8th IFAC Symposium on Cost Oriented Automation 2007

La Habana, Cuba
13-15 February 2007

ISBN: 978-1-60560-738-2

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2007) by the International Federation of Automatic Control (IFAC)
All rights reserved.

Printed by Curran Associates, Inc. (2009)

For permission requests, please contact the publisher, International Federation of Automatic Control (IFAC) at the address below.

IFAC Secretariat
Schlossplatz 12
A-2361 Laxenburg
Austria

Phone: +43 2236 71 447
Fax: +43 2236 72 859

secretariat@ifac-control.org

TABLE OF CONTENTS

FUTURE TRENDS IN PROCESS AUTOMATION 1
S.L. Jamsa-Jounela

COLLABORATIVE NETWORKS IN INDUSTRY AND SERVICES: RESEARCH SCOPE AND CHALLENGES 11
L. Camarinha-Matos, H. Afsarmanesh

TOWARDS A SEMI-TYPOLOGY FOR VIRTUAL ORGANIZATION BREEDING ENVIRONMENTS 21
H. Afsarmanesh, L. Camarinha-Matos

ON THE MANAGEMENT OF COLLABORATIVE SME NETWORKS 27
M. Ollus, K. Jansson, I. Karvonen

PROFESSIONAL VIRTUAL COMMUNITIES AS KEY DRIVERS FOR INNOVATION AND COOPERATION IN COLLABORATIVE NETWORKED ORGANISATIONS 33
S. Crave, T. Nagellen

VIRTUAL ORGANIZATION BREEDING ENVIRONMENT: EXPERIENCES FROM ITS IMPLEMENTATION IN MEXICO 39
J. Giraldo, N. Galeano, A. Molina

A GENERAL FRAMEWORK FOR DEVELOPING SERVICE ROBOTS 45
L. Sucar, E. Morales

A LEARNING APPROACH FOR ON-LINE ROBOTIC ASSEMBLY TASKS 51
M. Pena, I. Lopez, R. Osorio

A METHODOLOGY FOR COMPUTING OPTIMAL PUSH-PULL CONFIGURATIONS FOR MOBILE MANIPULATORS 57
L. Chiang

TOWARDS USAGE OF COMBINED EXERCISES IN LEARNING OF LOW COST CONTROLLERS 63
R. Susta, J. John

REQUIREMENTS OF USEFUL REMOTE LABS 69
J. Garcia-Zubia, I. Trueba, D. Lopez-de-Ipina, P. Orduna, U. Hernandez, J. Saenz

MAINTENANCE MODELS AND SERVICES – A SURVEY REGARDING COST ASPECTS 73
H. Erbe, B. Iung, G. Morel

A STATE BASED APPROACH FOR DECENTRALIZED FAULT DIAGNOSIS IN DISCRETE EVENT SYSTEMS 85
H.X. Hu, A.L. Gehin, M. Bayart

INFLUENCE OF TRANSMISSION FAULTS ON THE DEPENDABILITY LEVEL OF NETWORKED CONTROL SYSTEMS: APPLICATION TO A CONTROL LOOP 91
R. Ghostine, J.M. Thiriet, J.F. Aubry

ROBUST FAULT ISOLATION FILTER FOR NETWORKED CONTROL SYSTEMS: MIMO CASE WITH MULTIPLE FAULTS 97
D. Sauter, C. Aubrun, S. Li

LOW-COST NONLINEAR CONTROL 103
J. John, R. Susta

LOW-COST WAVE GENERATION SYSTEM BASED ON COMBINED NEURAL CONTROL AND A LINEAR MOTOR 109
L. Fernandez

A SIMPLE CONSTRAINT-BASED CAD SYSTEM 115
U. Szczepanek, K.H. Rodiger

SAFETY OF AUTOMATED SYSTEMS WITH NON RESTORABLE SAFETY UNRELIABILITY STATE 121
J. Jazwinski, J. Szpytko

A NETWORKED EMBEDDED SYSTEM FOR MONITORING AND CONTROL 124
A. Gonzalez, A. Crespo, J. Simo, I. Ripoll, M. Masmano

SOLAR OBSERVATIONS CONTROL SYSTEM ORIENTED TO COST EFFECTIVE LIFE CYCLE 131
L. Fernandez, G. Alvarez, P. Sierra, R. Rodriguez

SYSTEM IDENTIFICATION OF ARAGON'S IMPERIAL IRRIGATION MAIN CANAL 135
R. Perez, V. Battle, L. Rodriguez, D. Tercero, A. Saez, J.V. Marinoso, P. Garcia

FRACTIONAL PI CONTROL OF AN IRRIGATION MAIN CANAL 141
V. Battle, L. Rodriguez, R. Perez, D. Tercero, A. Saez, J.V. Marinoso, P. Garcia

DEVELOPING UNDEVELOPABLE SURFACES USING PARTICLE SYSTEMS 147
F. Weiler, J. Plath

Author Index