect Proximity to a Gas Source with a Mobile Robot](#)

Achim Lilienthal, Holger Ulmer, Holger Fröhlich, Felix Werner, Andreas Zell

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[Development of Modular Legged Robots: Study with Three-Legged Robot Modularity](#)

Ranjit Chatterjee, Michiko Nagai, Fumitoshi Matsuno

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[Proposition of a Human Body Searching Strategy Using a Cable-Driven Robot at Major Disaster](#)

Fumiaki Takemura, Masaya Enomoto, Kazuya Denou, Kemalettin Erbatur, Ulrike Zweirs, Satoshi Tadokoro

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[Scale Estimation for Robots in Urban Search and Rescue](#)

Maitreyi Nanjanath, Richard A. Volz

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[Coordinated Controller of Internet-Based Multi-Telerobot Cooperation](#)

Jihong Yan, Jie Zhao, Hegao Cai

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[Inverse Optimal Tracking Control of a Nonholonomic Mobile Robot](#)

Takanori Fukao

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[Level Sets and Stable Manifold Approximations for Perceptually Driven Nonholonomically Constrained Navigation](#)

Gabriel A. D. Lopes, Daniel E. Koditschek

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[Kinematic Modelling of Tracked Vehicles by Experimental Identification](#)

J. L. Martínez, Anthony Mandow, Jesus Morales, Alfonso García-Cerezo, Salvador Pedraza

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[Vehicle Control Based on Body Configuration](#)

Daisuke Chugo, Kuniaki Kawabata, Hayato Kaetsu, Hajime Asama, Taketoshi Mishima

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[Dynamic Modeling and Load Distribution Algorithm of a Trailer Type Mobile Robot](#)

Jae-Yong Han, Byung-Ju Yi, Whee-Kuk Kim

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Cyrill Stachniss, Dirk Hähnel, Wolfram Burgard

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[Loop-Closing and Planarity in Topological Map-Building](#)

Francesco Savelli, Benjamin Kuipers

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[Inference In The Space Of Topological Maps: An MCMC-Based Approach](#)

Ananth Ranganathan, Frank Dellaert

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[Real-Time Building of a Thinning-Based Topological Map with Metric Features](#)

Bang-Yun Ko, Jae-Bok Song, Sooyong Lee

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[Using the Topological Skeleton for Scalable Global Metrical Map-Building](#)

Joseph Modayil, Patrick Beeson, Benjamin Kuipers

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[Relative Localization for Pairs of Robots Based on Unidentifiable Moving Features](#)

Luis Montesano, Wolfram Burgard, Luis Montano

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[A Passive Approach to Sensor Network Localization](#)

Rahul Biswas, Sebastian Thrun

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[Simultaneous Localization and Mapping Using Multiple View Feature Descriptors](#)

Jason Meltzer, Rakesh Gupta, Ming-Hsuan Yang, Stefano Soatto

FA1-E4

[Motion Estimation with Cooperatively Working Multiple Robots](#)

Guleser K. Demir, Richard M. Voyles, Amy C. Larson

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[Optimal Measurement Point Planning for Workpiece Localization](#)

LiMin Zhu, HongGen Luo, Han Ding

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[Evaluating the Sound Quality of Beginner Players by an Anthropomorphic Flutist Robot \(WF-4\)](#)

Jorge Solis, Massimo Bergamasco, Keisuke Chida, Shuzo Isoda, Atsuo Takanishi

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[Human-Robot Communication Using Multiple Recurrent Neural Networks](#)

Yoshihiro Sakamoto, Tetsuya Ogata, Shigeki Sugano

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[Fuzzy Power Assist Control System for Omni-directional Transport Wheelchair](#)

Hideo Kitagawa, Takahiro Nishigaki, Takanori Miyoshi, Kazuhiko Terashima

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[Facial Expressions Using Emotional Space in Sensitivity Communication Robot "Ifbot"](#)

Masayoshi Kanoh, Shohei Kato, Hidenori Itoh

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[Human-Robot Collaboration Using Behavioral Primitives](#)

Tetsuya Ogata, Masaki Matsunaga, Shigeki Sugano, Jun Tani

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[Roadmap-Based Motion Planning in Dynamic Environments](#)

Jur P. van den Berg, Mark H. Overmars

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[A PRM-Based Motion Planner for Dynamically Changing Environments](#)

Léonard Jaillet, Thierry Siméon

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[Depthmap-Based Obstacle Avoidance on Rough Terrain](#)

Yuichiro Niwa, Shuichi Yukita, Hiroshi Hanaizumi

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[Workspace Importance Sampling for Probabilistic Roadmap Planning](#)

Hanna Kurniawati, David Hsu

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[Behavior Dynamics of Collision-Avoidance in Motion Planning of Mobile Robots](#)

Xing-Jian Jing, Da-Long Tan, Yue-Chao Wang

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[Development of a Muscle Suit for Realizing All Motion of the Upper Limb](#)

Hiroshi Kobayashi

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[Development of A Wearable Input Device Based on Human Hand-Motions Recognition](#)

Daeheui Won, Hogil Lee, Jinyoung Kim, Moosung Choi, Minsung Kang

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[A New Micro Biological Cell Injection System](#)

Sung-Yong Cho, Jae-Hong Shim

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[Force Analysis of Exoskeletal Robotic Orthoses and its Application to Mechanical Design](#)

Kiyoshi Nagai, Isao Nakanishi

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[Manipulation Strategy for an Anthropomorphic Robotic Hand](#)

Glauco Augusto Caurin, André Lins Albuquerque, A. Mirandola

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[The Assessments by Trainees and an Examination about Walking Posture on Gait Training System](#)

Hidetaka Ikeuchi, Fumitaka Kamifukumoto, Satoshi Arakane, Kengo Ohnishi, Keiji Imado, Hiroomi Miyagawa, Yukio Saito

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[Study of a Wire-Driven Leg Rehabilitation System - Human Subject Experiments Using a 4-DOF Experimental System -](#)

Keiko Homma, Osamu Fukuda, Yoshihiko Nagata, Mariko Usuba

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[On the Analysis of Knee Biomechanics Using a Wearable Biomechatronic Device](#)

Silvestro Micera, Jacopo Carpaneto, Andrea Scoglio, Franco Zaccone, Cinzia Freschi, Eugenio Guglielmelli, Paolo Dario

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[An Ankle Robot for a Modular Gait Rehabilitation System](#)

Jason W. Wheeler, Hermano Igo Krebs, Neville Hogan

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[Angular Momentum Primitives for Human Walking: Biomechanics and Control](#)

Marko Popovic, Amy Nicole Englehart, Hugh Miller Herr

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[Active and Direct Acquisition of 3D Map in Robot by Combining Motion and Perceived Images](#)

Koichiro Deguchi, Tomohiro Nakagawa

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[An Active Trinocular Vision System for Sensing Mobile Robot Navigation Environments](#)

Min Young Kim, Hyungsuck Cho, Hyunki Lee

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[A Memory-Based Distributed Vision System That Employs a Form of Attention to Recognize Group Activity at a Subway Station](#)

Karl Fredric MacDorman, Hiroshi Nobuta, Tetsushi Ikeda, Satoshi Koizumi, Hiroshi Ishiguro

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[Dynamic Scene View Interpolation with Multiple Moving Objects Using Layered Representation](#)

Naoji Shiroma, Keith Richard Connor

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[Inertial and 3D-Odometry Fusion in Rough Terrain –Towards Real 3D Navigation](#)

Pierre Lamon, Roland Siegwart

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[Simulating Adhesion Forces between Arbitrarily Shaped Objects in Micro/Nano-Handling Operations](#)

Mariaana Savia, Quan Zhou, Heikki N. Koivo

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[Hands Free Micro Operation for Protein Crystal Analysis](#)

K. Ohara, K. Ohba, T. Tanikawa, M. Hiraki, S. Wakatsuki, M. Mizukawa

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[Position Feedback for Microrobots Based on Scanning Probe Microscopy](#)

A. Bergander, W. Driesen, A. Lal, T. Varidel, M. Meizoso, H. Bleuler, J.-M. Breguet

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[Polymer Based Vortex Micropump Fabricated by Micro Molding Replication Technique](#)

Kin Fong Lei, Raymond H. W. Lam, Josh H. M. Lam, Wen J. Li

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[Dynamic Analysis and Experiment of a 3mm Swimming Microrobot](#)

Yi Zhang, Xiaohua Wang, Tao Mei, Qimin Wang, Peiqiang Zhang

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[Serpentine Locomotion on Surfaces with Uniform Friction](#)

Martin Nilsson

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[Self-Organization of Evaluation Space for Planning Using State Discretization Resolution](#)

Yuichi Kobayashi, Shigeyuki Hosoe

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[Compensation of Observability Problem in a Multi-Robot Localization Scenario Using CEKF](#)

Polychronis Kondaxakis, Virginie F. Ruiz, William S. Harwin

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[Network Robotics, a Framework for Dynamic Distributed Architectures](#)

Duncan I. Baker, Gerard T. McKee, Paul S. Schenker

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[A Decentralized Control Framework for Modular Robots](#)

Henry Y.K. Lau, Albert W.Y. Ko, T.L. Lau

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[Sampling Based Sensor-Network Deployment](#)

Volkan Isler, Sampath Kannan, Kostas Daniilidis

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[A Two-Hop Energy-Efficient Mesh Protocol for Wireless Sensor Networks](#)

Yimin Liu, Peter Xiaoping Liu

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[Gradient Calculation in Sensor Networks](#)

Thomas C. Henderson, Eddie Grant

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[A Sensor Networked Approach for Intelligent Transportation Systems](#)

Hemjit Sawant, Jindong Tan, Qingyan Yang

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[An Event-Driven Clustering Routing Algorithm for Wireless Sensor Networks](#)

Zeng-wei Zheng, Zhao-hui Wu, Huai-zhong Lin

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[Situated Robot Design with Prioritized Constraints](#)

Pinar Muyan-Özçelik, Alan K. Mackworth

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[Mastering Complexity in Robot Design](#)

Joaquin Sitte, Petra Winzer

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[Code Reusability Tools for Programming Mobile Robots](#)

Carle Côté, Dominic Létourneau, François Michaud, Jean-Marc Valin, Yannick Brosseau, Clément Raïevsky, Mathieu Lemay, Victor Tran

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[Stiffness Analysis of a Class of Parallel Mechanisms for Micro-Positioning Applications](#)

Hemanth K. Arumugam, Richard M. Voyles, Sanika S. Bapat

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[Slip and Turnover Avoidance Control for a Track-Type Mobile Robot](#)

J. H. Lee, J. B. Park, B. H. Lee

FA2-C2

[Hybrid Control of Semi-autonomous Robots](#)

João Sequeira, Isabel Ribeiro

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[Sensing System Design and Torque Analysis of a Haptic Operated Climbing Robot](#)

Chulsoo Kim, Sangseok Yun, Kyihwan Park, Changhwan Choi, Seungho Kim

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[Dynamic Stability of Off-Road Vehicles](#)

Zvi Shiller, Moshe P. Mann

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[Advanced Sonar and Laser Range Finder Fusion for Simultaneous Localization and Mapping](#)

Albert Diosi, Lindsay Kleeman

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[SLAM Based on Kalman Filter for Multi-Rate Fusion of Laser and Encoder Measurements](#)

Leopoldo Armesto, Josep Tornero

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[SLAM in Indoor Environments with Stereo Vision](#)

Satoshi Takezawa, Damith C. Herath, Gamini Dissanayake

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[A Real Time Advanced Sonar Ring with Simultaneous Firing](#)

Saeid Fazli, Lindsay Kleeman

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[Using Geometric Primitives to Calibrate Traffic Scenes](#)

Osama Masoud, Nikolaos Papanikolopoulos

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[Bayesian Color Estimation for Adaptive Vision-Based Robot Localization](#)

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