

# **2014 22nd Mediterranean Conference of Control and Automation**

**(MED 2014)**

**Palermo, Italy  
16-19 June 2014**

**Pages 1-791**



**IEEE Catalog Number: CFP14MED-POD  
ISBN: 978-1-4799-5902-0**

# TABLE OF CONTENTS

## VOLUME 1

<b>PLENARY TALK: PERFORMANCE BOUNDS AND SUBOPTIMAL POLICIES FOR MULTI-PERIOD INVESTMENT</b> .....	1
<i>Boyd, Stephen P.</i>	
<b>A MOBILITY AID SYSTEM FOR VISUALLY IMPAIRED PEOPLE ON THE HISTORICAL WALLS OF LUCCA CITY, TUSCANY, ITALY</b> .....	2
<i>Roncella, L.Fanucci.R. ; Iacopetti, F. ; Donati, M. ; Giannelli, N.</i>	
<b>ARIANNA: A SMARTPHONE-BASED NAVIGATION SYSTEM WITH HUMAN IN THE LOOP</b> .....	8
<i>Croce, Daniele ; Gallo, Pierluigi ; Garlisi, Domenico ; Giarre, Laura ; Mangione, Stefano ; Tinnirello, Ilenia</i>	
<b>TACTILE EXPLORATION OF PAINTINGS: AN INTERACTIVE PROCEDURE FOR THE RECONSTRUCTION OF 2.5D MODELS</b> .....	14
<i>Governi, Lapo ; Furferi, Rocco ; Volpe, Yary ; Puggelli, Luca ; Vanni, Niccolo</i>	
<b>A REMOTE GUIDANCE SYSTEM FOR BLIND AND VISUALLY IMPAIRED PEOPLE VIA VIBROTACTILE HAPTIC FEEDBACK</b> .....	20
<i>Scheggi, S. ; Talarico, A. ; Prattichizzo, D.</i>	
<b>SYSTEM ARCHITECTURE AND HIERARCHICAL CONTROL FOR IN-WHEEL ELECTRIC MOTOR VEHICLES</b> .....	24
<i>Bakos, Adam ; Gaspar, Peter ; Soumelidis, Alexandros</i>	
<b>CARBON CANISTER AIR FUEL RATIO ESTIMATION ON HIGH PERFORMANCE ENGINE</b> .....	30
<i>Corvino, Christian ; Oliva, Alfonso ; Zanasi, Roberto</i>	
<b>A NOVEL COOPERATIVE ADAPTIVE CRUISE CONTROL APPROACH: THEORY AND HARDWARE IN THE LOOP EXPERIMENTAL VALIDATION</b> .....	37
<i>Montanaro, Umberto ; Tufo, Manuela ; Fiengo, Giovanni ; Santini, Stefania</i>	
<b>H<math>\infty</math> ROBUST OBSERVER-BASED CONTROL FOR VEHICLE ROLLOVER</b> .....	43
<i>Oudghiri, M. ; Rabhi, A. ; Elhajjaji, A.</i>	
<b>CABIN HEAT THERMAL MANAGEMENT IN HYBRID VEHICLES USING MODEL PREDICTIVE CONTROL</b> .....	49
<i>Esen, Hasan ; Tashiro, Tsutomu ; Bernardini, Daniele ; Bemporad, Alberto</i>	
<b>DESIGN OF A VARIABLE-GEOMETRY SUSPENSION SYSTEM TO ENHANCE ROAD STABILITY</b> .....	55
<i>Nemeth, Balazs ; Varga, Balezs ; Gaspar, Peter</i>	
<b>DUAL ADAPTIVE EXTREMUM CONTROL OF A HAMMERSTEIN SYSTEM</b> .....	61
<i>Fabri, Simon G. ; Wittenmark, Bjorn ; Bugeja, Marvin K.</i>	
<b>A GENERAL ADAPTIVE FEEDFORWARD COMPENSATION ALGORITHM FOR ACTIVE VIBRATION CONTROL WITH MECHANICAL COUPLING AND LOCAL FEEDBACK</b> .....	67
<i>Landau, Ioan Dore ; Airimitoae, Tudor-Bogdan</i>	
<b>IMPROVEMENT OF DTC OF INDUCTION MOTORS BY USING A THREE-LEVEL INVERTER AND FUZZY SPEED CONTROLLER</b> .....	73
<i>Aissa, Oualid ; Moulahoum, Samir ; Kabache, Nadir ; Houassine, Hamza</i>	
<b>FUZZY LOGIC BASED DIRECT POWER CONTROL FOR PWM THREE-PHASE RECTIFIER</b> .....	79
<i>Aissa, Oualid ; Moulahoum, Samir ; Kabache, Nadir ; Houassine, Hamza</i>	
<b>A REVIEW OF STABLE EXACT MODEL MATCHING BY STATE FEEDBACK</b> .....	85
<i>Kucera, Vladimir ; Toledo, Eduardo Castaneda</i>	
<b>HYBRID OUTPUT CONTROLLER FOR PARAMETRICALLY UNCERTAIN SYSTEMS WITH MATCHING HARMONIC DISTURBANCES REJECTION</b> .....	91
<i>Bobtsov, Alexey ; Kolyubin, Sergey ; Pyrkin, Anton ; Gromov, Vladislav</i>	
<b>CONDITION MONITORING OF BIDIRECTIONAL DC-DC CONVERTER FOR HYBRID ELECTRIC VEHICLES</b> .....	97
<i>Al-Sheikh, H. ; Bennouna, O. ; Hoblos, G. ; Moubayed, N.</i>	
<b>APPROXIMATION METHODS FOR OPTIMAL ACTIVE FAULT DETECTION</b> .....	103
<i>Simandl, Miroslav ; Skach, Jan ; Puncoschar, Ivo</i>	
<b>CLUSTERING TECHNIQUES APPLIED TO SENSOR PLACEMENT FOR LEAK DETECTION AND LOCATION IN WATER DISTRIBUTION NETWORKS</b> .....	109
<i>Sarrate, Ramon ; Blesa, Joaquim ; Nejjari, Fatiha</i>	
<b>FAULT DIAGNOSIS AND RECOVERY IN MEMS INERTIAL NAVIGATION SYSTEM USING INFORMATION FILTERS AND GAUSSIAN PROCESSES</b> .....	115
<i>Vitanov, Ivan ; Aouf, Nabil</i>	

<b>DECENTRALIZED STRUCTURE FOR FAULT DIAGNOSIS OF A CLASS OF HYBRID DYNAMIC SYSTEMS</b> .....	121
<i>Louajri, H. ; Sayed-Mouchaweh, M.</i>	
<b>FUNCTIONAL OBSERVERS DESIGN WITH UNKNOWN INPUTS FOR DELAYED SINGULAR SYSTEMS: THE DISCRETE-TIME CASE</b> .....	127
<i>Khadhraoui, M. ; Ezzine, M. ; Messaoud, H. ; Darouach, M.</i>	
<b>ERROR ANALYSIS FOR THE DISCRETIZATION OF SINGULAR SYSTEMS</b> .....	133
<i>Karampetakis, Nicholas P. ; Gregoriadou, Anastasia</i>	
<b>MODELING OF DISCRETE TIME AUTO-REGRESSIVE SYSTEMS WITH GIVEN FORWARD AND BACKWARD BEHAVIOR</b> .....	139
<i>Moysis, Lazaros ; Karampetakis, Nicholas P.</i>	
<b>SIGN STABILIZABILITY</b> .....	145
<i>Hartung, Christoph ; Svaricek, Ferdinand</i>	
<b>A LEAST-SQUARES BASED PSEUDOINVERSION APPROACH FOR NON HYPERBOLIC LINEAR SYSTEMS</b> .....	151
<i>Jetto, Leopoldo ; Orsini, Valentina ; Romagnoli, Raffaele</i>	
<b>A QUASI-NEWTON OPTIMAL METHOD FOR THE GLOBAL LINEARISATION OF THE OUTPUT FEEDBACK POLE ASSIGNMENT</b> .....	157
<i>Leventides, John ; Meintanis, Ioannis ; Karcianas, Nicos</i>	
<b>THE ELECTROMAGNETIC TECHNOLOGY FOR SAFE MOBILITY OF VISUALLY IMPAIRED PEOPLE</b> .....	164
<i>Cerri, G. ; De Leo, A. ; Di Mattia, V. ; Manfredi, G. ; Primiani, V.Mariani ; Petrini, V. ; Pieralisi, M. ; Russo, P. ; Scalise, L.</i>	
<b>GENERATION OF ACCESSIBLE GRAPHICS</b> .....	169
<i>Goncu, Cagatay ; Marinai, Simone ; Marriott, Kim</i>	
<b>TACTILE, THREE-DIMENSIONAL, MULTIMEDIA TEACHING SYSTEM FOR THE BLIND, THE VISION-IMPAIRED, AND SIGHTED LEARNERS: TOUCH, LISTEN, LEARN</b> .....	175
<i>Bellotti, Claudio</i>	
<b>VISION THROUGH OTHER SENSES: PRACTICAL USE OF SENSORY SUBSTITUTION DEVICES AS ASSISTIVE TECHNOLOGY FOR VISUAL REHABILITATION</b> .....	182
<i>Maidenbaum, Shachar ; Arbel, Roni ; Buchs, Galit ; Shapira, Shani ; Amedi, Amir</i>	
<b>INFLUENCE OF LINE BASED AND SPACE VECTOR HYSTERESIS CONTROL PROCESSES ON PMSM IN ELECTRIC VEHICLES</b> .....	188
<i>Dost, Philip ; Sourkounis, Constantinos</i>	
<b>DESIGN AND ANALYSIS OF A MAGNETIC OFF-AXIS ROTARY POSITION SENSING DEVICE</b> .....	194
<i>Bakos, Adam ; Gozse, Istvan ; Soumelidis, Alexandros</i>	
<b>DESIGN OF LOOK-AHEAD CONTROL FOR ROAD VEHICLES USING TRAFFIC INFORMATION</b> .....	201
<i>Gaspar, Peter ; Nemeth, Balazs</i>	
<b>A DYNAMICAL MODEL OF ELECTRO-INJECTORS FOR COMMON RAIL DIESEL ENGINES</b> .....	207
<i>Saponaro, Fabrizio ; Lino, Paolo ; Maione, Guido</i>	
<b>ROBUST CONTROLLER DESIGNS OF SWITCHED RELUCTANCE MOTOR FOR ELECTRICAL VEHICLE</b> .....	212
<i>Ouddah, Nadir ; Boukhnifer, Moussa ; Chaibet, Ahmed ; Monmasson, Eric</i>	
<b>ROBUST LPV CURRENT CONTROL OF SWITCHED RELUCTANCE MOTORS</b> .....	218
<i>Ouddah, N. ; Boukhnifer, M. ; Chaibet, A. ; Monmasson, E.</i>	
<b>DETERMINING OF CRITICAL AND DREADED STATES ACHIEVED DURING METRO LINE SUPERVISION</b> .....	224
<i>Paquereau, Delphine ; Pietrac, Laurent ; Niel, Eric ; Bouresche, Laurent</i>	
<b>PM DIAGRAM OF THE TRANSFER FUNCTION AND ITS USE IN THE DESIGN OF CONTROLLERS</b> .....	231
<i>Garrido, Santiago ; Moreno, Luis</i>	
<b>EXPERIMENTAL GMC FAULT TOLERANT CONTROL USING FIXED ORDER H<sup>2</sup> APPROACH FOR EV INDUCTION MOTOR DRIVE</b> .....	237
<i>Raisemche, A. ; Boukhnifer, M. ; Larouci, C. ; Diallo, D.</i>	
<b>AN ALGORITHM BASED ON MODEL PREDICTIVE CONTROL FOR TRAJECTORIES TRACKING WITH UNTIMED PNS</b> .....	243
<i>Lefebvre, Dimitri ; Leclercq, Edouard</i>	
<b>A MODEL MATCHING FRAMEWORK FOR THE SYNTHESIS OF SERIES ELASTIC ACTUATOR IMPEDANCE CONTROL</b> .....	249
<i>Mehling, Joshua S. ; O'Malley, Marcia K.</i>	

<b>DIRECT ADAPTIVE REGULATION IN THE VICINITY OF LOW DAMPED COMPLEX ZEROS — APPLICATION TO ACTIVE VIBRATION CONTROL .....</b>	<b>255</b>
<i>Silva, Abraham Castellanos ; Landau, Ioan Dore ; Ioannou, Petros</i>	
<b>SENSOR FAULT DETECTION AND DIAGNOSIS USING ZONOTOPIC SET-MEMBERSHIP ESTIMATION .....</b>	<b>261</b>
<i>Ben Chabane, S. ; Maniu, C.Stoica ; Alamo, T. ; Camacho, E.F. ; Dumur, D.</i>	
<b>ON THE INTEGRATION OF ACTUATOR FAULT DETECTION AND ISOLATION IN MODEL BASED FAULT DIAGNOSIS .....</b>	<b>267</b>
<i>Sallem, Fatma ; Dahhou, Boutaib ; Li, Zetao ; Kamoun, Anas</i>	
<b>DETECTION OF INTER-TURN SHORT CIRCUITS IN STATOR WINDINGS OF IM BY EXTENDED KALMAN FILTERS .....</b>	<b>275</b>
<i>Merraoui, K.El ; Ferdjouni, A.</i>	
<b>ROBUST <math>H_{\infty}</math> FAULT DETECTION FOR FUZZY BILINEAR SYSTEMS VIA UNKNOWN INPUT OBSERVER .....</b>	<b>281</b>
<i>Saoudi, Dhikra ; Chadli, Mohammed ; Benhadj Braeik, Naceur</i>	
<b>SIMILAR SAMPLE SELECTION APPROACH BASED ON SEQUENCE ALIGNMENT; APPLICATION TO SEMICONDUCTOR INDUSTRY .....</b>	<b>287</b>
<i>Chakaroun, Mohamad ; Djeziri, Mohand ; Ouladsine, Mustapha ; Pinaton, Jacques</i>	
<b>COMBINING CONTAMINANT EVENT DIAGNOSIS WITH DATA VALIDATION/RECONSTRUCTION: APPLICATION TO SMART BUILDINGS .....</b>	<b>293</b>
<i>Cuguero, M.A. ; Christodoulou, M. ; Quevedo, J. ; Puig, V. ; Garcia, D. ; Michaelides, M.P.</i>	
<b>EXACT MODEL MATCHING AND DISTURBANCE REJECTION OF LINEAR SINGULAR MULTI-DELAY SYSTEMS VIA MEASUREMENT OUTPUT FEEDBACK .....</b>	<b>299</b>
<i>Koumboulis, Fotis N.</i>	
<b>STUDY ON THE EFFECTS OF TIME-DELAYS ON QUADROTOR-TYPE HELICOPTER DYNAMICS .....</b>	<b>305</b>
<i>Ailon, Amit ; Arogeti, Shai</i>	
<b>CONTROL OF A LONG-STROKE PRECISION SCANNING STAGE .....</b>	<b>311</b>
<i>Shen, Jing-Chung ; Wu, Chia-Hung ; Chen, Bor-Yu ; Jywe, Wen-Yuh</i>	
<b>ON THE PARAMETRIZATION OF LINEARIZATIONS OF POLYNOMIAL MATRICES .....</b>	<b>316</b>
<i>Antoniou, E.N. ; Vologiamidis, S.</i>	
<b>USING THE EQUITABLE PARTITION TECHNIQUE TO DETERMINE THE NON- CONTROLLABILITY OF DYNAMIC NETWORKS .....</b>	<b>322</b>
<i>Abohtyra, Rammah ; Vincent, Tyrone L.</i>	
<b>QUASI-SLIDING MODE NETWORKED CONTROLLER FOR LINEAR DISCRETE TIME SYSTEMS SUBJECT TO DISTURBANCE .....</b>	<b>328</b>
<i>Bartoszewicz, Andrzej ; Latosinski, Pawel</i>	
<b>A NOVEL FORKLIFT SOLUTION FOR PROMOTING OCCUPATIONAL RE-INTEGRATION OF DISABLED PEOPLE .....</b>	<b>334</b>
<i>Gasparello, Paolo Simone ; Tanzini, Matteo ; Tripicchio, Paolo ; Avizzano, Carlo Alberto</i>	
<b>ASSESSMENT OF TASK ERGONOMICS WITH AN UPPER LIMB WEARABLE DEVICE .....</b>	<b>340</b>
<i>Peppoloni, Lorenzo ; Filippeschi, Alessandro ; Ruffaldi, Emanuele</i>	
<b>THREE-DIGIT GRASP HAPTIC DEVICE WITH VARIABLE CONTACT STIFFNESS FOR REHABILITATION AND HUMAN GRASPING STUDIES .....</b>	<b>346</b>
<i>Altobelli, A. ; Bianchi, M. ; Serio, A. ; Baud-Bovy, G. ; Gabiccini, M. ; Bicchi, A.</i>	
<b>A NOVEL WEARABLE BIOMETRIC CAPTURE SYSTEM .....</b>	<b>351</b>
<i>Avizzano, Carlo Alberto ; Ruffaldi, Emanuele ; Bergamasco, Massimo</i>	
<b>SINGLE CAMERA BASED MOTION TRACKING FOR MINIMALLY INVASIVE SURGERY .....</b>	<b>356</b>
<i>Hulke, Unmil ; Gupta, Abhishek</i>	
<b>DYNAMIC MODELING OF A PARALLEL MANIPULATOR-BASED MOBILITY ASSISTIVE DEVICE FOR ELDERLY PEOPLE .....</b>	<b>362</b>
<i>Asker, Ahmed ; Assal, Samy M.F. ; El-Bab, Ahmed M.R.Fath</i>	
<b>EMBEDDED MODEL PREDICTIVE CONTROL ON A PLC USING A PRIMAL-DUAL FIRST- ORDER METHOD FOR A SUBSEA SEPARATION PROCESS .....</b>	<b>368</b>
<i>Kufoalor, D.K.M. ; Richter, S. ; Inslan, L. ; Johansen, T.A. ; Morari, M. ; Eikrem, G.O.</i>	
<b>RECEDING HORIZON MULTI-VEHICLE ROUTING FOR EMERGENCY SCENARIOS .....</b>	<b>374</b>
<i>Chini, G. ; Poli, C. ; Oddi, G. ; Pietrabissa, A. ; Grigioni, M.</i>	
<b>MODEL PREDICTIVE CONTROL DESIGN APPROACH FOR AUTONOMOUS BICYCLE KINEMATICS STABILIZATION .....</b>	<b>380</b>
<i>Ai-Buraiki, Omar ; Thabit, Mohammed Bin</i>	
<b>TAILORED QP ALGORITHM FOR PREDICTIVE CONTROL WITH DYNAMICS PENALTY .....</b>	<b>384</b>
<i>Otta, Pavel ; Santin, Ondrej ; Havlena, Vladimir</i>	

<b>A DIRECT QUANTIFIER ELIMINATION APPROACH FOR OFFLINE MULTI-RATE PREDICTIVE CONTROL WITH CONSTRAINTS .....</b>	<b>390</b>
<i>Tange, Y. ; Kiryu, S. ; Matsui, T.</i>	
<b>INTERPOLATION-BASED ROBUST CONSTRAINED MODEL PREDICTIVE OUTPUT FEEDBACK CONTROL .....</b>	<b>396</b>
<i>Kheawhom, Soorathep ; Bumroongsri, Pornchai</i>	
<b>NEW RESULTS IN IMPULSE-FREE CONTINUOUS-TIME CHEAP LQ OPTIMAL CONTROL .....</b>	<b>402</b>
<i>Ferrante, Augusto ; Ntogramatzidis, Lorenzo</i>	
<b>A NEW POSITIVE LINEAR FUNCTIONAL FILTERS DESIGN FOR POSITIVE LINEAR SYSTEMS .....</b>	<b>407</b>
<i>Ezzine, M. ; Darouach, M. ; Ali, H.Souley ; Messaoud, H.</i>	
<b>LINEAR-QUADRATIC OPTIMIZATION IN DISCRETE-TIME CONTROL OF DYNAMIC PLANTS OPERATED WITH DELAY OVER COMMUNICATION NETWORK.....</b>	<b>412</b>
<i>Ignaciuk, P. ; Morawski, M.</i>	
<b>MODEL PREDICTIVE CONTROLLER FOR PERTURBED NONLINEAR SYSTEMS WITH BOUNDED INPUTS.....</b>	<b>418</b>
<i>Sredojev, Sonja ; Eaton, Ray</i>	
<b>SCALABLE OPTIMAL PLANNING OF SENSOR NETWORKS FOR HOSPITAL ASSETS TRACKING .....</b>	<b>422</b>
<i>Poli, C. ; Pietrabissa, A. ; Cerqua, A. ; Ferriero, D.G. ; Grigioni, M.</i>	
<b>ROBUST ANOMALY DETECTION IN DYNAMIC NETWORKS.....</b>	<b>428</b>
<i>Wang, Jing ; Paschalidis, Ioannis Ch.</i>	
<b>DIAGNOSABILITY IN STOCHASTIC PETRI NET BASED DES MODELS .....</b>	<b>434</b>
<i>Biswal, Pradeep Kumar ; Biswas, Santosh</i>	
<b>OUTPUT-FEEDBACK FAULT TOLERANT CONTROL FOR LINEAR TIME DELAY SYSTEMS: DESCRIPTOR APPROACH.....</b>	<b>440</b>
<i>Abdelkrim, Nouceyba ; Bouattour, Maha ; Hajjaji, Ahmed El ; Chaabane, Mohamed</i>	
<b>ACTIVE FAULT TOLERANT CONTROL OF A WIND TURBINE VIA T-S FUZZY MODEL PREDICTIVE CONTROL .....</b>	<b>446</b>
<i>Feng, Xiaoran ; Patton, Ron</i>	
<b>FAULT DETECTION OF EVENT BASED CONTROL SYSTEM .....</b>	<b>452</b>
<i>Sid, M.A ; Aberkane, S. ; Maquin, D. ; Sauter, D.</i>	
<b>FRACTIONAL ORDER EXTREMUM SEEKING CONTROL .....</b>	<b>459</b>
<i>Necaibia, Amar ; Ladaci, Samir ; Charef, Abdelfatah ; Loiseau, Jean Jacques</i>	
<b>DESIGN OF FUZZY TERMINAL ITERATIVE LEARNING CONTROL BASED ON INTERNAL MODEL CONTROL .....</b>	<b>463</b>
<i>Beauchemin-Turcotte, Mathieu ; Gauthier, Guy ; Sabourin, Robert</i>	
<b>NONLINEAR MODEL PREDICTIVE CONTROL FOR REGULATION OF MICROALGAE CULTURE IN A CONTINUOUS PHOTOBIOREACTOR .....</b>	<b>469</b>
<i>Benattia, S. ; Tebbani, S. ; Dumur, D.</i>	
<b>PREDICTIVE PID CONTROLLER FOR INTEGRATING PROCESSES WITH LONG DEAD TIMES .....</b>	<b>475</b>
<i>Airikka, Pasi</i>	
<b>RELIABLE CONTROL OF A TWIN ROTOR MIMO SYSTEM USING ACTUATOR HEALTH MONITORING.....</b>	<b>481</b>
<i>Salazar, Jean C. ; Nejjari, Fatih ; Sarrate, Ramon</i>	
<b>EXPERIMENTAL RESULTS ON MOTION REGULATION IN HIGH SPEED MARINE VESSELS .....</b>	<b>487</b>
<i>Hassani, Vahid ; Alterskjar, Sverre Anders ; Fathi, Dariusz ; Selvik, Orjan ; Sather, Lars Ove</i>	
<b>MOTION ESTIMATION OF AN AUTONOMOUS SURFACE CRAFT USING AN UNSCENTED KALMAN FILTER .....</b>	<b>493</b>
<i>Wirtensohn, Stefan ; Schuster, Michael ; Oswald, Markus ; Reuter, Johannes</i>	
<b>PSO ALGORITHM BASED THERMAL CONTACT RESISTANCE ESTIMATION FOR VARIABLE FORCE HAND/OBJECT INTERACTION .....</b>	<b>499</b>
<i>Maamir, Fouad ; Guiatni, Mohamed ; Morsly, Yacine ; Kheddar, Abderrahmane</i>	
<b>THERMAL MODELING, ANALYSIS AND CONTROL USING AN ELECTRICAL ANALOGY .....</b>	<b>505</b>
<i>Ramirez-Laboreo, Edgar ; Sagues, Carlos ; Lorente, Sergio</i>	
<b>INDOOR POSITIONING SYSTEM USING WALKING PATTERN CLASSIFICATION .....</b>	<b>511</b>
<i>De Cillis, Francesca ; De Simio, Francesca ; Faramondi, Luca ; Inderst, Federica ; Pascucci, Federica ; Setola, Roberto</i>	
<b>SIMULATION AND BISIMULATION OVER MULTIPLE TIME SCALES IN A BEHAVIORAL SETTING .....</b>	<b>517</b>
<i>Schmuck, Anne-Kathrin ; Raisch, Jorg</i>	

<b>OUTPUT-FEEDBACK MODEL MATCHING WITH STRONG STABILITY IN CONTINUOUS-TIME SWITCHED LINEAR SYSTEMS</b> .....	525
<i>Zattoni, Elena ; Perdon, Anna Maria ; Conte, Giuseppe</i>	
<b>ON SYNCHRONIZING SAMPLING AND QUANTIZATION FOR STABILIZING THE DOUBLE INTEGRATOR UNDER BINARY SENSING</b> .....	531
<i>Zhang, Xinlei ; Tarraf, Danielle C.</i>	
<b>A DISCRETE MODEL-BASED EVENT PID CONTROLLER SOLUTION AND STABILITY EVALUATION</b> .....	539
<i>Jezeek, Ondrej</i>	
<b>A LINEAR QUADRATIC APPROACH TO LINEAR TIME INVARIANT STABILIZATION FOR A CLASS OF HYBRID SYSTEMS</b> .....	545
<i>Carnevale, Daniele ; Galeani, Sergio ; Sassano, Mario</i>	
<b>A NOTE ON FEEDBACK STABILIZABILITY OF SWITCHING SYSTEMS UNDER ARBITRARY SWITCHING</b> .....	551
<i>Conte, G. ; Perdon, A.M.</i>	
<b>OUTPUT FEEDBACK STABILIZATION OF DISCRETE TIME NETWORKED SYSTEMS WITH EXTERNAL DISTURBANCE</b> .....	557
<i>Garcia, Eloy ; Antsaklis, Panos J.</i>	
<b>OPTIMAL CONTROL OF A BIOLOGICAL SEQUENCING BATCH REACTOR: AN APPROACH BY SIMULATIONS</b> .....	563
<i>Daoud, Y. ; Harmand, J. ; Abdellatif, N.</i>	
<b>DESIGN OF AN OBSERVER BASED OPTIMAL CONTROL VIA BLOCK PULSE FUNCTIONS</b> .....	569
<i>Aousgi, Ines Sansa ; Elloumi, Salwa ; Benhadj Braiek, Naceur</i>	
<b>A NEWTON-LIKE ALGORITHM FOR L2-GAIN OPTIMAL CONTROL OF AN ELECTRO-HYDRAULIC SERVO-SYSTEM</b> .....	574
<i>Milic, Vladimir ; Kasac, Josip ; Situm, Zeljko</i>	
<b>OPTIMAL CONTROL ALLOCATION FOR AN ASC WITH TWO AZIMUTH-LIKE THRUSTERS WITH LIMITED PANNING RANGE</b> .....	580
<i>Oswald, Markus ; Blaich, Michael ; Wirtensohn, Stefan ; Reuter, Johannes</i>	
<b>SYMBOLIC REGRESSION METHODS FOR CONTROL SYSTEM SYNTHESIS</b> .....	587
<i>Diveev, Askhat ; Kazaryan, David ; Sofronova, Elena</i>	
<b>A FUZZY REINFORCEMENT LEARNING ALGORITHM WITH A PREDICTION MECHANISM</b> .....	593
<i>Awgheda, Mostafa D. ; Schwartz, Howard M.</i>	
<b>A SUPERVISED LEARNING METHOD FOR TEMPO ESTIMATION OF MUSICAL AUDIO</b> .....	599
<i>Wu, Fu-Hai Frank ; Jang, Jyh-Shing Roger</i>	
<b>PLENARY TALK: RESILIENCE AND RISK IN NETWORKED SYSTEMS</b> .....	605
<i>Dahleh, Munther A.</i>	
<b>FAULT-TOLERANT CONSENSUS IN OSCILLATOR NETWORKS WITH ASSIGNMENT OF AGREEMENT LAWS AND DYNAMICS</b> .....	606
<i>Locatelli, Arturo ; Schiavoni, Nicola</i>	
<b>DISTANCE-CONSTRAINED DATA CLUSTERING BY COMBINED K-MEANS ALGORITHMS AND OPINION DYNAMICS FILTERS</b> .....	612
<i>Oliva, Gabriele ; Manna, Damiano La ; Fagiolini, Adriano ; Setola, Roberto</i>	
<b>CONSENSUS-BASED SYNCHRONIZING CONTROL FOR NETWORKS OF TIMED EVENT GRAPHS</b> .....	620
<i>Nejad, Behrang Monajemi ; Raisch, Jorg</i>	
<b>DEFERRABLE LOADS IN AN ENERGY MARKET: COORDINATION UNDER CONGESTION CONSTRAINTS</b> .....	628
<i>Materassi, Donatello ; Bolognani, Saverio ; Roozbehani, Mardavij ; Dahleh, Munther A.</i>	
<b>A GAME THEORETIC AND CONTROL THEORETIC APPROACH TO INCENTIVE-BASED DEMAND MANAGEMENT IN SMART GRIDS</b> .....	634
<i>Tatarenko, Tatiana ; Garcia-Moreno, Luis</i>	
<b>EXISTENCE OF STRONG LAGRANGE DUALS TO CERTAIN OPTIMAL POWER FLOWS</b> .....	640
<i>Ma, Xu ; Elia, Nicola</i>	
<b>A NAVIGATION AND CONTROL ALGORITHM FOR THE POSITION TRACKING OF UNDERWATER VEHICLES</b> .....	646
<i>Alonge, F. ; D'Ippolito, F.</i>	
<b>INNOVATIVE STRATEGY AND PROCESS FOR UNDERWATER DATA GATHERING AND RESULTS ELABORATION</b> .....	652
<i>Scaradozzi, David ; Sorbi, Laura ; Zoppini, Francesco ; Conte, Giuseppe ; Ramirez, Paula Andrea Zapata ; Cerrano, Carlo</i>	

<b>SMART EVENT TRIGGERED OCEAN MONITORING PLATFORM: INITIAL DESIGN AND RESULTS</b> .....	658
<i>Kaknjo, Admir ; Omerdic, Edin ; Toal, Daniel</i>	
<b>DEVELOPMENT AND INTEGRATION OF A NOVEL IP66 FORCE FEEDBACK JOYSTICK FOR OFFSHORE OPERATIONS</b> .....	664
<i>Scaradozzi, David ; Sorbi, Laura ; Zingaretti, Silvia ; Biagiola, Matteo ; Omerdic, Edin</i>	
<b>NEW MODELING AND CONTROL CHALLENGES INSPIRED BY SWITCHED ELECTRONIC SYSTEMS: INTRIGUING APPLICATIONS FOR AVERAGING, MODEL PREDICTIVE CONTROL AND COMPLEMENTARITY</b> .....	670
<i>Iannelli, Luigi ; Mariethoz, Sebastien ; Vasca, Francesco</i>	
<b>OPTIMAL ROUTING OF ENERGY-AWARE VEHICLES IN NETWORKS WITH INHOMOGENEOUS CHARGING NODES</b> .....	674
<i>Pourazarm, S. ; Cassandras, C.G.</i>	
<b>TIME-VARYING LAG SMOOTHING WITH INTERMITTENT UNKNOWN INPUTS: A DEFENSE STRATEGY AGAINST DECEPTION ATTACKS</b> .....	680
<i>Keller, J.Y. ; Sauter, D.</i>	
<b>STABILIZING TRANSMISSION INTERVALS AND DELAYS FOR LINEAR TIME-VARYING CONTROL SYSTEMS: THE LARGE DELAY CASE</b> .....	686
<i>Tolic, Domagoj ; Hirche, Sandra</i>	
<b>SWITCHED SLIDING MODE CONTROL STRATEGY FOR NETWORKED SYSTEMS</b> .....	692
<i>Ferrara, Antonella ; Incremona, Gian Paolo ; Stocchetti, Veronica</i>	
<b>OPTIMIZATION-BASED PROCEDURE TO SUPPORT SENSOR NETWORK CO-DESIGN: AN APPLICATION TO DYNAMIC CONSENSUS PROBLEM</b> .....	698
<i>Manfredi, Sabato ; Suardi, Andrea</i>	
<b>BATTERY MANAGEMENT SYSTEM REALISATION FOR ELECTRIC VEHICLES</b> .....	704
<i>Dost, Philip ; Sourkounis, Constantinos</i>	
<b>CONTROL OF PHOTOVOLTAIC GRID CONNECTED USING DIFFERENT CONTROL STRATEGIES</b> .....	710
<i>Bakkar, Mostafa ; Abd El-Geliel, Mostafa ; Zied, Mahmoud Abo</i>	
<b>OPTIMAL ENERGY MANAGEMENT CONTROL SCHEME FOR FUEL CELL HYBRID VEHICLE</b> .....	716
<i>Sid, M.N. ; Marouani, K. ; Becherif, M. ; Alloui, H.</i>	
<b>VOLTAGE CONTROL AT GRID CONNECTION POINT BY HIGH POWER CHARGING STATIONS</b> .....	722
<i>Sourkounis, Constantinos ; Wenske, Jan</i>	
<b>ELECTRIC VEHICLES CHARGING LOAD REPROFILING</b> .....	728
<i>Liberati, Francesco ; Mercurio, Andrea ; Zuccaro, Letterio ; Tortorelli, Andrea ; Di Giorgio, Alessandro</i>	
<b>NEW ROBUST CONTROLLER DESIGN FOR VOLTAGE SOURCE INVERTERS IN MICROGRIDS</b> .....	734
<i>Syed, Asim H. ; Abido, M.A.</i>	
<b>UNMANNED MARSUPIAL SEA-AIR SYSTEM FOR OBJECT RECOVERY</b> .....	740
<i>Miskovic, Nikola ; Bogdan, Stjepan ; Nad, Eula ; Mandic, Filip ; Orsag, Matko ; Haus, Tomislav</i>	
<b>A COLLISION AVOIDANCE ALGORITHM BASED ON THE VIRTUAL TARGET APPROACH FOR COOPERATIVE UNMANNED SURFACE VEHICLES</b> .....	746
<i>Bibuli, Marco ; Bruzzone, Gabriele ; Caccia, Massimo ; Lapierre, Lionel ; Zereik, Enrica</i>	
<b>ASSESSING PATH-FOLLOWING PERFORMANCE FOR UNMANNED MARINE VEHICLES WITH ALGORITHMS FROM NUMERICAL COMMUTATIVE ALGEBRA</b> .....	752
<i>Saggini, E. ; Torrente, M. ; Riccomagno, E. ; Bibuli, M. ; Bruzzone, G. ; Caccia, M. ; Zereik, E.</i>	
<b>MONITORING OF SEAGRASS BY LIGHTWEIGHT AUV: A POSIDONIA OCEANICA CASE STUDY SURROUNDING MURTER ISLAND OF CROATIA</b> .....	758
<i>Vasiljevic, A. ; Miskovic, N. ; Vukic, Z. ; Mandic, F.</i>	
<b>BIOMIMETIC BEHAVIOUR BASED UNDERWATER CONTROL</b> .....	764
<i>Piperidis, Savas ; Tsourveloudis, Nikos C.</i>	
<b>ON LOAD BALANCING AND RESOURCE ALLOCATION IN CLOUD SERVICES</b> .....	773
<i>Leontiou, Nikolaos ; Dechouniotis, Dimitrios ; Athanasopoulos, Nikolaos ; Denazis, Spyros</i>	
<b>CONVEX SYNTHESIS AND LIMITATIONS OF MEAN-SQUARE STABILIZING CONTROLLERS FOR MIMO SYSTEMS WITH ACTUATOR-SIDE DROPOUTS</b> .....	779
<i>Rich, Matt ; Elia, Nicola</i>	

<b>I/O DECOUPLING OF GENERAL NEUTRAL TIME DELAY SYSTEMS VIA DELAYLESS MEASUREMENT OUTPUT FEEDBACK DYNAMIC CONTROLLERS .....</b>	<b>785</b>
<i>Koumboulis, Fotis N. ; Kouvakas, Nikolaos D.</i>	
<b>SCALABLE CONTROL OF BANDWIDTH RESOURCES IN P2P LIVE STREAMING .....</b>	<b>792</b>
<i>Efthymiopoulou, Maria ; Efthymiopoulos, Nikolaos ; Christakidis, Athanasios ; Denazis, Spyros ; Koufopavlou, Odysseas</i>	
<b>COMPOSITIONAL BOUNDEDNESS OF SOLUTIONS FOR SYMMETRIC NONAUTONOMOUS CONTROL SYSTEMS .....</b>	<b>798</b>
<i>Goodwine, Bill</i>	
<b>LARGE SCALE MIXED-INTEGER OPTIMIZATION: A SOLUTION METHOD WITH SUPPLY CHAIN APPLICATIONS .....</b>	<b>804</b>
<i>Vujanic, Robin ; Esfahani, Peyman Mohajerin ; Goulart, Paul ; Morari, Manfred</i>	
<b>DIRECT TORQUE CONTROL OF NINE SWITCHES INVERTER — DUAL INDUCTION MOTORS .....</b>	<b>810</b>
<i>Abbate, M.A. ; Tabbache, B. ; Kheloui, A.</i>	
<b>A PETRI NET MODEL FOR A BUILDING ENERGY MANAGEMENT SYSTEM BASED ON A DEMAND RESPONSE APPROACH .....</b>	<b>816</b>
<i>Fanti, M.P. ; Mangini, A.M. ; Roccotelli, M.</i>	
<b>APPLICATION OF ADVANCED METERING INFRASTRUCTURE IN SMART GRIDS .....</b>	<b>822</b>
<i>Mohassel, Ramyar Rashed ; Fung, Alan ; Mohammadi, Farah ; Raahemifar, Kaamran</i>	
<b>COLLECTIVE TARGET TRACKING MEAN FIELD CONTROL FOR ELECTRIC SPACE HEATERS .....</b>	<b>829</b>
<i>Kizilkale, Arman C. ; Malhame, Roland P.</i>	
<b>MODEL PREDICTIVE CONTROL OF ENERGY TRANSMISSION GRIDS ACCOUNTING FOR POWER-ICT INTERDEPENDENCIES .....</b>	<b>835</b>
<i>Galbusera, Luca ; Theodoridis, Georgios ; Giannopoulos, Georgios</i>	
<b>REAL-TIME IMPLEMENTATION OF GRID-CONNECTED PV SYSTEM WITH DECOUPLED P-Q CONTROLLERS .....</b>	<b>841</b>
<i>Worku, Muhammed Y. ; Abido, M.A.</i>	
<b>RECURSIVE ADAPTIVE CONTROL FOR AN UNDERWATER VEHICLE CARRYING A MANIPULATOR .....</b>	<b>847</b>
<i>Antonelli, Gianluca ; Cataldi, Elisabetta</i>	
<b>ROAD PROJECT: ROBOTICS FOR ASSISTED DIVING .....</b>	<b>853</b>
<i>Conte, Giuseppe ; Scaradozzi, David ; Sorbi, Laura ; Zanolli, Silvia Maria ; D'Ippolito, Filippo ; Fagiolini, Adriano ; Pelaia, Paolo ; Rocco, Monica</i>	
<b>THESAURUS: AUV TEAMS FOR ARCHAEOLOGICAL SEARCH. FIELD RESULTS ON ACOUSTIC COMMUNICATION AND LOCALIZATION WITH THE TYPHOON .....</b>	<b>857</b>
<i>Caiti, A. ; Calabro, V. ; Di Corato, F. ; Fabbri, T. ; Fenucci, D. ; Munafò, A. ; Allotta, B. ; Bartolini, F. ; Costanzi, R. ; Gelli, J. ; Monni, N. ; Natalini, M. ; Pugi, L. ; Ridolfi, A.</i>	
<b>MARIS: A NATIONAL PROJECT ON MARINE ROBOTICS FOR INTERVENTIONS .....</b>	<b>864</b>
<i>Casalino, Giuseppe ; Caccia, Massimo ; Caiti, Andrea ; Antonelli, Gianluca ; Indiveri, Giovanni ; Melchiorri, Claudio ; Caselli, Stefano</i>	
<b>NONLINEAR OBSERVER-BASED FAULT DETECTION AND ISOLATION FOR WIND TURBINES .....</b>	<b>870</b>
<i>Hwas, Abdulhamed ; Katebi, Reza</i>	
<b>SMART HOME HEATING SYSTEM MALFUNCTION AND BAD BEHAVIOR DIAGNOSIS BY MULTI-SCALE PCA UNDER INDOOR TEMPERATURE FEEDBACK CONTROL .....</b>	<b>876</b>
<i>Giantomassi, Andrea ; Ferracuti, Francesco ; Iarlori, Sabrina ; Puglia, Gloria ; Fonti, Alessandro ; Comodi, Gabriele ; Longhi, Sauro</i>	
<b>AN ADAPTIVE INTELLIGENT CONTROLLER FOR ROTOR RESISTANCE VARIATIONS IN DFIG SYSTEM .....</b>	<b>882</b>
<i>Valikhani, M. ; Sourkounis, C.</i>	
<b>NONLINEAR CONTROLLER DESIGN AND STABILITY ANALYSIS UNDER POWER MANAGEMENT OF AUTONOMOUS PV SYSTEMS .....</b>	<b>888</b>
<i>Krommydas, Konstantinos F. ; Alexandridis, Antonio T.</i>	
<b>MATERIAL DERIVATIVE BASED CONTROL OF A SOLAR PARABOLIC TROUGH FIELD .....</b>	<b>894</b>
<i>Costa, Bertinho A. ; Lemos, Joao M.</i>	
<b>COMPARATIVE STUDY OF ULTRAHIGH-SPEED INDUCTION GENERATORS WITH SELF-EXCITATION .....</b>	<b>900</b>
<i>Jardan, R.K. ; Varga, Z. ; Nagy, I.</i>	
<b>ON THE INTERACTION OF TEMPERATURE-SENSING, SHAPE MEMORY ALLOY DYNAMICS, AND CONTROL DESIGN FOR A BENDING ACTUATOR .....</b>	<b>906</b>
<i>Kolyvas, Efthymios ; Koveos, Yannis ; Tzes, Anthony</i>	



<b>VARIABLE SELECTION BY RIVAL</b> .....	913
<i>Bai, Er-Wei ; Li, Kang ; Kump, Paul</i>	
<b>PARAMETER ESTIMATION OF A MICROBIAL FUEL CELL PROCESS CONTROL-ORIENTED MODEL</b> .....	918
<i>Recio-Garrido, Didac ; Perrier, Michel ; Tartakovsky, Boris</i>	
<b>POLYNOMIAL REGRESSION AIDED IDENTIFICATION METHOD FOR A CLASS OF MECHANICAL SYSTEMS</b> .....	924
<i>Dolinsky, Kamil ; Celikovskiy, Sergej</i>	
<b>ROBUST OPTIMAL EXPERIMENT DESIGN FOR NONLINEAR DYNAMIC SYSTEMS</b> .....	930
<i>Telen, Dries ; Vercammen, Dominique ; Logist, Filip ; Van Impe, Jan</i>	
<b>MODELING AND SLIDING MODE CONTROL OF AN ELECTROPNEUMATIC SYSTEM</b> .....	936
<i>Ayadi, Assil ; Hajji, Soufien ; Smaoui, Mohamed ; Chaari, Abdessattar</i>	
<b>TEMPERATURE CONTROL OF AN AERONAUTICAL PNEUMATIC SYSTEM USING FEEDBACK LINEARIZATION AND PID</b> .....	942
<i>Dias da Silva, Dayvis ; Turcio, Wallace ; Tannuri, Eduardo Aoun</i>	
<b>GLOBAL CLF STABILIZATION OF SYSTEMS WITH POLYTOPIC CVS CONTAINING 0 IN THEIR BOUNDARIES, AND POSITIVE CONTROLS</b> .....	948
<i>Solis-Daun, Julio ; Leyva, Horacio</i>	
<b>CONTROL OF AN AERONAUTICAL PNEUMATIC SYSTEM USING FEEDBACK LINEARIZATION</b> .....	954
<i>Turcio, Wallace ; Yoneyama, Takashi ; Dias da Silva, Dayvis</i>	
<b>URBAN PERIMETER CONTROL FOR EMISSION REDUCTION AND TRAFFIC PERFORMANCE IMPROVEMENT</b> .....	960
<i>Csikos, Alfred ; Tettamanti, Tamas ; Varga, Istvan</i>	
<b>MOTORWAY CONTROL SYSTEM FOR THE REDUCTION OF POLLUTANT CONCENTRATIONS IN LOCAL RURAL AREAS</b> .....	966
<i>Csikos, Alfred ; Varga, Istvan ; Hangos, Katalin M.</i>	
<b>KNOWLEDGE ORGANIZATION FOR MODELLING WORKFLOWS IN TAVERNA ENVIRONMENT</b> .....	972
<i>Fiannaca, Antonino ; Rosa, Massimo La ; Gaglio, Salvatore ; Rizzo, Riccardo ; Urso, Alfonso</i>	
<b>PARAMETRIZATION OF COMPLETENESS IN SYMBOLIC ABSTRACTION OF BOUNDED INPUT LINEAR SYSTEMS</b> .....	978
<i>Adimoolam, Santosh Arvind</i>	
<b>MULTI-PARAMETER STRUCTURAL TRANSFORMATIONS OF PASSIVE ELECTRICAL NETWORKS AND NATURAL FREQUENCY ASSIGNMENT</b> .....	984
<i>Karcianias, Nicos ; Leventides, John ; Livada, Maria</i>	
<b>SHORT-TERM DEMAND FORECASTING FOR REAL-TIME OPERATIONAL CONTROL OF THE BARCELONA WATER TRANSPORT NETWORK</b> .....	990
<i>Quevedo, J. ; Saludes, J. ; Puig, V. ; Blanch, J.</i>	
<b>A CONTROL ORIENTED APPROACH TO THE TIME-DISCRETIZATION OF DELAY SYSTEMS</b> .....	996
<i>Celentano, Giovanni ; Iervolino, Raffaele</i>	
<b>ONLINE ADAPTIVE GEOMETRY PREDICTOR OF AQUACULTURE FISH-NETS</b> .....	1002
<i>Potyagaylo, Svetlana ; Loizou, Savvas G.</i>	
<b>AN EFFICIENT SCAN ALGORITHM FOR BLOCK-BASED CONNECTED COMPONENT LABELING</b> .....	1008
<i>Chang, Wan-Yu ; Chiu, Chung-Cheng</i>	
<b>ROBUST MOTION ESTIMATION USING COVARIANCE INTERSECTION</b> .....	1014
<i>Boulekhchour, Mohammed ; Aouf, Nabil</i>	
<b>ROBUSTNESS ANALYSIS OF 3D FEATURE DESCRIPTORS FOR OBJECT RECOGNITION USING A TIME-OF-FLIGHT CAMERA</b> .....	1020
<i>Tamas, Levente ; Jensen, Bjoern</i>	
<b>NEW VECTOR-RADIX ALGORITHM FOR COMPUTING TWO-DIMENSIONAL DISCRETE HARTLEY TRANSFORM</b> .....	1026
<i>Hamood, Mounir T. ; Gaeid, Khalaf S. ; Ali, Sufian H.</i>	
<b>A UNIFORMLY SEMIGLOBALLY EXPONENTIALLY STABLE NONLINEAR OBSERVER FOR GNSS- AND CAMERA-AIDED INERTIAL NAVIGATION</b> .....	1031
<i>Fusini, Lorenzo ; Fossen, Thor I. ; Johansen, Tor Arne</i>	
<b>A NON-FEATURE-BASED MODEL FOR RANGE IDENTIFICATION</b> .....	1037
<i>Liu, Zhichao ; Wang, Jianliang ; Kee, Poh Eng</i>	
<b>TCP CONGESTION CONTROL OVER HSDPA: AN EXPERIMENTAL EVALUATION</b> .....	1043
<i>De Cicco, Luca ; Mascolo, Saverio</i>	

<b>AN INTEROPERABLE FRAMEWORK FOR HOME AUTOMATION DESIGN, TESTING AND CONTROL</b> .....	1049
<i>Ciabattoni, Lucio ; Cimini, Gionata ; Grisostomi, Massimo ; Ippoliti, Gianluca ; Longhi, Sauro</i>	
<b>OPTIMAL RESOURCE ALLOCATION IN MULTI-HOP NETWORKS: CONTENTION VS. SCHEDULING</b> .....	1055
<i>Badalamenti, R. ; Giarre, L. ; Timirello, I.</i>	
<b>SIMULATION AND EVALUATION OF THE AUCTION BASED DAY AHEAD ENERGY MARKET VIA A NASH EQUILIBRIUM MODEL AND ZONAL PRICING</b> .....	1061
<i>Dotoli, Mariagrazia ; Epicoco, Nicola ; Turchiano, Biagio ; Falagario, Marco ; Sciancalepore, Fabio</i>	
<b>A WIRELESS SENSORS AND CONTROLLERS NETWORK IN AUTOMATION A LABORATORY-SCALE IMPLEMENTATION FOR STUDENTS TRAINING</b> .....	1067
<i>Katsaounis, Georgios ; Tsilomitrou, Ourania ; Manesis, Stamatia</i>	
<b>GAUSSIAN PROCESS BASED DUAL ADAPTIVE CONTROL OF NONLINEAR STOCHASTIC SYSTEMS</b> .....	1074
<i>Kral, Ladislav ; Pruher, Jakub ; Simandl, Miroslav</i>	
<b>COMBINATION OF THE OBSERVER PRINCIPLE WITH YOULA-PARAMETERIZED REGULATORS</b> .....	1080
<i>Banyasz, Cs. ; Keviczky, L.</i>	
<b>ADAPTIVE HYBRID OBSERVER OF THE PLASMA HORIZONTAL POSITION AT FTU</b> .....	1088
<i>Astolfi, A. ; Boncagni, L. ; Carnevale, D. ; Galeani, S. ; Ganci, M. ; Mazzitelli, G. ; Sassano, M.</i>	
<b>DETECTABILITY AND OBSERVER DESIGN FOR LINEAR DESCRIPTOR SYSTEMS</b> .....	1094
<i>Gupta, Mahendra Kumar ; Tomar, Nutan Kumar ; Bhaumik, Shovan</i>	
<b>NEURAL NETWORK BASED RADIOISOTOPE DISCRIMINATION ON POLYVINYL TOLUENE RADIATION PORTAL MONITORS</b> .....	1099
<i>Fombellida, Jorge ; Blazquez, L.Felipe ; Aller, Fernando ; Vrublevskaia, Svetlana ; Valtuille, Eduardo</i>	
<b>IDENTIFICATION AND SWITCHING QUASI-LPV CONTROL OF A FOUR WHEELED OMNIDIRECTIONAL ROBOT</b> .....	1105
<i>Rotondo, Damiano ; Romera, Juli ; Puig, Vicenc ; Nejari, Fatima</i>	
<b>PLACEMENT OF FIXED MODES BY DECENTRALISED OUTPUT FEEDBACK CONTROL</b> .....	1111
<i>Abdolmaleki, M. ; Aldeen, M.</i>	
<b>DECENTRALIZED LOCAL ADAPTIVE ROBUST STATE OBSERVERS OF LARGE SCALE INTERCONNECTED SYSTEMS WITH UNCERTAINTIES</b> .....	1117
<i>Wu, Hansheng</i>	
<b>ROBUST SYNCHRONISATION OF HETEROGENEOUS NETWORKS VIA INTEGRAL QUADRATIC CONSTRAINTS</b> .....	1123
<i>Khong, Sei Zhen ; Lovisari, Enrico</i>	
<b>SWARM AGGREGATION WITH A MULTI-ROBOT SYSTEM COMPOSED OF THREE ROBOTIC UNITS: A CLOSED FORM ANALYSIS</b> .....	1128
<i>Depouhon, Celine ; Masciotta, Matteo ; Garone, Emanuele ; Gasparri, Andrea</i>	
<b>MULTI-LAYER MAPPING-BASED AUTONOMOUS FORKLIFT LOCALIZATION IN AN INDUSTRIAL ENVIRONMENT</b> .....	1134
<i>Vasiljevic, Goran ; Petric, Frano ; Kovacic, Zdenko</i>	
<b>PLENARY TALK: FEEDBACK CONTROL OF LIVING CELLS</b> .....	1140
<i>Khammash, Mustafa H.</i>	
<b>PERFORMANCE ANALYSIS OF A THREE-DIMENSIONAL GEOMETRIC GUIDANCE LAW USING LYAPUNOV-LIKE APPROACH</b> .....	1141
<i>Li, Ke-Bo ; Shin, Hyo-Sang ; Tsourdos, Antonios ; Chen, Lei</i>	
<b>COMPARISON OF TWO H? LOOP-SHAPING ROBUST AUTOPILOT STRUCTURE CONFIGURATIONS FOR A 155MM SPIN-STABILIZED CANARD-GUIDED PROJECTILE</b> .....	1147
<i>Seve, Florian ; Theodoulis, Spiliotis ; Zasadzinski, Michel ; Boutayeb, Mohamed ; Wernert, Philippe</i>	
<b>THE POWER-TETHERED UAV-UGV TEAM: A COLLABORATIVE STRATEGY FOR NAVIGATION IN PARTIALLY-MAPPED ENVIRONMENTS</b> .....	1153
<i>Papachristos, Christos ; Tzes, Anthony</i>	
<b>EXPLICIT MODEL PREDICTIVE CONTROL AND L1-NAVIGATION STRATEGIES FOR FIXED-WING UAV PATH TRACKING</b> .....	1159
<i>Oetershagen, Philipp ; Melzer, Amir ; Leutenegger, Stefan ; Alexis, Kostas ; Siegwart, Roland</i>	
<b>IDENTIFICATION AND MODELLING OF THE FRICTION-INDUCED HYSTERESIS IN PNEUMATIC ACTUATORS FOR BIOMIMETIC ROBOTS</b> .....	1166
<i>Colacino, Domenico ; Merola, Alessio ; Cosentino, Carlo ; Amato, Francesco</i>	
<b>COMMUNICATION DELAY AND JITTER INFLUENCE ON BILATERAL TELEOPERATION</b> .....	1171
<i>Marton, Lorinc ; Szanto, Zoltan ; Vajda, Tamas ; Haller, Pirooska ; Sandor, Hunor ; Szabo, Tamas ; Tamas, Levente</i>	

<b>UAV EQUIPPED WITH A ROBOTIC MANIPULATOR</b> .....	1177
<i>Bazylev, Dmitry ; Margun, Alexey ; Zimenko, Konstantin ; Kremlev, Artem</i>	
<b>USING THE CROSS-ENTROPY METHOD FOR CONTROL OPTIMIZATION: A CASE STUDY OF SEE-AND-AVOID ON UNMANNED AERIAL VEHICLES</b> .....	1183
<i>Olivares-Mendez, Miguel A. ; Fu, Changhong ; Kannan, Somasundar ; Voos, Holger ; Campoy, Pascual</i>	
<b>SELECTIVE COMPLIANCE CONTROL FOR AN UNMANNED AERIAL VEHICLE WITH A ROBOTIC ARM</b> .....	1190
<i>Giglio, Gerardo ; Pierri, Francesco</i>	
<b>INVESTIGATION OF CONTROL ALGORITHM FOR AIRSHIP BEFORE INDOOR EXPERIMENT</b> .....	1196
<i>Herman, Przemyslaw ; Adamski, Wojciech</i>	
<b>MODELING, ESTIMATION AND CONTROL OF NEURONS AND NEURONAL NETWORKS</b> .....	1202
<i>Sarma, Sridevi ; Santaniello, Sabato ; Sarma, Sridevi ; Santaniello, Sabato ; Eden, Uri</i>	
<b>ADAPTIVE SLIDING MODE CONTROL FOR A CLASS OF NONLINEAR MIMO SYSTEMS: APPLICATION TO A TURBOCHARGED DIESEL ENGINE</b> .....	1205
<i>Larguech, S. ; Aloui, S. ; Pages, O. ; Hajjaji, A.El ; Chaari, A.</i>	
<b>GLOBALLY ASYMPTOTICALLY STABLE RECONSTRUCTION OF FLUX, ROTOR POSITION AND SPEED FOR PERMANENT MAGNETS MACHINES</b> .....	1211
<i>Tilli, Andrea ; Conficoni, Christian ; Cignali, Giovanni</i>	
<b>SUM OF SQUARES BASED NONLINEAR CONTROL DESIGN FOR DIESEL ENGINE</b> .....	1217
<i>Kuzmych, Olena ; Hajjaji, Ahmed El ; Aitouche, Abdel ; Bosche, Jerome</i>	
<b>STATE ESTIMATION OF UNKNOWN INPUT POLYNOMIAL SYSTEMS: A SUM OF SQUARES APPROACH</b> .....	1225
<i>Chibani, A. ; Chadli, M. ; Belhaouane, M.M. ; Benhadj Braeik, N.</i>	
<b>NONLINEAR OBSERVER FOR DEPTH-AIDED INS: EXPERIMENTAL EVALUATION USING AN AUV</b> .....	1231
<i>Borup, Kasper T. ; Fossen, Thor I. ; Braga, Jose ; de Sousa, Joao Borges</i>	
<b>TIME OPTIMAL SEMIACTIVE VIBRATION DAMPING OF A MECHANICAL OSCILLATOR WITH VARIABLE DAMPING COEFFICIENT</b> .....	1237
<i>Caruso, Giovanni ; Galeani, Sergio ; Menini, Laura</i>	
<b>A PARAMETRIC SENSITIVITY CONSTRAINED LINEAR QUADRATIC CONTROLLER</b> .....	1243
<i>Yagoubi, Mohamed</i>	
<b>ROBUST EIGENSTRUCTURE ASSIGNMENT USING PARAMETRIC OUTPUT FEEDBACK</b> .....	1249
<i>Strubel, Jan ; Konigorski, Ulrich</i>	
<b>SIMULATION-BASED ASSESSMENT OF NATURAL ROBUSTNESS OF FREEWAY TRAFFIC SYSTEMS CONTROLLED VIA MPC</b> .....	1255
<i>Ferrara, Antonella ; Sacone, Simona ; Siri, Silvia</i>	
<b>FLEXIBLE POLYHEDRAL LYAPUNOV FUNCTIONS FOR THE ROBUST CONSTRAINED STABILIZATION OF BILINEAR BOOST DC-DC CONVERTERS</b> .....	1261
<i>Yfoulis, C. ; Giaouris, D. ; Stergiopoulos, F. ; Ziogou, C. ; Voutetakis, S. ; Papadopoulou, S.</i>	
<b>LMI BASED LOOP SHAPING CONTROL OF BIOLOGICAL CIRCUITS</b> .....	1267
<i>Bajaria, Pratik ; Pandey, Abhishek ; Yerudkar, Amol ; Kazi, Faruk ; Singh, N.M.</i>	
<b>FAULT DETECTION ISOLATION AND RECONFIGURATION ALGORITHMS FOR ATMOSPHERIC RE-ENTRY</b> .....	1273
<i>Poderico, M. ; Morani, G. ; Corrado, F.</i>	
<b>OUTPUT CONTROLLER FOR QUADCOPTERS BASED ON MATHEMATICAL MODEL DECOMPOSITION</b> .....	1281
<i>Pyrkin, Anton A. ; Bobtsov, Alexey A. ; Kolyubin, Sergey A. ; Borisov, Oleg I. ; Gromov, Vladislav S.</i>	
<b>AIRCRAFT TRAJECTORY TRACKING WITH LARGE SIDESLIP ANGLES FOR SENSE AND AVOID INTRUDER STATE ESTIMATION</b> .....	1287
<i>Bauer, Peter ; Vanek, Balint ; Peni, Tamas ; Zsedrovits, Tamas ; Pencz, Borbala ; Zarandy, Akos ; Bokor, Jozsef</i>	
<b>PERFORMANCE COMPARISON OF SISO AND MIMO LOW LEVEL CONTROLLERS IN A SPECIAL TRAJECTORY TRACKING APPLICATION</b> .....	1293
<i>Bauer, Peter ; Bokor, Jozsef</i>	
<b>SAFETY IN COORDINATED CONTROL OF MULTIPLE UNMANNED AERIAL VEHICLE MANIPULATOR SYSTEMS: CASE OF OBSTACLE AVOIDANCE</b> .....	1299
<i>Baizid, K. ; Caccavale, F. ; Chiaverini, S. ; Giglio, G. ; Pierri, F.</i>	
<b>HYBRID DYNAMIC MODEL OF A WHEELED DOUBLE INVERTED PENDULUM</b> .....	1305
<i>Strah, Bruno ; Rinderknecht, Stephan</i>	
<b>A NONLINEAR CONTROLLER FOR TRAJECTORY TRACKING OF HOVERCRAFT ROBOT</b> .....	1311
<i>Herman, Przemyslaw ; Kowalczyk, Wojciech</i>	

<b>A DISTURBANCE REJECTION CONTROLLER FOR AN ANTI-MINE MOBILE ROBOTIC MANIPULATOR.....</b>	1316
<i>Kouvakas, Nikolaos D. ; Koumboulis, Fotis N.</i>	
<b>PATH PLANNING FOR ROBOTIC MANIPULATORS VIA BUBBLES OF FREE CONFIGURATION SPACE: EVOLUTIONARY APPROACH .....</b>	1323
<i>Ademovic, Adnan ; Lacevic, Bakir</i>	
<b>POSITION CONTROL OF AN INDUSTRIAL HYDRAULIC SYSTEM WITH A PRESSURE COMPENSATOR.....</b>	1329
<i>Aranovskiy, Stanislav ; Losenkov, Andrei ; Vazquez, Carlos</i>	
<b>MOTION PLANNING FOR A UNICYCLE-LIKE MOBILE ROBOT, USING ALGEBRAIC ATTRACTIVE CURVES .....</b>	1335
<i>Martinelli, Francesco ; Possieri, Corrado ; Tornambe, Antonio</i>	
<b>MATHEMATICAL STUDY OF THE GLOBAL DYNAMICS OF A CONCAVE GENE EXPRESSION MODEL.....</b>	1341
<i>Belgacem, Ismail ; Gouze, Jean-Luc</i>	
<b>RESET CONTROL OF SYNCHRONOUS MOTORS WITH PERMANENT MAGNET EXCITATION .....</b>	1347
<i>Delgado, Emma ; Diaz-Cacho, Miguel ; Banos, Alfonso ; Barreiro, Antonio</i>	
<b>NONLINEAR OBSERVER WITH TIME-VARYING GAINS FOR INERTIAL NAVIGATION AIDED BY SATELLITE REFERENCE SYSTEMS IN DYNAMIC POSITIONING .....</b>	1353
<i>Bryne, Torleiv Haland ; Fossen, Thor I. ; Johansen, Tor A.</i>	
<b>A NONLINEAR ORDER REDUCTION MODELING PROCEDURE FOR POLYNOMIAL DISCRETE-TIME SYSTEMS .....</b>	1361
<i>Belhedi, W. ; Bouzaouache, H.</i>	
<b>PARAMETRIC ANALYSIS OF DYNAMICALLY EQUIVALENT REACTION NETWORK MODELS.....</b>	1365
<i>Csercsik, David ; Szederkenyi, Gabor</i>	
<b>SUSPENDED LOAD MOTION CONTROL USING MULTICOPTERS.....</b>	1371
<i>Klausen, Kristian ; Fossen, Thor I. ; Johansen, Tor Arne</i>	
<b>ROBUST STABILITY ANALYSIS OF A REMOTELY OPERATED SERVO-MOTOR.....</b>	1377
<i>Ortiz-Moctezuma, M.B. ; Moreno-Guerrero, A.A. ; Jimenez, Manuel</i>	
<b>OPTIMAL MIXED <math>H_2/H_\infty</math> CONTROLLER DESIGN FOR VIBRATION SUPPRESSION IN A CLASS OF IMAGE TRANSFER BELT .....</b>	1383
<i>Yu, Jie ; Yamaura, Hiroshi</i>	
<b>ROBUST ARBITRARY POLE PLACEMENT WITH THE EXTENDED KAUTSKY-NICHOLS-VAN DOOREN PARAMETRIC FORM.....</b>	1388
<i>Schmid, Robert ; Nguyen, Thang ; Ntogramatzidis, Lorenzo</i>	
<b>DISCRETE SECOND ORDER SLIDING MODE CONTROL FOR NONDECOUPLABLE MULTIVARIABLE SYSTEMS VIA INPUT-OUTPUT MODEL .....</b>	1393
<i>Houda, Romdhane ; Khadija, Dehri ; Said, Nouri Ahmed</i>	
<b>FINE TUNING THE TIME RESPONSE OF A ROBUST AND ULTRAFAST COMPENSATOR.....</b>	1400
<i>Hammami, M. ; Bensoussan, D. ; Sun, Y.</i>	
<b>REFLECTION SEGMENTS BASED ROBUST PID CONTROLLER SOLUTION FOR BENCHMARK PROBLEM .....</b>	1406
<i>Avanessov, Sergei ; Nurges, Ulo</i>	
<b>NONLINEAR CONTROL OF AN ACTUATED TETHERED AIRFOIL.....</b>	1412
<i>Eekhout, S. ; Nicotra, M. ; Naldi, R. ; Garone, E.</i>	
<b>VISUAL SERVOING OF A QUADROTOR UAV FOR AUTONOMOUS POWER LINES INSPECTION .....</b>	1418
<i>Araar, Oualid ; Aouf, Nabil</i>	
<b>A NEW HYBRID APPROACH FOR THE VISUAL SERVOING OF VTOL UAVS FROM UNKNOWN GEOMETRIES .....</b>	1425
<i>Araar, Oualid ; Aouf, Nabil</i>	
<b>A SAFE POSITION TRACKING STRATEGY FOR MULTIROTOR HELICOPTERS.....</b>	1433
<i>Prado, Igor Afonso Acampora ; Antonio dos Santos, Davi</i>	
<b>ROBUST FORMATION AND RECONFIGURATION CONTROL OF MULTIPLE VTOL UAVS: DESIGN AND FLIGHT TEST.....</b>	1440
<i>Liao, Fang ; Dong, Xiangxu ; Lin, Feng ; Teo, Rodney ; Wang, Jian Liang</i>	
<b>ADAPTIVE CONTROL OF ARM-EQUIPPED QUADROTORS. THEORY AND SIMULATIONS.....</b>	1446
<i>Antonelli, Gianluca ; Cataldi, Elisabetta</i>	
<b>LYAPUNOV BASED STEERING CONTROL FOR VISUAL HOMING OF A MOBILE ROBOT.....</b>	1452
<i>Sabnis, Anupa ; Vachhani, Leena ; Bankey, Neeraj</i>	

<b>KINEMATIC ANALYSIS OF GEARED ROBOTIC MECHANISM USING MATROID AND T-T GRAPH METHODS .....</b>	<b>1458</b>
<i>Amirinezhad, S.Vahid ; Uyguroglu, Mustafa K. ; Moghadam, Marzieh R.</i>	
<b>A PHYSICAL HUMAN ROBOT INTERACTION ARCHITECTURE FOR FLEXIBLE JOINT ROBOTS .....</b>	<b>1464</b>
<i>Atawnih, Abdelrahem ; Doulgeri, Zoe ; Rovithakis, George A.</i>	
<b>A ROBOT HAND-OVER CONTROL SCHEME FOR HUMAN-LIKE HAPTIC INTERACTION .....</b>	<b>1470</b>
<i>Psomopoulou, Efi ; Doulgeri, Zoe</i>	
<b>H<math>\infty</math> FEEDBACK CONTROL FOR PARALLEL MECHANISM AND APPLICATION TO DELTA ROBOT .....</b>	<b>1476</b>
<i>Rachedi, M. ; Bouri, M. ; Hemicci, B.</i>	
<b>FEEDBACK CONTROL OF FOOT EVERSION IN THE ADAPTIVE PERONEAL STIMULATOR .....</b>	<b>1482</b>
<i>Seel, Thomas ; Laidig, Daniel ; Valtin, Markus ; Werner, Cordula ; Raisch, Jorg ; Schauer, Thomas</i>	
<b>A SLIDING MODE OBSERVER FOR HEMODYNAMIC CHARACTERIZATION UNDER MODELING UNCERTAINTIES .....</b>	<b>1488</b>
<i>Zayane-Aissa, Chadia ; Laleg-Kirati, Taous-Meriem</i>	
<b>SHORT-TERM PREDICTION OF BLOOD GLUCOSE CONCENTRATION USING INTERVAL PROBABILISTIC MODELS .....</b>	<b>1494</b>
<i>Efendic, Hajrudin ; Kirchsteiger, Harald ; Freckmann, Guido ; del Re, Luigi</i>	
<b>NON LINEAR DISCRETE TIME EPIDEMIOLOGICAL MODEL FOR X-LINKED RECESSIVE DISEASES .....</b>	<b>1500</b>
<i>Del Vecchio, Carmen ; Glielmo, Luigi ; Corless, Martin</i>	
<b>ROBUST FEEDBACK-CONTROL ANALYSIS OF THE THREONINE SYNTHESIS PATHWAY VIA VARIOUS SYSTEM NORMS .....</b>	<b>1506</b>
<i>Gershon, Eli ; Navon, Matan</i>	
<b>A WAYPOINT GUIDANCE STRATEGY FOR UNDERWATER SNAKE ROBOTS .....</b>	<b>1512</b>
<i>Kelasidi, E. ; Pettersen, K.Y. ; Gravdahl, J.T.</i>	
<b>MULTIOBJECTIVE OPTIMIZATION OF A QUADRUPED ROBOT GAIT .....</b>	<b>1520</b>
<i>Koco, Edin ; Glumac, Slaven ; Kovacic, Zdenko</i>	
<b>A CLOSED-LOOP POSITION CONTROL SCHEME FOR SMA-ACTUATED JOINTS .....</b>	<b>1527</b>
<i>Evdaimon, Theodoros ; Sfakiotakis, Michael ; Tsakiris, Dimitris P.</i>	
<b>NEW PARAMETERIZED FOOT TRAJECTORY SHAPE FOR MULTI-GAIT QUADRUPED LOCOMOTION WITH STATE MACHINE-BASED APPROACH FOR EXECUTING GAIT TRANSITIONS .....</b>	<b>1533</b>
<i>Koco, Edin ; Mutka, Alan ; Kovacic, Zdenko</i>	
<b>DEVELOPMENT AND EXPERIMENTAL VALIDATION OF A MODEL FOR THE MEMBRANE RESTORING TORQUES IN UNDULATORY FIN MECHANISMS .....</b>	<b>1540</b>
<i>Sfakiotakis, Michael ; Fasoulas, John</i>	
<b>H<math>\infty</math> DYNAMIC OUTPUT-FEEDBACK CONTROL OF RETARDED STATE-MULTIPLICATIVE DISCRETE TIME SYSTEMS .....</b>	<b>1547</b>
<i>Gershon, Eli ; Shaked, Uri</i>	
<b>ROBUST POSITION TRACKING FOR A HYDRAULIC SERVO SYSTEM .....</b>	<b>1553</b>
<i>Skarpetis, Michael G. ; Koumboulis, Fotis N. ; Ntellis, Achilleas S.</i>	
<b>PARAMETER SPACE APPROACH BASED STATE FEEDBACK CONTROL OF LTV SYSTEMS .....</b>	<b>1559</b>
<i>Schrodel, Frank ; Essam, Mohamed ; Abel, Dirk</i>	
<b>ROBUST CONTROL WITH DISTURBANCES COMPENSATION FOR PLANTS WITH UNKNOWN DYNAMICAL ORDER .....</b>	<b>1566</b>
<i>Furtat, Igor B.</i>	
<b>FINITE-TIME H<math>\infty</math> FUNCTIONAL FILTER DESIGN FOR A CLASS OF DESCRIPTOR LINEAR SYSTEMS .....</b>	<b>1572</b>
<i>Delattre, Cedric ; Bhiri, Bassem ; Zemouche, Ali ; Souley-Ali, Harouna ; Zasadzinski, Michel ; Abderrahim, Kamel</i>	
<b>ATTITUDE TRACKING OF THE SMALL-SCALE HELICOPTER SYSTEM USING DISTURBANCE OBSERVER BASED SLIDING MODE CONTROL .....</b>	<b>1578</b>
<i>Salihbegovic, Almir ; Hebibovic, Mujo</i>	
<b>Author Index</b>	