

IAV2004

Monday, July 5th

9:00-9:30

Amphitheatre

OPENING CERIMONY

PLENARY MA

09:30 – 10:30

Amphitheatre

RCS: A COGNITIVE ARCHITECTURE FOR INTELLIGENT MULTI-AGENT SYSTEMS

James S. Albus

National Institute of Standards and Technology,
USA

MA-1

11:00-12:40

VA-1

MULTI-ROBOT SYSTEMS - I

Effects on Uncertainty Utilizing Formation-Planning in Robot Teams

Lars A. A. Andersson, Jonas Nygård

Behavior-based control for semi-autonomous robots

João Silva Sequeira, Maria Isabel Ribeiro

Coordinated transportation with minimal explicit communication between robots

Estela Bicho, Luís Louro, Wolfram Erlhagen.

Real-Time Cooperative Collision Avoidance Method of Multiple Mobile Robots

Yasuaki Abe, Yoshiki Matsuo

MA-2

11:00-12:40

VA-2

LOCALIZATION - I

Topological Localization for Mobile Robots using Omni-directional Vision and Local Features

Henrik Andreasson, Tom Duckett

Mobile Robot Localization Based on Omnicamera

Barbara Siemiatkowska, Rafal Chojecki

Pose Estimation of Autonomous Vehicles using Visual Information: a Minimum-Energy Estimator Approach

António Pedro Aguiar, João P. Hespanha

Fast localization from laser range-finder data

Miroslav Kulich, Libor Preucil

MA-3 Invited

11:00-12:40

VA-3

VISION IN UNDERWATER ROBOTICS

Vision-based ROV Horizontal Motion Control
Massimo Caccia

The Application of Soft Computing Techniques to an Integrated Navigation System of an AUV

Dedy Loebis, Robert Sutton, John Chudley, W. Naem, Fraser Ross Dalgleish, Steve Tetlow

Testing the Control Architecture of a Visually Guided Underwater Cable Tracker by using a UUV Prototype

Javier Antich, Alberto Ortiz, Marc Carreras, Pere Ridao

Linear Global Mosaics for Underwater Surveying

Nuno Ricardo Gracias, João Paulo Costeira, José Santos-Victor

Statistical Snakes : Application to Tracking of Benthic Contours

Stefan Rolfes, Maria-João Rendas

MA-4

11:00-12:40

VA-4

MAPPING - I

Qualitative Egocentric Updating for Autonomous Automobiles

Thomas Wagner, Ubbo Visser, Andreas D. Lattner, Otthein Herzog

Feature extraction for moving objects tracking system in indoor environments

Daniel Castro, Urbano Nunes, António Ruano

Feature extraction and selection for mobile robot navigation in unstructured environments

Alberto Vale, José Miguel Lucas, Maria Isabel Ribeiro

Appearance Based Landmark Selection and Reliability Evaluation for Topological Navigation

Lorenz Gerstmayr, Alexandre Bernardino, José Santos-Victor

Building Maps from Incomplete Environment Information: a Cognitive Approach Based on the Generation of Expectations

Luís Macedo, Amílcar Cardoso

MA-5

11:00-12:40

VA-5

INTELLIGENT TRANSPORTATION SYSTEMS - I

Optimization of train detection in intelligent railway transportation systems

Patricio G. Donato, Jesús Ureña, Manuel Mazo, Juan Jesús García, Álvaro Hernández, Fernando J. Álvarez

Experimental Evaluation of a Co-operative Driving Setup based on Inter-Vehicle Communication

Redouane Hallouzi, Vincent Verdult, Hans Hellendoorn, Jeroen Ploeg

A Real-Time and Robust Algorithm for Calculation of Time to Lane Crossing

Mohammad Saniee, Mansour Jamzad, Jafar Habibi

A Reservation-Based Multiagent System for Intersection Control

Kurt Dresner, Peter Stone

Shared Experiences in Intelligent Transportation Systems

Wilhelm Dangelmaier, Holger Giese, Florian Klein, Hendrik Renken, Peter Scheideler

PLENARY MP	14.15 – 15:15	Amphitheatre
DEVELOPMENT OF RESCUE ROBOTS IN TOKYO INSTITUTE OF TECHNOLOGY		
Shigeo Hirose		
Tokyo Institute of Technology, Japan		

MP-1	15:45-17:45	VA-1
PATH FOLLOWING		

An Approach of Constraining Wheel Slip for Automatic Path Tracking Control of 4WS/4WD Vehicles
Shou-Tao Peng, Chau-Chin Chang, Jer-Jia Sheu

Accurate automatic guidance of an urban electric vehicle relying on a kinematic GPS sensor
Benoit Thuilot, Jonathan Bom, Francois Marmointon, Philippe Martinet

Smooth control of a wheeled omnidirectional robot
Corrado Guarino Lo Bianco, Aurelio Piazzi, Massimo Romano

Path-Following or Reference Tracking? An answer relaxing the limits to performance
António Pedro Aguiar, Dragan B. Dacic, João P. Hespanha, Petar Kokotovic

Forward path tracking for mobile robots with several trailers
George Martinez, Jesus Morales, Anthony Mandow

Path Following Control of a Robotic Wheelchair
Paulo Coelho, Urbano Nunes

MP-2 Invited	15:45-17:45	VA-2
ROBOT NAVIGATION, GUIDANCE & CONTROL		

Switching linear path following for bounded curvature car-like vehicles
Giovanni Indiveri, Maria Letizia Corradini

Self-Coordination Technique for Mobile Manipulators
Giuseppe Casalino, Alessio Turetta

6D SLAM - Preliminary Report on Closing the Loop in Six Dimensions
Hartmut Surmann, Andreas Nuechter, Kai Lingemann, Joachim Hertzberg

The micromavigation algorithm: a minimalist approach to navigation
Antonio Sgorbissa, Renato Zaccaria

A Model to Manage Data Reliability in Behavior-Based Robotics
Andrea Bonarini, Matteo Matteucci, Marcello Restelli

Finding good Echo State Networks to control an underwater robot using Evolutionary Computations
Tijn van der Zant, Vlatko Becanovic, Kazuo Ishii, Hans-Ulrich Kobiakka, Paul Ploeger

MP-3	15:45-17:45	VA-3
AUTONOMOUS UNDERWATER VEHICLES		

Algorithms for external tracking of an AUV
Anibal Matos, Nuno Cruz

Control of Phanthon 500 Diving Motion with Thruster Saturation
Jean-Pierre Folcher

Hybrid Maneuver for Gradient Search with Multiple Coordinated AUVs
Alfredo Oliveira Martins, José Miguel Almeida, Eduardo Alexandre Silva, Fernando Lobo Pereira

A Small Submarine Robot for Experiments in Underwater Sensor Networks
Vitaly Bokser, Carl Oberg, Gaurav S. Sukhatme, Aristides Requicha

Robust Control of Autonomous Underwater Vehicles in Uncertain Operating Conditions
Mohammad Bozorg, Seyed Ali Eftekhari, Hadi Jalili

Obstacle Avoidance While Bottom Following for the REMUS Autonomous Underwater Vehicle
Anthony J. Healey

MP-4	15:45-17:45	VA-4
MODELING & IDENTIFICATION		

Identification of vehicle models and road roughness estimation
Peter Gaspar, Zoltan Szabo, Jozsef Bokor

Dynamical Model Parameters Identification of a Wheeled Mobile Robot
Bianca Innocenti, Pere Ridao, Narcis Gascons, Andres El-Fakdi, Beatriz Lopez, Joaquim Salvi

Dynamic Models of an AGV Based on Experimental Results
J. I. Suárez, B. M. Vinagre, F. Gutierrez, J. E. Naranjo, Y. Q. Chen

Experimental evaluation of vehicle sideslip angle observers
Joanny Stéphant, Ali Charara, Dominique Meizel

Experimental Identification of Aurora Airship
Victoria Reyes Cortés, José Raul Azinheira, Ely Carneiro de Paiva, Bruno Faria, Josué Guimarães Ramos, Samuel Siqueira Bueno

Identification of Lateral Dynamics of Aurora Airship
Victoria Reyes Cortés, José Raul Azinheira, Ely Carneiro de Paiva

MP-5	15:45-17:45	VA-5
TRACKING SYSTEMS		

On Robot-borne Extended Object Tracking using the EM Algorithm
William Stannus, Wolfgang Koch, Andreas Kraussling

Visual tracking system for a mobile robot using colour histograms
Jaume Vergés-Llahi, Joan Aranda, Alberto Sanfeliu

Face Tracking Based on Haar-Like Features and Eigenfaces
Paulo Menezes, José Carlos Barreto, Jorge Dias

Tracking Multiple and Dynamic Objects with an Extended Particle Filter and an Adapted K-Means Clustering Algorithm

Marta Marrón, Miguel Angel Sotelo, Juan Carlos García

On-Vehicle Visual Tracker with Disturbance Rejection

Fabio Gómez-Estern, Francisco R. Rubio, Javier Aracil

Obstacle detection and tracking by millimeter wave RADAR

Christophe Blanc, Romuald Aufrère, Laurent Malaterre, Jean Gallice, Joseph Alizon

MP-6	15:45-17:45	VA-6
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LOCALIZATION - II

I Spatially Integrate and Therefore I am ... Lost? A Benchmark Measuring Environment Modelling Performance

Simon John Egerton, Victor Callaghan

Discrete-time EKF convergence analysis. Application to sonar navigation

Emma E. Delgado, Antonio A. Barreiro

Mobile Robot Localization Based on Monte-Carlo Method and Genetic Algorithms

Luis Fernando de Almeida, Carlos Henrique Costa Ribeiro

Estimator Stability Analysis in SLAM

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

Study of localization of mobile robot only using ID Tag

Weiguo Lin, Songmin Jia, Kunikatsu Takase

Outlier Handling when using Particle Filters in Terrain-Aided Navigation

Alexander Bachmann, Stefan B. Williams

IAV2004

Tuesday, July 6th

TA-1 Invited	9:00-10:40	Amphitheatre
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MULTI-ROBOT SYSTEMS - II

A Hybrid Control Approach to Autonomous Navigation in Cooperative Multi-Robot Systems using Kripke Models and Model Checking

Suresh Jeyaraman, Antonios Tsourdos, Rafal W. Zbikowski, Brian A. White

Centralized Feedback Stabilization of Multiple Nonholonomic Agents under Input Constraints

Savvas G. Loizou, Kostas Kyriakopoulos

Implementing ALLIANCE in Networked Robots using Mobile Agents

Liam Michael Cragg, Huosheng Hu

Coordinated Path Following Control of Multiple Wheeled Robots

Reza Ghabcheloo, António Pascoal, Carlos Silvestre, Isaac Kamner

TA-2	9:00-10:40	VA-2
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LOCALIZATION - III

Methods for Personal Localisation and Mapping

Jari Pekka Saarinen, Roman Mazl, Miroslav Kulich, Jussi Suomela, Libor Preucil, Aarne Halme

The mobile robot localization problem treated as a constraint satisfaction problem

Melanie Delafosse, Arnaud Clerentin, Laurent Delahoche, Eric Brassart, Bruno Marhic

Dynamic positioning of a mobile robot using a laser-based goniometer

Joaquim Agulló Batlle, Josep Maria Font, Josep Escoda

Robot position estimation based on homographies of the ground plane

Joaquín Ferruz, Sebastián Hurtado, Aníbal Ollero

Poor Man's Gyro-based Localization

Erik Solda, Rainer Worst, Joachim Hertzberg

TA-3	9:00-10:40	VA-3
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INTELLIGENT TRANSPORTATION SYSTEMS - II

Uncertain Variables and Learning Process in an Intelligent Transportation System with Production Units

Zdzislaw Bubnicki

Robust Measures for a Large Platoon of Vehicles Using Non-Identical Controllers

Maziar E. Khatir, Edward J. Davison

Driver Assistance System Based on Computer Vision for Vehicle Detection

Cristina Hilario, José Manuel Collado, José Maria Armingol, Arturo de la Escalera

Robust real-time on-board vehicle tracking system using particles filter

Bruno Steux, Yotam Abramson

Obstacle detection in road scene based on road detection and motion analysis

Cédric Demonceaux, Alex Potelle, Djemâa Kachi-Akkouche

TA-4	9:00-10:40	VA-4
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AIR & SPACE ROBOTS - I

Building a system for autonomous aerial robotics research

Torsten Merz

A UAV for Bridge's Inspection: Visual Servoing Control Law with Orientation Limits

Najib Metni, Tarek Hamel, François Derx

GPS aided IMU for Unmanned Air Vehicles

J. F. Vasconcelos, J. Calvário, Paulo Oliveira, Carlos Silvestre

Optimal Control and Practical GNC Algorithms for Autonomous Low-and High-Glide-Ratio Delivery Systems

Oleg A. Yakimenko, Isaac I. Kamner

Dynamic 3D Path Following for an Autonomous Helicopter

Gianpaolo Conte, Simone Duranti, Torsten Merz

TA-5	9:00-10:40	VA-5
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VISION-BASED NAVIGATION & CONTROL

Vision-Based Positioning System for Indoor Blimp Robot
Hisao Kadota, Hidenori Kawamura, Masahito Yamamoto,
Toshihiko Takaya, Azuma Ohuch

Visuomotor Maps for Robot Task Learning through Imitation
Raquel Frizera Vassallo, José Santos-Victor, Hans Jörg
Schneebeil

Learning Navigation Maps by Looking at People
Roger Freitas, José Santos-Victor, Mário Sarcinelli-Filho,
Teodiano Bastos-Filho

Reference Image Computation From Cartesian Specifications
for Model-Free Visual Servoing
Geraldo F. Silveira, Patrick Rives

Trinocular Stereo Vision for Intelligent Robot Navigation
Jens Christian Andersen, Nils A. Andersen, Ole Ravn

PLENARY TA 11:10 – 12:10 Amphitheatre

**MARINE ROBOTICS: A GLOBAL
INTERDISCIPLINARY APPROACH TO
THE SCIENTIFIC, TECHNOLOGICAL AND
EDUCATIONAL ASPECTS**

Gianmarco Veruggio

CNR-Robotlab, Italy

PLENARY TP 14:00 – 15:00 Amphitheatre

**IN-SITU TECHNOLOGY DEVELOPMENT
FOR NASA MARS MISSIONS**

Samad Hayati

Jet Propulsion Laboratory, USA

TP-1 15:30-17:30 Amphitheatre

**VISION-BASED NAVIGATION &
CONTROL - II**

Obstacle Avoidance Using Time-to-Contact Information
Antonio Henrique Pinto Selvatici, Anna Helena Realí Costa

Obstacle Avoidance and Self-Localization System for
Autonomous Vehicles
Farooq Azam Khan, Sikander Hayat Khiyal

Autonomous image-based navigation in indoor environment
Guillaume Blanc, Omar Ait-Aider, Youcef Mezouar, Thierry
Chateau, Philippe Martinet

Optical Flow-Based Reactive Navigation of a Mobile Robot
Mário Sarcinelli-Filho, Hans Jorg Andreas Schneebeil, Eliete
Maria de Oliveira Caldeira, Bruno Moreira Silva

Application of Velocity Field Control to Visual Navigation of
Mobile Robots
Rafael J. Kelly, Eusebio C. Bugarín, Ricardo E. Campa

Vision Based Tracking Control and Obstacle Avoidance of a
Mobile Robot
Erol Uyar, Levent Cetin, Aytac Goren, Serkan Ensoner

TP-2 Invited 15:30-17:30 VA-1

**AUTONOMOUS VEHICLES IN
CHALLENGING SCENARIOS**

Small Size AUVs: Operation Results and New Mission
Concepts
Nuno Cruz, Anibal Matos, João Borges Sousa

Stochastic Maps for Autonomous Plume Tracing under
Turbulent Flow
Maria-João Rendas

Long Endurance Sampling of the Ocean with Solar Powered
AUVs
Richard Blidberg, Steven Chappell, James Jalbert

Hierarchical Search Strategy for a Team of Autonomous
Vehicles
Jorge Estrela Silva, Alberto Speranzon, João Borges Sousa, Karl
Henrik Johansson

An Architecture for UAV Team Control
Sivakumar Rathinam, Marco Zennaro, Tony Mak, Raja Sengupta

Actuator Fault Detection in Autonomous Helicopters
Guillermo Heredia, Volker Remuß, Anibal Ollero, Rajesh
Mahtani, Marek Musial

TP-3 15:30-17:30 VA-2

MOTION & TASK PLANNING

Fast Map Generator of Collision-Free Trajectories for
Mobile Robots
Enrique J. Bernabeu

Fast Approximation To Gaussian Obstacle Sampling For
Randomized Motion Planning
Nicolas Jouandeau, Ali Cherif Arab

Motion Planning in Multi-Robot Systems Using Timed
Automata
Michael Skipper Andersen, Rune Strøm Jensen, Thomas Bak,
Michael Melholt Quottrup

Parallel Planning In Partitioned Problem Spaces
Stephen Balakirsky, Otthein Herzog

Interactive Task Planning in Assistant Robotics
Cipriano Galindo, Javier Gonzalez, Juan-Antonio Fernandez-
Madrigal

A Planner for Topological Navigation Based on Previous
Experiences
Veronica Egido, Ramon Barber, Maria Jesus Lopez, Miguel Angel
Salichs

TP-4 15:30-17:30 VA-3

AIR & SPACE ROBOTS - II

Dynamics and Control of Free-Flying Robots in Space: A
Survey
S. Ali A. Moosavian

Control and Simulation of an Autonomously Flying Model
Helicopter
Carsten Deeg, Marek Musial, Günter Hommel

Path Control of An Autonomous Airship Using Dynamic
Inversion
Alexandra Moutinho, José Raul Azinheira

Adaptive Output Feedback Control of a Scale Helicopter Restricted to a 2dof Platform
 Cesáreo Raimúndez Álvarez, José Luis Camaño Portela, José Antonio García Baltar

Model Predictive Control and Dynamic Inversion for Unmanned Aerial Vehicle
 Zhaoquan Cheng, Dan S. Neculescu, Bumsoo Kim

TP-5	15:30-17:30	VA-4
MAPPING - II		

First Steps Towards a Robotic System for Flexible Volumetric Mapping of Indoor Environments
 Rudolph Alexander Triebel, Barbara Frank, Joerg Meyer, Wolfram Burgard

Exploring an unknown environment with a mobile robot
 Antoni Burguera, Yolanda González, Gabriel Oliver

Wall/Corner Classification. A New Ultrasonic Amplitude-Based Approach
 Milagros Martínez, Gines Benet, Francisco Blanes, Jose Enrique Simó, Pascual Perez, José Luis Poza

Environment Map Building Using Mobile Robot and Ultrasonic Range Finder
 Svetoslav Atanasov Noykov, Ognyan Borisov Manolov

Probabilistic Quadrees for Variable-Resolution Mapping of Large Environments
 Gerhard K. Kraetzschmar, Guillem Pagès Gassull, Klaus Uhl

TP-6	15:30-17:30	VA-5
INTERFACES & SYSTEMS FOR ROBOT CONTROL		

Remote Experiments on Kinematics and Control of Mobile Robots
 Grzegorz Zysko, Radu Barza, Klaus Schilling, Lei Ma, Frauke Driewer

Development of a New Type of Integrated Reactive Joystick and Control Algorithm for Steer-by-wire System
 Yongsik Park, Wankyun Chung, Youngil Youm

ORPHEUS – Reconnaissance Robotic System Controlled with Visual Telepresence
 Ludek Zalud

CLEOPATRE: Free open-source components for real-time control of robotic applications
 Maryline Silly-Chetto, Patrick Bonnin, Pierre Blazevec, François Russoto, Christophe Plot, Vincent Dupourqué, Pierre Pomiers, Renaud Aubin

Implementation of Acceleration Sensors Improving the Dynamic Behaviour of a Mobile Mini Robot
 Bernhard Putz, Man-Wook Han, Peter Kopacek

IAV2004
Wednesday, July 7th

WA-1 Invited	9:00-10:40	Amphitheatre
SLAM - I		

DenseSLAM: The Unidirectional Information Flow (UIF)
 Juan Nieto, José Guivant, Eduardo M. Nebot

Limits to the Consistency of EKF-based SLAM
 José Angel Castellanos, José Neira, Juan Domingo Tardós

Robust SLAM
 John B. Folkesson, Henrik I. Christensen

A Comparison of Methods for Line Extraction from Range Data
 Daniel Sack, Wolfram Burgard

SLAM Based on Quantities Invariant of the Robot's Configuration
 Agostino Martinelli, Anna Svensson, Nicola Tomatis, Roland Siegwart

WA-2	9:00-10:40	VA-1
BIPED AND HUMANOID ROBOTS		

Modelling and Control of a Biped Robot
 Nelson Gonçalves, Pedro Silva, João Silva Sequeira, Maria Isabel Ribeiro

Yabiro, a New Approach for Small Biped Robots
 Miguel Albero, Francisco Blanes, Gines Benet, José Simó, Pascual Perez

“Not Global Actuation” and Its Application in Humanoid Robot -- **(WITHDRAWN)**
 Mingjian Li, Ming Xie

Trajectory Generation for a New Bipedal Robot with Ten Degrees of Freedom
 Farid Najafi, Ehsan Falsafi

Multiple Plane Segmentation from Stereo with the Application of Stair Climbing for Humanoid Robots
 Jens-Steffen Gutmann, Kenta Kawamoto, Kohtaro Sabe, Masaki Fukuchi

WA-3	9:00-10:40	VA-2
MOTION CONTROL		

Asymptotic Stabilization of Non-holonomic Port-controlled Hamiltonian Systems
 Mathias Jesper Sørensen, Jan Dimon Bendtsen, Palle Andersen, Tom Sondergaard Pedersen

Assisted Guidance for a Tractor-Trailer with off Axle Hitching
 Cédric Demers-Roy, François Miralles, Jean-François Olivier, Romano Mario Desantis, Richard Hurteau

Autonomous Vehicle Control Based on Receding Horizon Method
 Bumsoo Kim, Dan Neculescu, Jurek Z. Sasiadek

Improving Rollover Stability With Active Suspensions By Using An LPV Method
 Peter Gaspar, Istvan Szaszi, Jozsef Bokor

To Problem of Motion Control of 3-D Hopping Machine
 Vladimir B. Larin, Vladimir M. Matiyasevich

WA-4	9:00-10:40	VA-3
ARCHITECTURES - I		

- Designing for System Intelligence
Sesh Commuri, Yushan Li, Dean Hougen, Rafael Fierro
- A Framework for Complex Skill Generation
Dulce Milagro Rivero, Ramón Ignacio Barber, Francisco José Rodríguez, Miguel Angel Salichs
- A New Architecture for Autonomous Robots Based on Emotions
María Malfaz, Miguel Angel Salichs
- Tensions and conflicts: toward a pleasure-seeking artifact
Juan Liu, Andrzej Buller
- An Architecture to Control Mobile Robots by means of Code Delegation and Multi-Agent Systems
Juan Luis Posadas, José Simó, Francisco Blanes, G. Benet, José Luis Poza, Milagros Martínez

WA-5	9:00-10:40	VA-4
ROBOT LEARNING AND PERFORMANCE ANALYSIS		

- Learning from Accelerometer Data on a Legged Robot
Douglas Vail, Manuela Veloso
- Shaping in a Realistic Simulation: An Approach to Learn Reactive Fuzzy Rules
Piotr Skrzypczynski
- Back to Reality: Crossing the Reality Gap in Evolutionary Robotics
Juan Cristóbal Zagal, Javier Ruiz-del-Solar, Paul Vallejos
- Hierarchical C-Space evaluation for mobile robots
Francisco Javier Blanco, Vidal Moreno, Belén Curto, Roberto Therón, José Andrés Vicente
- Rating the Performance of Robotic Coverage Tasks
Werner Brockmann, Dirk Klingbiel

PLENARY WA	11:10 – 12:10	Amphitheatre
INTELLIGENT CONTROL OF UNMANNED AERIAL VEHICLES FOR IMPROVED AUTONOMY AND RELIABILITY		
George Vachtsevanos		
Georgia Institute of Technology, USA		

WP-1 Invited	14:00-15:40	Amphitheatre
SLAM - II		

- Airborne Decentralised SLAM under Low-Bandwidth Communications
Lee Ling, Jong-Hyuk Kim, Eric Nettleton, Salah Sukkarieh
- Real-Time 3D SLAM with Wide -Angle Vision
Andrew Davison, Yolanda Gonzalez-Cid, Nobuyuki Kita
- Simultaneous Localization and Mapping with Stereovision
Simon Lacroix, Il-kyun Jung

- An Experimental Investigation of Cooperative SLAM
Matthew Robert Walter, John Leonard
- Simultaneous Localization and Map-building in Outdoors Semi-structured Environments
Georgia C. Anousaki, Kostas J. Kyriakopoulos

WP-2	14:00-15:40	VA-1
ROBOT APPLICATIONS & DARPA GRAND CHALLENGE		

- New Approaches for Surveillance Tasks
José Inácio Rocha, João Silva Sequeira
- Design and Implementation of Full Autonomous Mine Detecting Robot
Hamed Bastani, Hamid Mirmohammad-Sadeghi, Ali Shariatmadari, Ehsan Azarnasab, Mohammad Davarpanah-Jazi
- The DARPA Grand Challenge - Autonomous Ground Vehicles in the Desert
Reinhold Behringer
- SciAutonics in the DARPA Grand Challenge
Reinhold Behringer, Brian Gregory, Venkataraman Sundareswaran, Robert Addison, Richard Elsley, Wayne Guthmiller, Jim Demarchi, R. Daily, David Bevely, C. Reinhart
- Control System Architecture for TerraMax-The intelligent off-road navigator
Hai Yu, Qi Chen, Umit Ozguner

WP-3	14:00-15:40	VA-2
MISSION PLANNING FOR AIR & SPACE ROBOTS		

- Autonomous Management of an Earth Watching Satellite
Sylvain Damiani, Gérard Verfaillie, Marie-Claire Charneau
- Developing an Autonomous Imaging and Localisation Capability for Planetary Aerobots
Mark J. Woods, Malcolm Evans, Roger Ward, David P. Barnes, Andrew J. Shaw, Phil Summers, Gerhard Paar, Mark Sims
- Mission Planning for Autonomous Aerial Vehicles
Elodie Chanthery, Magali Barbier, Jean-Loup Farges
- A probabilistic prediction-based replanning architecture for a UAV
Tim A. Wilkin, Ann E. Nicholson, Trevor Dix
- Cooperative Search Versus Random Search Using UAV Swarms
Patrick Vincent, Izhak Rubin

WP-4	14:00-15:40	VA-3
ARCHITECTURES – II		

- SEA: Architecture for Rational Robotic Agents
David H. Bello, Enrique González
- Agent-Based Software Architecture for Multi-Robot Teams
João Frazão, Pedro Lima
- A Multiagent Cooperative Mobile Robotics Approach for Search and Rescue Missions
Lucia Vacariu, Blasko Peter Csaba, Ioan Alfred Letia, George Fodor, Octavian Augustin Cret

Evolving Cooperation of Simple Agents for the Control of an Autonomous Robot

Ricardo Agamenon Téllez, Cecilio Angulo

Stochastic Discrete Event Model of a Multi-Robot Team Playing an Adversarial Game

Bruno Damas, Pedro Lima

WP-5	14:00-15:40	VA-4
NAVIGATION & COMMUNICATION SYSTEMS		

A Conceptual Framework for Design of Embedded Systems and Data Communication for Autonomous Vehicles

Jens Dalsgaard Nielsen, Jan Dimon Bendtsen, Kirsten Molgaard Nielsen, Mathias Jesper Sorensen

Human Presence Detection and Tracking for a Concierge Robot

Iñaki Raño, Bogdan Raducanu, Sriram Subramanian

Information Fusion in an Hybrid GPS Multi-frequencies/dead-reckoning Navigation System

Jamila Kacemi, Serge Reboul, Mohammed Benjelloun

Communication System for Cooperative Mobile Robots using Ad-hoc Networks

Volker Remuß, Marek Musial

PLENARY WP	16:10 – 17:10	Amphitheatre
TOWARD COGNITIVE ROBOT COMPANIONS		
Raja Chatila		
LAAS/CNRS, France		

	17:10-17:40	Amphitheatre
CLOSING CERIMONY		