

# Workshop on Omnidirectional Robot Vision

November 4, 2008

8:30

Registration and Workshop opening

## ORAL PRESENTATIONS

8:50 – 9:10

**Two applications of omnidirectional vision: visual servo of serial and parallel robots**

Y. Mezouar, H. H. Abdelkader, O. Tahri

9:10 – 9:30

**Selectively Using Landmarks in Online SLAM with Omnidirectional Vision**

V. Guizilini, J. Okamoto

9:30 – 9:50

**Color 3D Model-Based Tracking with Arbitrary Projection Models**

M. Taiana, J. Santos, J. Gaspar, J. Nascimento, A. Bernardino and P. Lima

9:50 – 10:10

**Light-Weight Panoramic Mirror Design for Visual Navigation**

W. Sturzl, Michael Suppa, Darius Burschka

10:10 – 10:30

**Visual navigation of indoor/outdoor non-holonomic robot with wide field of view cameras**

J. Courbon, Y. Mezouar, L. Eck, P. Martinet

10:30 - 11:00 Coffee Break

11:00 – 11:20

**A Robust Uncalibrated Visual Compass Algorithm from Paracatadioptric Line Images**

Gian Luca Mariottini\*, Stefano Scheggi, Fabio Morbidi and Domenico Prattichizzo

11:20 – 11:40

**CaliPSO: Omnidirectional camera calibration based on Particle Swarm Optimization**

Daniele Marzorati, Domenico G. Sorrenti, and Leonardo Vanneschi

11:40 – 12:00

**An Omnidirectional Vision System for Outdoor Mobile Robot**

W. Dennis Lui, R. Jarvis

12:00 – 12:20

**Correcting Vehicle Heading in Visual Odometry by Using Image Appearance**

D. Scaramuzza, R. Siegwart

12:20 – 12:40

**Mapping Large Environments with an Omnivideo Camera**

I. Esteban, O. Booij, Z. Zivkovic, B. Krose

13:00 - 14:30 Lunch Break

14:30 – 16:30

**SIMPAR 2008 Invited talk complimentary for workshop participants**

H. Bruyninckx

*Simulation, modeling, and programming for autonomous robots: the Open Source perspective*

Y. Nakamura

*Modeling, understanding, and interacting with humans*

**16:30 - 17:00 Coffee Break**

**POSTER PRESENTATIONS**

**17:00 - 17:50**

**Featureless Visual Navigation using optical flow of omnidirectional image sequence**

Y. Mochizuki, A. Imiya

**Toward topological localization with spherical Fourier transform and uncalibrated camera**

F. Rossi, A. Ranganathan, F. Dellaert, E. Menegatti

**A dioptic stereo system for robust real-time tracking in dynamic unknown environments**

E. Martínez, Angel P. del Pobil

**Omnidirectional vision for robot localization in urban environments**

Emanuele Frontoni, Andrea Ascani, Adriano Mancini, Primo Zingaretti

**Sonifying Robotic Trajectories with a Spherical Omnidirectional Vision System in the AURAL Environment**

A. Moroni, S. Cunha, J. Ramos, J. Manzolli

**Spherical Rectification Based Stereo Vision Applied to Hybrid Dual Camera Vision Systems**

S. Cagnoni, M. Mordonini, L. Mussi, G. Adorni

**Visual features extraction from variable scale images using early retina mechanisms**

Thibaud Debaecker, Ryad Benosman

**Omnidirectional sensors for mobile robots**

S. Blumenthal, D. Droschel, D. Holz, T. Linder, P. Molitor, H. Surmann

**17:50 - 18:30**

**Open discussion on European Proposals on Omnidirectional Vision (NOE, STREPs, FET)**

**18:30 - 20:00 Welcome Reception complimentary for workshop participants**