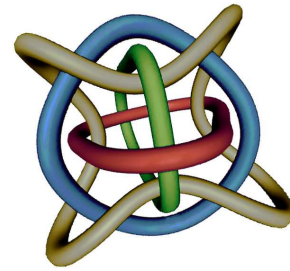




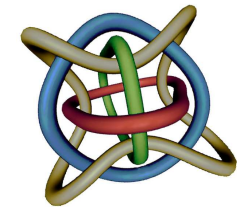
2009 IEEE International Conference on Mechatronics



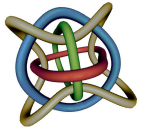
ICM 2009
Málaga, Spain
14-17 April

FINAL PROGRAM

Tuesday 14th		Wednesday 15th			Thursday 16th			Friday 17th					
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #f08080; padding: 5px; margin-bottom: 5px;">14:00 19:00</div> <div style="background-color: #f08080; padding: 5px; margin-bottom: 5px; writing-mode: vertical-rl; transform: rotate(180deg);">REGISTRATION</div> <div style="display: flex; gap: 10px;"> <div style="background-color: #f08080; padding: 5px;">17:00 19:30</div> <div style="background-color: #f08080; padding: 5px;">MALAGA CITY TOUR</div> </div> <div style="background-color: #f08080; padding: 5px; margin-top: 10px;">20:30 WELCOME COCKTAIL</div> </div>		08:45 09:15	Opening Ceremony										
		09:15 10:15	Invited Talk 1 Prof. Dr. François E. Cellier		Invited Talk 2 Prof. Dr. Tatsuo Arai			Invited Talk 4 Dr. Serge Boverie					
		Coffee break			Coffee break			Coffee break					
		10:45 12:25	We1A Modeling	We1B Robot Manipulation & Actuators	We1C Robot Design and Applications	10:30 12:30	Th1A Legged & Humanoid Robotics	Th1B Aerial Vehicles	Th1C Teleoperation & Networked Control	10:30 12:30	Fr1A Automation Mechatronic	Fr1B Robot Control	Fr1C Mobile Machines
		Coffee break			Coffee break			Coffee break					
		13:45 15:25	We2A Trends and Methodologies	We2B Embedded Systems	We2C Mobile Robot Control	Invited Talk 3 Prof. Dr. Anibal Ollero			Invited Talk 4 Dr. Serge Boverie				
		Coffee break			Coffee break			Coffee break					
		16:00 18:00	We3A Haptics & Human Interaction	We3B Intelligent Systems	We3C Mapping & Navigation	15:15 16:55	Th2A Mechatronic Education	Th2B Vibration, Analysis & Control	Th2C Sensors & Optoelectronic Systems	13:45 15:45	Fr2A Machine Vision & Perception	Fr2B Control of Flexible Mechanism	Fr2C Motion Control
		Coffee break			Coffee break			Coffee break			CLOSING CEREMONY		
		ROOM A – “La Cónsula” ROOM B – “La Caleta” ROOM C – “El Limonar”			17:05 18:45			Th3A Automation Systems	Th3B Micro-Actuators	Th3C Bioinspired Perception & Sensors			
			20:00			BANQUET							



Málaga, Spain
April 14 -17, 2009

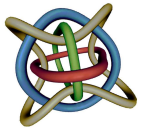


WEDNESDAY 15th			
08:45	<i>PLENARY ROOM</i>		
09:15	OPENING CEREMONY		
09:15	<i>PLENARY ROOM</i>		
10:15	Invited Speaker: Prof. Dr. François E. Cellier	Talk : "Object-oriented Modeling of Mechatronics Systems in Modelica Using Wrapped Bond Graphs"	
	Modelling and Simulation Research Group Institute of Computational Science, Zurich, Switzerland		
10:45	SESSION We1A: MODELING	SESSION We1B: ROBOT MANIPULATION & ACTUATORS	SESSION We1C: ROBOT DESIGN AND APPLICATIONS
12:25	Chair: Javier Fernández de Cañete	Chair: GianAntonio Magnani	Chair: Víctor F. Muñoz-Martínez
	<i>ROOM A - "La Cónsula"</i>	<i>ROOM B - "La Caleta"</i>	<i>ROOM C - "El Limonar"</i>
10:45	The POG Technique for Modeling Multi-phase Asynchronous Motors Roberto Zanasi, Federica Grossi, Giovanni Azzone	Torque Control in the Joint of a Space Robotic Arm GianAntonio Magnani, Paolo Rocco, Luca Trevisàn, Andrea Maria Zanchettin, Andrea Rusconi	Inverse Kinematics Of A Redundant Manipulator For Cam Integration. An Industrial Perspective Of Implementation. Javier Andres, Luis Gracia, Josep Tornero
11:05	Nonlinear Modeling and Evaluation of Rolling Friction Yoshihiro Maeda, Makoto Iwasaki, Motohiro Kawafuku, Hiromu Hirai	Analysis of Bowden Cable Transmission Performance for Orthosis Applications Asier Goirienea, Iban Retolaza, Aitor Cenitagoya, Felix Martinez, Sandra Riaño, Joseba Landaluze	Navigated, robot assisted drilling of a minimally invasive cochlear access Hubertus Eilers, Stephan Baron, Tobias Ortmaier, Bodo Heimann, Claas Baier, Thomas Rau, Martin Leinung, Omid Majdani
11:25	Modelling of a Flexible Plate using RLS with variable and directional forgetting factor Md Salleh Salihatun, Tokhi M.Osman, Mohammad Maziah	Identification of Twin Direct-Drive Motor System with Consideration of Wire Rope Tension Chowarit Mitsantisuk, Kiyoshi Ohishi, Shiro Urushihara, Seiichiro Katsura	Active Wrists Endoscope Navigation in Robotized Laparoscopic Surgery Enrique Bauzano-Nuñez, Victor Muñoz-Martinez, Isabel Garcia-Morales, Belen Estebanez-Campos
11:45	On the Inverse Dynamics Problem of General Parallel Robots Trung Do Thanh, Jens Kotlarski, Bodo Heimann, Tobias Ortmaier	Research on the Position Control of a 1-DoF Set-Up Powered by Pneumatic Muscles Aron Pujana-Arrese, Anjel Mendizabal, Javier Arenas, Sandra Riaño, Joseba Landaluze	Structure-Control Mechatronic Design of the Planar 5R 2DoF Parallel Robot Miguel Gabriel Villarreal-Cervantes, Carlos Alberto Cruz-Villar, Jaime Alvarez-Gallegos
12:05	Containing Analysis of High Speed Failed Part Impacted and Penetrated in Electric Machine Casing Amin Almasi	Control of Tendon-driven Robotic Mechanisms by Non- Linear Springs with Hysteresis Characteristics Kazuo Haiya, Satoshi Komada, Junji Hirai	



WEDNESDAY 15th

13:45 15:25	SESSION We2A: TRENDS AND METHODOLOGIES Chair: Anthony Mandow	SESSION We2B: EMBEDDED SYSTEMS Chair: Marcian Cirstea	SESSION We2C: MOBILE ROBOT CONTROL Chair: Jorge L. Martínez
<i>ROOM A - "La Cónsula"</i>		<i>ROOM B - "La Caleta"</i>	
13:45	Market Study on Adaptive Robots for Flexible Manufacturing Systems Rolf Grüninger, Elzbieta Kus, Richard Hüppi	DSP Algorithm for the Real-Time Detection of Power Quality Surge Transients Antonio Moreno-Muñoz, Juan Jose Gonzalez de la Rosa, Victor Pallares, Jm Flores	Center of Gravity Estimation and Control for a Field Mobile Robot with a Heavy Manipulator Jesús Morales, Jorge L. Martínez, Anthony Mandow, Javier Serón, Alfonso García-Cerezo, Alejandro Pequeño-Boyer
14:05	Optimal Sensor Placement for Fault Diagnosis Djeziri Mohand Arab, Ould Bouamama Belkacem, Merzouki Rochdi, Dauphin-Tanguy Geneviève	A High Level Language Approach to Matrix Converter Modelling and FPGA Controller Design Adel Ghadedo, Marcian Cirstea, Silvia Cirstea	Localization and Control of Tracked Mobile Robots under Slip Conditions Ramon Gonzalez, Francisco Rodriguez, Jose Luis Guzman, Manuel Berenguel
14:25	Exploitation Method for Functional Product Requirements – An Integrated Function Oriented Approach Daniel P. Politze, Jens Bathelt	Embedded control and development system for the HERO autonomous helicopter Joaquin Ferruz, Victor Vega, Anibal Ollero, Victor Blanco	Velocity-based energy stability margin for practical implementation in wheeled vehicles Gyunghwan Yuk, Woonghee Cho, Hyunseok Yang
14:45	Towards an Integrated Mechatronic Design Process Régis Plateaux, Jean-Yves Choley, Olivia Penas, Alain Rivière	Modularity, adaptability and evolution in the AUTOPIA architecture for control of autonomous vehicles. Joshué Pérez, Carlos González, Vicente Milanés, Enrique Onieva, Jorge Godoy, Teresa de Pedro	SANCHO, a Fair Host Robot. A Description Javier Gonzalez, Cipriano Galindo, Jose-Luis Blanco, Juan-Antonio Fernandez-Madrigal, Vicente Arevalo, Francisco Moreno
15:05		Left to Right Serial Multiplier for Large Numbers on FPGA H. Bessalah, K. Messaoudi, M. Issad, N. Anane, M. Anane	A Multi-Layer Control Scheme for Multi-Robot Formations with Adaptive Dynamic Compensation Alexandre S. Brandao, Felipe N. Martins, Vinicius T. L. Rampinelli, Ricardo Carelli, Teodiano F. Bastos-Filho, Mario Sarcinelli-Filho



WEDNESDAY 15th

16:00 18:00	SESSION We3A: HAPTICS AND HUMAN INTERACTION Chair: Kjell Andersson	SESSION We3B: INTELLIGENT SYSTEMS Chair: Takashi Kubota	SESSION We3C: MAPPING AND NAVIGATION Chair: Luis Moreno
	<i>ROOM A - "La Cónsula"</i>	<i>ROOM B - "La Caleta"</i>	<i>ROOM C - "El Limonar"</i>
16:00	Development of Isokinetic Exercise System Using High Performance MR Fluid Brake Takehito Kikuchi, Kunihiro Oda, Yuuki Ohyama, Shiro Isozumi, Junji Furusho	Intelligent Guidance of Mobile Explorer for Planetary Robotic Exploration Takashi Kubota	Improving RRT motion trajectories using VFM Santiago Garrido, Luis Moreno, Dolores Blanco, Fernando Martin
16:20	Integration of Multimodal Technologies for a Rowing Platform Emanuele Ruffaldi, Oscar Osvaldo Sandoval Gonzalez, Alessandro Filippeschi, Antonio Frisoli, Paolo Tripicchio, Carlo Alberto Avizzano, Massimo Bergamasco	Decentralized Control of Leader-Follower Formations of Mobile Robots with Obstacle Avoidance Alexandre S. Brandão, Mario Sarcinelli-Filho, Ricardo Carelli, Todiano F. Bastos-Filho	Smooth Path Planning for non-holonomic robots using VFM Santiago Garrido, Luis Moreno, Dolores Blanco, Fernando Martin
16:40	Robot Adaptive Behavior to Suit Patient Needs and Enable More Intensive Rehabilitation Tasks Carlos David Rodriguez Guerrero, Juan Carlos Fraile Mariner, Javier Perez Turiel	Fuzzy logic based speed planning for autonomous navigation under velocity field control Claudia Pérez-D'Arpino, Wilfredis Medina-Meléndez, José Guzmán, Leonardo Fermín, Gerardo Fernández-López	Exploiting collision information in probabilistic roadmap planning Serene Wong, Michael Jenkin
17:00	A Design Approach for a New 6-DoF Haptic Device Based on Parallel Kinematics Suleman Khan, Kjell Andersson, Jan Wikander	Application of Neuro-Genetic Techniques in Solving Industrial Crane Kinematic Control Problem Juanjo Valera, Eloy Irigoyen, Vicente Gomez-Garay, Fernando Artaza	An approach for mobile robot navigation under randomly distributed passive RFID environment Sunhong Park, Shuji Hashimoto
17:20	Sensorized Thimble For Haptics Applications Mary Monroy, Manuel Ferre, Jorge Barrio, Victor Eslava, Ignacio Galiana	Learning Navigation Teleo-Reactive Programs using Behavioural Cloning Blanca Vargas, Eduardo F. Morales	3D Detection of Obstacle Distribution and Mapping for Tactile Stimulation Kee-Ho Yu, Myoung-Jong Yoon, Gu-Young Jeong
17:40	Haptic Data Compression/Decompression Using DCT for Motion Copy System Hiroyuki Tanaka, Kouhei Ohnishi	Fuzzy Controller for Cooperative Object Pushing with Variable Line Contact Mahsa Aliakbar Golkar, Sarah Taghavi Namin, Hossein Aminaiee	On the Linear and Nonlinear Observability Analysis of the SLAM Problem Linthotage Dushantha Lochana Perera, Arman Melkumyan, Eric Nettleton



THURSDAY 16th

PLENARY ROOM			
09:00 10:00	Invited Speaker: Prof. Dr. Tatsuo Arai Arai Laboratory. Department of Systems Innovation. Osaka University (Japan)	Talk: "Nano Micro Robotics and Mechatronics"	
10:30 12:30	SESSION Th1A: LEGGED AND HUMANOID ROBOTICS Chair: Jesús Gómez-de-Gabriel <i>ROOM A - "La Cónsula"</i>	SESSION Th1B: AERIAL VEHICLES Chair: Aníbal Ollero <i>ROOM B - "La Caleta"</i>	SESSION Th1C: TELE-OPERATION & NETWORKED CONTROL Chair: Kiyoshi Ohishi <i>ROOM C - "El Limonar"</i>
10:30	Mechatronic design and control of a critical biped robot joint Luis Pabon, Carlos Pérez Martinez, Jorge Villagra, Carlos Balaguer	Nonlinear Control of a Quadrotor Micro-UAV using Feedback- Linearization Holger Voos	Development of Operator Support System with Primitive Static States for Intelligent Construction Machinery Mitsuhiro Kamezaki, Hiroyasu Iwata, Shigeki Sugano
10:50	Design and Simulation of an Easy Operating Leg for Walking Robots Antonio Gonzalez-Rodriguez, Angel Gaspar Gonzalez-Rodriguez, Antonio Nieto, Rafael Morales	Sensor Fault Detection in Small Autonomous Helicopters using Observer/Kalman Filter Identification Guillermo Heredia, Anibal Ollero	Teleoperation Platform for Multimodal Experimentation Pablo García-Robledo, Patricia García-Borras, Jorge Barrio, Manuel Ferre, Rafael Aracil
11:10	Design and Development of a Fully Autonomous Decimeter-Scale Humanoid Robot Tanausú Cerdeña Hernandez, Yeray Callero de León, Daniel Perea Ström, Pablo Betancor Lugo, David Lutzardo Barroso, Jonay Toledo Carrillo, Leopoldo Acosta Sánchez	Real Time Hybrid Fuzzy-PID Control of a Twin Rotor System Akbar Rahideh, M Hasan Shaheed	Robust Four Channel Teleoperation under Time Delay by Damping Injection Ugur Tumerdem, Kouhei Ohnishi
11:30	A Simple Tactile Sensing Foot for Humanoid Robot and Active Ground Slope Recognition Kitti Suwanratchatamane, Mitsuharu Matsumoto, Shuji Hashimoto	Robust Model Predictive Control of a Twin Rotor MIMO System Akbar Rahideh, M Hasan Shaheed	Bilateral Control using Compressor/Decompressor under the Low-Rate Communication Network Yuki Yokokura, Seiichiro Katsura, Kiyoshi Ohishi
11:50	A Mechatronic Analysis and Synthesis of Human Walking Gait Luis-I. Lugo-Villeda, Antonio Frisoli, Oscar-O. Sandoval González, Vicente Parra-Vega, Massimo Bergamasco	Multi-UAV collision avoidance with separation assurance under uncertainties David Alejo, Roberto Conde, José Antonio Cobano, Aníbal Ollero	Multi-agent Remote Control of the RobuTER/ULM Mobile Manipulator Robot Abdelfetah Hentout
12:10			GPC Strategies for the Lateral Control of a Networked AGV Miguel Romero, Inés Tejado, José Suarez, Blas Vinagre Angel de Madrid



THURSDAY 16th

<i>PLENARY ROOM</i>			
13:45 14:45	Invited Speaker: Prof. Dr. Anibal Ollero Head of the GRVC Group (University of Seville) and Scientific Director of the Center for Advanced Aerospace Technologies (FADA-CATEC).	Talk: " Cooperation and Coordination of Multiple Unmanned Aerial Systems"	
15:15 16:55	SESSION Th2A: MECHATRONICS EDUCATION Chair: Jesús Fernández-Lozano	SESSION Th2B: VIBRATION ANALYSIS & CONTROL Chair: Ramón Ferreiro	SESSION Th2C: SENSORS & OPTO-ELECTRONIC SYSTEMS Chair: Fernando Vidal-Verdú
	<i>ROOM A - "La Cónsula"</i>	<i>ROOM B - "La Caleta"</i>	<i>ROOM C - "El Limonar"</i>
15:15	Use of Design Competitions in Mechatronics Education William Singhose, Joshua Vaughan, Rhett Mayor	Adaptive Feedforward Compensation for Reaction Force with Nonlinear Specimen in Shaking Tables Kenta Seki, Makoto Iwasaki, Motohiro Kawafuku, Hiromu Hirai, Kazuki Yasuda	Low cost displacement sensor at sub-micron precision based on 3x3 optical coupler for vibrating surface Hoi Wai Chow, Norbert Cheung
15:35	Considerations about the mechatronical transdisciplinary knowledge paradigm Ioan Pop, Vistrian Maties	Vibration attenuation control on HMBs Ramon Ferreiro Garcia, Jose Luis Calvo Rolle, Manuel Haro Casado	Nitinol thin foil irradiated by continuous mode laser diode for wireless chromatic micro-actuation Syed Sajid Hussain Zaidi, Frédéric Lamarque, Jérôme Favergeon, Olivier Carton, Christine Prella
15:55	B.EN.DE.R. 2.0: Basic ENvironment for DEveloping Robotic software: Application to educational purposes. Nieves Pavón, Joaquín Ferruz	Longitudinal vibrations modeling of a piezoelectric actuator used in forming process Rith Ly, Christophe Giraud-Audine, Régis Bigot, Gabriel Abba	Evaluation of Asymmetric Microfabricated Surfaces Using Femtosecond Laser Process for Microparts Feeding Atsushi Mitani, Shinichi Hirai
16:15	A Heterogeneity-Enabled Development System for Educational Mechatronics Charbel Stockmans-Daou, Ana Cruz-Martín, Juan-Antonio Fernández-Madrigal	An Electro-Magneto-Pneumatic Spring for Vibration Control in Semiconductor Manufacturing HyungTae Kim, KangWon Lee, CheolHo Kim, GyuSeop Lee, SungWan Son	Gravity Measurement from Moving Platform by Second Order Kalman Filter and Position and Velocity Corrections Amin Almasi
16:35	Using LEGO Robots with LabVIEW for a Summer School on Mechatronics Alfonso García-Cerezo, Jesús Gómez-de-Gabriel, Jesús Fernández-Lozano, Anthony Mandow, Victor F. Muñoz, Fernando Vidal-Verdú, Klaus Janschek	Methodology for evaluating neural networks inputs for gearfault detection Ricardo Moreno, Publio Pintado, Jose Chicharro, Angel Morales, Antonio Nieto	Modeling and Simulation of a Piezo-Driven Camera Orientation System Thomas Villgrattner, Roland Zander, Heinz Ulbrich



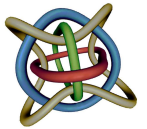
THURSDAY 16th

17:05 18:45	SESSION Th3A: AUTOMATION SYSTEMS Chair: Seiji Hata <i>ROOM A - "La Consula"</i>	SESSION Th3B: MICRO-ACTUATORS Chair: Johannes Zentner <i>ROOM B - "La Caleta"</i>	SESSION Th3C: BIOINSPIRED PERCEPTION & SENSORS Chair: Satoru Takenawa <i>ROOM C - "El Limonar"</i>
17:05	Toolpath Postprocessing For Three Axes Milling In Redundant Robotic Workcells By Means Of Fuzzy Integration In A Cam Platform Javier Andres, Luis Gracia, Josep Tornero, Hector Marti	Comparison of Position Control Algorithms of Embedded Shape Memory Alloy Actuators Jari Ahola, Tomi Makkonen, Kalervo Nevala, Pekka Isto	Adaptive Method for Skin Detection in Coloured Images Frederico Grilo, Joao Figueiredo, Pascoa Dias, Tito Amaral
17:25	Stone cutting automation technology based on features Julio Garrido-Campos, Ricardo Marín-Marín, José-Ignacio Armesto- Quirga, Juan Sáez-López	Synergetic Design Approach Referring to Integrated Drive Systems Johannes Zentner	Interface for Tactile Sensors based on direct connection to a FPGA O. Oballe-Peinado, J. Castellanos-Ramos, J.A. Hidalgo, F. Vidal-Verdú, H. Macicior, E. Ochoteco
17:45	Greenhouse automation with programmable controller and decentralized periphery via field bus Isaias Gonzalez, Antonio Jose Calderon	Transportation of a Thin Sheet Metal Disk using Magnetic Levitation and Tilt Control Ewoud van West, Akio Yamamoto, Toshiro Higuchi	Development of Fingertip Tactile Sensing Chips for Humanoid Robots Ravinder S. Dahiya, Giorgio Metta, Maurizio Valle
18:05	Sliding Mode Observer for Internal Combustion Engine Misfire Detection: Experimental Results. José M. Molinar-Monterrubio, Rafael Castro-Linares	Optimized design of a four discrete positions electromagnetic actuator Laurent Petit, Christine Prelle, Emmanuel Doré, Frédéric Lamarque, Maxence Bigerelle	Impedance Control of Mobile Robot with Shell-shaped Force Sensor Toshiaki Tsuji
18:25	Automatic Image Processing Filter Generation for Visual Defects Classification System Seiji Hata, Junichiro Hayashi	A Method for Auto-Adjustment of a New Piezoelectric Drive Roland Zeichfüßl, Bernhard Gottlieb, Carsten Wallenhauer Sven Herzig, Andreas Kappel, Tim C. Lüth	A soft three-axis tactile sensor based on electromagnetic induction Satoru Takenawa



FRIDAY 17th

PLENARY ROOM			
09:00 10:00	Invited Speaker: Dr. Serge Boverie Talk : " Advanced Driver Assistance Systems (ADAS) – An Overview" Innovation Center, Continental Automotive France SAS		
10:30 12:30	SESSION Fr1A: AUTOMOTION MECHATRONICS Chair: Ricardo García-Rosas ROOM A - "La Cónsula"	SESSION Fr1B: ROBOT CONTROL Chair: Kouhei Ohnishi ROOM B - "La Caleta"	SESSION Fr1C: MOBILE MACHINES Chair: Jianwei Zhang Co-Chair: Juan-Antonio Fernández-Madrigal ROOM C - "El Limonar"
10:30	Sensorless automotive engine speed measurement by noise analysis José Manuel Chicharro, Ángel Luis Morales, Ricardo Moreno, Antonio Javier Nieto, Publio Pintado	Oblique Coordinate Control for Advanced Motion Control – Applied to Micro-Macro Bilateral Control – Sho Sakaino, Tomoya Sato, Kouhei Ohnishi	Design, Construction, and Testing of A New Class of Mobile Robots for Cave Exploration Ivan Siles, Ian D. Walker
10:50	Decoupled decentral control of electromagnetic actuators for car vibration excitation Ulrich Koch, Daniel Wiedemann, Heinz Ulbrich	Influence of the Manipulator Dynamic Properties on the Design of a Force-Position Controller Paolo Righettini, Steven Chatterton	Development of an actively adaptable in-pipe robot Jungwan Park, Taehyun Kim, Hyunseok Yang
11:10	State-space modelling and decoupling control of electromagnetic actuators for car vibration excitation Ulrich Koch, Daniel Wiedemann, Niclas Sundqvist, Heinz Ulbrich	High Performance Robot Motion Control Based on Zero Phase Error Notch Filter and D-PD Control Satoru Kumagai, Kiyoshi Ohishi, Toshimasa Miyazaki	Robotic Crawler for Inspecting Generators with Very Narrow Air Gaps Wolfgang Fischer, Gilles Caprari, Roland Siegwart, Roland Moser
11:30	Concept for an Active Cabin Suspension Christian Graf, Juergen Maas, Hans-Christian Pflug	Fast Online Impedance Estimation for Robot Control Zheng Wang, Angelika Peer, Martin Buss	A New Application of Modular Robots on Analysis of Caterpillar-like Locomotion Houxiang Zhang, Juan Gonzalez-Gomez, Jianwei Zhang
11:50	An Automatic Procedure to Code the Inspection Guideline for Vehicle Headlamp Lenses Silvia Satorres Martínez, Juan Gómez Ortega, Javier Gámez García, Alejandro Sánchez García	Throwing motion generation using nonlinear optimization on a 6-degree-of-freedom robot manipulator Ferenc Lombai, Gábor Szederkényi	A Novel Passive Adhesion Principle and Application for an Inspired Climbing Caterpillar Robot Houxiang Zhang, Wei Wang, Jianwei Zhang
12:10			A dead reckoning sensor system and a tracking algorithm for mobile robots Dongjun Hyun, Hyun Seok Yang, Gyung Hwan Yuk



FRIDAY 17th

13:45 15:45		SESSION Fr2A: MACHINE VISION AND PERCEPTION Chair: Javier González	SESSION Fr2B: CONTROL OF FLEXIBLE MECHANISMS	SESSION Fr2C: MOTION CONTROL Chair: Josep M. Fuertes
		<i>ROOM A - "La Cónsula"</i>	<i>ROOM B - "La Caleta"</i>	<i>ROOM C - "El Limonar"</i>
13:45		Robust Vision System with Automatic Filter Calibration Jesús Martínez-Gómez, Jose A. Gamez, Ismael García-Varea	Crane Control Using Machine Vision and Wand Following Kelvin Chen Chih Peng, William Singhose	An algorithm to design prescribed length codes for single tracked shaft encoders Borja Balle, Enric Ventura, Josep M. Fuertes
14:05		3D Geometry reconstruction using Large Infrared Proximity Array for Robotic Applications ÁKos Tar, Miklós Koller, György Cserey	Linear and Non-Linear Behavior of Highly Flexible Single-Link Arms. Theory and Experiments Ismael Payo, Vicente Feliu	Some Fundamental Limitations in the Control of Two- Mass Systems Gianni Ferretti, Gianantonio Magnani, Paolo Rocco
14:25		Visual Servoing Path Tracking for Safe Human-Robot Interaction Gabriel J. García, Juan A. Corrales, Jorge Pomares, Francisco A. Candelas, Fernando Torres	Vibration Reduction in a Flexible Link Mechanism through the Synthesis of an MPC Controller Alessandro Gasparetto, Paolo Boscariol, Vanni Zanotto	Mechatronic analysis of the velocity control of a washing machine Luca Bascetta, Gianantonio Magnani, Paolo Rocco
14:45		Simultaneous Object Recognition and Position Tracking for Robotic Applications Dimitris Aristos, Spyros Tzafestas	A hybrid control strategy for vibration damping and precise tip-positioning of a single-link flexible manipulator Emiliano Pereira, Sumeet S Aphale, Vicente Feliu, S O Reza Moheimani	Robust GPI Controller for trajectory tracking for induction Motors John Cortés-Romero, Alberto Luviano-Juárez, Hebert Sira- Ramírez
15:05		Image stabilization, determining the structure of the camera movement by means of an additional line-scan. Carlos A. Luna, Manuel Mazo, José L. Lázaro, Angel Cano, Pedro Fernández	An approach to flexible link robots gearbox design Victor Jaramillo, Vicente Feliu, Fernando Castillo	A Lyapunov Method in Microstepping Control for Permanent Magnet Stepper Motors Wonhee Kim, Induk Choi, Kee-Sun Bae, Chung Choo Chung
15:25		Cooperative localization and tracking with a camera-based WSN J.M. Sánchez-Matamoros, J.R. Martínez-de-Dios, A. Ollero	Least Squares State Estimator based Sliding Mode Control of a Very Lightweight Single-Link Flexible Robot Arm Gabriela Lorena Mamani, Jose Manuel Andrade-Da Silva, Vicente Feliu-Batlle	Pulsating Torque Modeling and Compensation for High Precision Positioning Control Esam Abd-Elhameed, Makoto Iwasaki
16:00 16:30	PLENARY ROOM CLOSING CEREMONY			



POSTERS

To Avoid Unmoving and Moving Obstacles Using MKBC Algorithm

Ranka R. Kulic, Zoran Vukic

Model Predictive Control OF pH IN Pharmaceutical Process

Viswanathan Balaji, Natrajan Vasudevan

MEMS and J2ME based Acceleration Real-time Measurement and Monitoring System for Fuel Cell City Bus

Jianfeng Hua, Liangfei Xu, Xinfan Lin, Mingyin Hu, Jianqiu Li, Minggao Ouyang

Designing of Heavy Duty Handling Robot


Chang-Min Ko, Gwang-Jo Chung, Doo-Hyung Kim

Experiment and simulation on control of a new type of electro hydraulic servosystem

Shuguo Wei, Shengdun Zhao, Jianming Zheng



SOCIAL PROGRAM

Tuesday 14th	17:00 19:30	<u>CITY MALAGA TOUR</u> This walking guided tour will take us to the major monuments in Málaga, such as the 16th century Cathedral, the 11th century Muslim palace-fortress (Alcazaba), and the birthplace of Pablo Picasso, home of the Picasso Foundation. The tour lasts 2 and a half hours.	
	20:30	<u>WELCOME COCKTAIL</u>	
Thursday 16th	20:00	<u>BANQUET</u> Hacienda del Álamo The conference banquet will be held at Hacienda del Álamo, an Andalusian estate from the XVIII century, situated in the surroundings of the Montes de Málaga natural park.	