Ricardo Dunia

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Work Interest	Modeling and Simulation, Process Control, Real-Time Optimization and Fault Diagnosis

Education

University of Texas at Austin	1992 - 1996
Ph.D. Chemical Engineering	Advisors: J. Qin and T. Edgar
University of Maryland	1991 - 1992
M.S. Chemical Engineering	
Universidad Metropolitana	1990 - 1991
Specialization in Oil Refining and Petrochemicals	
Universidad Simon Bolivar	1983 - 1987
B.S. Mechanical Engineering	

Work Experience

University of Texas at Austin	Chemical Engineering Department, Research Fellow
Austin, TX	2011-current
Process Monitoring and Multivariable Statistical Control.	
University of Texas at Austin	Chemical Engineering Department, Lecturer
Austin, TX	2005-2011
Process Control and Optimization	
National Instruments	Senior Software Engineer
Austin, TX	2003-2009
Control Design Technical Leader, LabVIEW R&D.	
TAC Worldwide	Senior Software Engineer
Houston, TX	2001-2002
Contractor for Invensys/Foxboro, Operator Training Simulation	
University of Texas	Post Doctoral Fellow
Austin, TX	2000-2001
Data Analysis and Pattern Recognition.	
Foxboro/Invensys	Senior Software Engineer
Houston, TX	1996-2000
Operator Training Simulation, Advanced Control and Parameter Estimation.	
Fisher-Rosemount	Intern
Austin, TX	1994-1996
Fault Detection and Identification.	
Pequiven	Process Engineer
Maracaibo, Venezuela	1988-1991
Process Control and Instrumentation.	

Publications

- Castillo, Ivan and Edgar, Thomas, and Dunia, Ricardo, "Nonlinear Model-Based Fault Detection with Fuzzy Set Fault Isolation", *IECON: 2010 36TH ANNUAL CONFERENCE OF IEEE INDUSTRIAL ELECTRONICS*, Phoenix, Arizona, NOV 07-10, 2010.

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- Dunia, RH and Edgar, TF and Fernandez, B, "Effect of process uncertainties on generic model control: A geometric approach", *CHEMICAL ENGINEERING SCIENCE*, 1997, Vol 52, Pages 2205-2222.

- Qin, SJ and Yue, HY and Dunia, R, "A self-validating inferential sensor for emission monitoring", *PROCEEDINGS OF THE 1997 AMERICAN CONTROL CONFERENCE* , ALBUQUERQUE, NM, JUN 04-06, 1997.

- Qin, SJ and Yue, HY and Dunia, R, "Self-validating inferential sensors with application to air emission monitoring", *INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH* ,1997, Vol 36, Pages 1675-1685.

- Dunia, R and Qin, SJ and Edgar, TF and McAvoy, TJ, " Identification of faulty sensors using principal component analysis", *AICHE JOURNAL*, 1996, Vol 42, Pages 2797-2812.

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- Dunia, R and Edgar, TF, "An improved generic model control algorithm for linear systems", *COMPUTERS & CHEMICAL ENGINEERING*, 1996, Vol 20, Pages 1003-1016.

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- Dunia, Ricardo and Hahn, Juergen, "HIV Epidemic Model with Heterogeneous Infected Class", *IFAC: 2011 18TH IFAC WORLD CONGRESS*, Milano, Italy, AUG 28 - SEP 02, 2011.

- Dunia, Ricardo and Bonnecaze, Roger, "Dynamic Modeling of Viral Infections in Spherical Organs", *ACC: 2011 AMERICAN CONTROL CONFERENCE*, San Francisco, CA, JUN 29 - JUL 01, 2011.

- Dunia, Ricardo and Edgar, Thomas, "Tumor Irrigation Model for Virotherapy Cancer Treatment", *ACC: 2011 AMERICAN CONTROL CONFERENCE*, San Francisco, CA, JUN 29 - JUL 01, 2011.

- Dunia, Ricardo and Bonnecaze, Roger, "Viral Infection Dynamics in Spherical Organs", *JOURNAL OF THEORETICAL BIOLOGY*.

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- Dunia, Ricardo; Campo, Antonio and Guzman, Rodolfo "Study of Entrance Section Profiles in Variable Viscosity Crude Oil Flows using MOLCV", *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING.*
- Dunia, Ricardo; Rochelle, Gary and Qin, Joe " Modeling CO2 recovery for optimal dynamic operations ", *Decision and Control and European Control Conference (CDC-ECC), 2011*
- Dunia, Ricardo; Rochelle, Gary and Qin, Joe " Subspace system identification for CO2 recovery processes ", *Computer-Aided Control System Design (CACSD), 2011*

Service
- Associate Editor (Journals) - *IEEE/IES Transactions on Industrial Informatics, HPC Journal of Control Science and Engineering. 2005-Present*
- Reviewer (Journals) - *IEEE/CSS Transactions on Automatic Control, Journal of Computers in Biology and Medicine, Journal of Petroleum Science and Engineering. 2005-Present*
- Reviewer (Conferences) - *IEEE IECON 2009, 2010; ACC 2009, 2010, 2011; IEE International Conference on Control Applications 2008, 2009; IFAC 2011*

References

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Languages   Fluent in English and Spanish