Author Index

To Use this Author Index: Scroll down to find an author or use the bookmarks in the left-hand frame to move to a new location in this index. Click on a **blue author name** to view an author's paper. To return to this index, click on the PREVIOUS MENU bookmark in the left frame.

A

Abdulgalil, F.

Nonlinear friction compensation design for suppressing stick slip oscillations in oil well drillstrings

Aguiar, H.C.

Simulation of pulping process using neural networks and hybrid model

Alcorta-Garcia, E.

Observer-based supervision and fault detection of a FCC unit model predictive control system

Alhamad, B.

Optimal control of emulsion co-polymerization: application to a pilot-scale reactor under a DCS environment

Alkire, R.C.

Keynote 3: Perspectives on the Design and Control of Multiscale Systems

Allgower, F.

Plant and control-relevant nonlinearity analysis of a CSTR: a case study

Allgower, Frank

Complexity reduction of nonlinear systems for process control

Antolín, Gregorio

Integrated design of the process and control of supercritical extraction plants with re-circulation

Antory, David

Advanced process diagnosis in complex systems using nonlinear variable reconstruction

Araújo, M.J.

Use of bifurcation analysis for model identification purposes

Arkin, Adam

Putting the "control" in metabolic control analysis

Arnold, Mark G.

Embedded model predictive control for system-on-a-chip applications

Auchet, O.

Simplified first-principles modeling of glass furnaces for control purpose

Avoy, Thomas Mc

Using optimization to detect snowball effects

В

Baeyens, Enrique

Integrated design of the process and control of supercritical extraction plants with re-circulation

Baker, Rhoda

Inclusion of actuator saturation as complementarity constraints in integrated design and control

Bakshi, Bhavik R.

Bayesian estimation by sequential Monte Carlo sampling: application to high-dimensional nonlinear dynamic systems

Baldea, Michael

Keynote 4: Model Reduction and Control in Reactor-Heat Exchanger Networks

Banadda, E.N.

Dynamic modeling of filamentous bulking in lab-scale activated sludge processes

Baratti, Roberto

Robust dynamic state estimation of a binary distillation column

Barolo, Massimiliano

Robust dynamic state estimation of a binary distillation column

Bartolacci, Gianni

Monitoring of flotation processes using multiresolutional multivariate image analysis (MR-MIA)

Barton, Paul I.

Bounding linear time varying hybrid systems with time events

Bauer, Margret

Specifying the directionality of fault propagation paths using transfer entropy

Bennett, M.J.T.

A systematic and fully automated procedure for water and element balancing over pulp and paper mills: a case study at Visy Tumut mill

Ben-Zvi, Amos

Identifiability Analysis of a liquid-liquid phase-transfer catalyzed reaction system

Bernaerts, Kristel

A prototype model for Indole-3-Acetic Acid (IAA) production by Azospirillum brasilense SP245

Bernard, Olivier

Design and practical use of probabilistic observers for mass-balance based bioprocess models

Betancur, Manuel J.

Event software sensor and adaptive extremum seeking alternatives for optimizing a class of fed-batch bioreactors

Bezzo, Fabrizio

Robust dynamic state estimation of a binary distillation column

Bhushan, Mani

Lexicographic optimization based sensor network design for robust fault diagnosis

Birkmire, Robert W.

Internal model control of a physical vapor deposition effusion source

Bitmead, Robert R.

Directional leakage and parameter drift

Interaction between control and state estimation in nonlinear MPC

Bleris, Leonidas G.

Embedded model predictive control for system-on-a-chip applications

Bodizs, Levente

Preferential estimation via the tuning of the Kalman filter

Bogaerts, Philippe

State and parameter estimation in cement grinding circuits - practical aspects

Boillereaux, Lionel

Reference Trajectory Tracking of Superficial Temperature in Food Decontamination

Bolland, Olav

Modeling and control of O2/CO2 gas turbine cycle for CO2 capture

Bombois, Xavier

On model selection for state estimation for nonlinear systems

Bonvin, D.

Preferential estimation via the tuning of the Kalman filter Robust predictive control based on neighboring extremals Iterative learning control with input shift

Bos, Robert

On model selection for state estimation for nonlinear systems

Bosgra, Okko H.

Keynote 5: Market-Oriented Scheduling, Economic Optimization and Stochastic Constrained Control of Continuous Multi-Grade Chemical Processes

Braatz, Richard

Keynote 3: Perspectives on the Design and Control of Multiscale Systems

Brambilla, Alessandro

A critical comparison of linear and nonlinear property estimators in inferential control

Bruck, Torben

Multivariate analysis for quality improvement of an industrial fermentation process

C

Cai, Y.

Control structure design to achieve multiple performance criteria

Cappuyns, Astrid

A prototype model for Indole-3-Acetic Acid (IAA) production by Azospirillum brasilense SP245

Carlemalm, Hong Cui

Process Design for Reduced Disturbance Sensitivity of Integrated Plants

Chachuat, Benoit

Design and practical use of probabilistic observers for mass-balance based bioprocess models

Chaitali, Mandal

Multiobjective optimization in *aspergillus niger* fermentations for selective product enhancements

Chang, Jun-Xian

Neural predictive control design for uncertain nonlinear systems

Chen, T.

Improving the performance of dual rate control in the absence of a fast rate model

Chen, Wen-shiang

Bayesian estimation by sequential Monte Carlo sampling: application to high-dimensional nonlinear dynamic systems

Chen, Zeng-Ping

Modeling temperature-induced spectral variations in chemical process monitoring

Chen, Zhongzhou

Nonlinear optimal control using dynamic programming in cell space - application to nonlinear CSTR

Cheng, Ruoyu

Dantzig-Wolfe decomposition and large-scale constrained MPC problems

Cheng, Y.C.

A Smith predictor enhanced PID controller

Cherry, Gregory

Keynote 1: Control and Monitoring of Semiconductor Manufacturing Processes: Challenges and Opportunities

Chew, Lawrence

Multivariate analysis for quality improvement of an industrial fermentation process

Chiang, Leo

Multivariate analysis for quality improvement of an industrial fermentation process

Choudhury, M.A.A.S.

Detection and quantification of control valve stiction

Christofides, Panagiotis D.

Predictive control of switched nonlinear processes with scheduled mode transitions Feedback control of surface roughness in a deposition process using a stochastic PDE* Fault-tolerant control of multi-unit process systems using communication networks Predictive control of thin film surface microstructure in a complex deposition

Cinar, Ali

An agent-based framework for control of reactor networks with autocatalytic replicators

Cluett, W.R.

Design of an on-line titrator for nonlinear pH control

Coffey, Duncan

Multivariate analysis for quality improvement of an industrial fermentation process

Coimbra, B.K.

Use of bifurcation analysis for model identification purposes

Costa, Aline C.

Mathematical modeling for adipic acid crystallization process

Costa, Caliane B.B.

Mathematical modeling for adipic acid crystallization process

D

da Silva, José Marcos Francisco

Dynamic modeling of a three-phase catalytic slurry reactor considering the phase change phenomenon

Dadhe, K.

Time optimal control of the molecular weight in a semi batch emulsion polymerization Estimating the prediction uncertainty of dynamic neural network process models

Daoutidis, Prodromos

Optimal periodic control of a drug delivery system

Keynote 4: Model Reduction and Control in Reactor-Heat Exchanger Networks

de Léon-Cantón, P.

Observer-based supervision and fault detection of a FCC unit model predictive control system

de Souza, Jr., Maurício Bezerra

Monitoring and control based on a FIA-biosensor system with automatic correction

de Toledo, Eduardo Coselli Vasco

Dynamic modeling of a three-phase catalytic slurry reactor considering the phase change phenomenon

Di Ruscio, David

Using a dithering signal in the reference to improve the estimates from subspace identification methods on closed loop data

Dimitratos, Yiannis

Control system selection: A measure of control quality loss in analytical control

Ding, S.X.

Closed-loop subspace identification an orthogonal projection approach Practical solutions to multivariate feedback control performance assessment

Dochain, Denis

Event software sensor and adaptive extremum seeking alternatives for optimizing a class of fed-batch bioreactors

Dokucu, Mustafa T.

On-line particle size distribution control strategy in an emulsion co-polymertization reactor

Doyle III, Francis J.

Internal model control of a physical vapor deposition effusion source On-line particle size distribution control strategy in an emulsion co-polymertization reactor

Doyle, Frank

Integration of Biological Systems Content into the Process Dynamics and Control Curriculum

Drews, T.O.

Keynote 3: Perspectives on the Design and Control of Multiscale Systems

Driscoll, Michael E.

Keynote 6: Identification and Control of Gene Networks in Living Organisms via Supervised and Unsupervised Learning

Dua, Vivek

Plenary 1: On-line Optimization via Off-line Optimization! - A Guided Tour to Parametric Programming and Control

Duchesne, Carl

Monitoring of flotation processes using multiresolutional multivariate image analysis (MR-MIA)

Dudzic, Michael S.

Industrial experience on process transition monitoring for continuous steel casting operation Plenary 2: On-line Industrial Implementation of Process Monitoring and Control Applications using Multivariate Statistical Technologies: Challenges and Opportunities

п		

Edgar, Tom

Frontiers of Chemical Engineering: The systems approach

Eiseman, J. L.

Keynote 8: Nonlinear Model Predictive Control Algorithm for Breast Cancer Treatment

Eker, S. Alper

Real-time optimal operation decisions for gas turbines

El-Farra, Nael H.

Predictive control of switched nonlinear processes with scheduled mode transitions Fault-tolerant control of multi-unit process systems using communication networks

Engell, Sebastian

Neural network-based identification of nonlinear adsorption isotherms

Time optimal control of the molecular weight in a semi batch emulsion polymerization

Estimating the prediction uncertainty of dynamic neural network process models

F

Faccin, Flávio

Novel tool for multi-model PID controller design

Farenzena, M.

System's non-linearity measurement based on the RPN concept

Ferreira, Luciane da Silveira

Monitoring and control based on a FIA-biosensor system with automatic correction

Filho, R. Maciel

Simulation of pulping process using neural networks and hybrid model

Filho, Rubens M.

Optimization strategy for maximizing production of cyclohexanol

Filho, Rubens Maciel

Mathematical modeling for adipic acid crystallization process

Dynamic modeling of a three-phase catalytic slurry reactor considering the phase change phenomenon

Flores-Cerrillo, Jesus

Model predictive control for batch processes using latent variable methods

Florian, Jr, Jeffry A.

Keynote 8: Nonlinear Model Predictive Control Algorithm for Breast Cancer Treatment

Forbes, Fraser

Dantzig-Wolfe decomposition and large-scale constrained MPC problems

Foss, Bjarne A.

System analysis of complex reactor behavior – a case study Modeling and control of O2/CO2 gas turbine cycle for CO2 capture

Fujiwara, Koichi

Data-driven quality improvement: handling qualitative variables

G

Gallivan, Martha A.

Low-order dynamics in a lattice model of thin film deposition using nonlinear principal component analysis

Gani, Adiwinata

Fault-tolerant control of multi-unit process systems using communication networks

Gao, Furong

A stage-based monitoring method for batch process with minimal reference data

Gao. Weihua

Neural network-based identification of nonlinear adsorption isotherms

Garcia, Jesus

Embedded model predictive control for system-on-a-chip applications

Garcia-Munoz , Salvador

Multivariate forecasting of batch evolution for monitoring and fault detection

Gardner, Timothy

Keynote 6: Identification and Control of Gene Networks in Living Organisms via Supervised and Unsupervised Learning

Gatzke, E. P.

Globally optimal nonlinear model predictive control

Georgiadis, Michael C.

Process design and control of a reactive distillation system

Georgiou, Tryphon T.

Optimal periodic control of a drug delivery system

Gerhard, Johannes

Robust and stable nonlinear control and design of a CSTR in a large operating range

Gesthuisen, R.

Time optimal control of the molecular weight in a semi batch emulsion polymerization Estimating the prediction uncertainty of dynamic neural network process models

Gevers. Michel

Plenary 3: Identification for Control: Achievements and Open Problems

Goel. Prem K.

Bayesian estimation by sequential Monte Carlo sampling: application to high-dimensional nonlinear dynamic systems

Gomes, V. G.

Optimal control of emulsion co-polymerization: application to a pilot-scale reactor under a DCS environment

Good, Richard

Keynote 1: Control and Monitoring of Semiconductor Manufacturing Processes: Challenges and Opportunities

Goradia, D. B.

To cascade or not to cascade?

Gorostiaga, Lázaro

Integrated design of the process and control of supercritical extraction plants with re-circulation

Gros, S.

Robust predictive control based on neighboring extremals

Guay, Martin

Event software sensor and adaptive extremum seeking alternatives for optimizing a class of fed-batch bioreactors

Gudi, R.D.

A multi-level, control-theoretic framework for integration of planning, scheduling and rescheduling

Multiobjective optimization in *aspergillus niger* fermentations for selective product enhancements

Identification for decentralized MPC

Güner, Evren

EKF and ANFIS estimator design of multicomponent batch distillation columns

Gutiérrez, Francisco

Integrated design of the process and control of supercritical extraction plants with re-circulation

Н

Haag, Christian

Implicit relations and discrete events in process simulation

Haag, Jens E.

Continuous-discrete observer design for a CHO-K1 cell culture in suspension

A fast computational procedure for the predetermination of parameters in non-linear bioprocess models

Hahn, Juergen

Optimal sensor location for nonlinear dynamic systems via empirical Gramians

Hale. Elaine T.

Multi-parametric nonlinear programming and the evaluation of implicit optimization model adequacy

Han, Zhengang

Detection and diagnosis of data reconciliation problems in an industrial chemical inventory system

Haney, Keith

Multivariate analysis for quality improvement of an industrial fermentation process

Harrison, Christopher A.

Closed-loop time delay estimation of SISO processes for control performance monitoring Keynote 1: Control and Monitoring of Semiconductor Manufacturing Processes:

Challenges and Opportunities

Hasan, Salah D.M.

Optimization strategy for maximizing production of cyclohexanol

Hasebe, Shinji

Data-driven quality improvement: handling qualitative variables

Havet, Michel

Reference Trajectory Tracking of Superficial Temperature in Food Decontamination

Heiber, Friedrun

On evaluating control performance on large data sets

Henson, Mike

Integration of Biological Systems Content into the Process Dynamics and Control Curriculum

Hermanto, M.W.

To cascade or not to cascade?

Hinamoto, Takao

A design of PID controllers fused CMACs with neural networks

Hoo, Karlene A.

Accelerated karhunen-loeve expansion applied to model reduction

Horch, Alexander

On evaluating control performance on large data sets

Hovd, Morten

Directional leakage and parameter drift

Interaction between control and state estimation in nonlinear MPC

Howell, John

Correlation dimension and Lyapunov exponent based isolation of plant-wide oscillations

Huang, B.

Closed-loop subspace identification an orthogonal projection approach

Huang, Biao

Practical solutions to multivariate feedback control performance assessment

Huang, Hsiao-Ping

Model-based autotuning system using ANN and relay feedback test Controller design for integrating processing in SISO or MIMO systems

Hung, S. B.

A Smith predictor enhanced PID controller

ı

Immanuel, Charles David

Population balance model for cellular processes in biological systems: biochemical and biomedical applications

Imsland, Lars

Modeling and control of O2/CO2 gas turbine cycle for CO2 capture

Imtiaz, S. A.

Missing data treatment using iterative PCA and data reconciliation

Irwin, George W.

Advanced process diagnosis in complex systems using nonlinear variable reconstruction Advanced monitoring of complex autocorrelated processes

lung, C.

Simplified first-principles modeling of glass furnaces for control purpose

		1	•
		ı	ı
		ı	ı
т	L	ı	,

Jabbar, N.

Identification for decentralized MPC

Jacobsen, Elling W.

Error detection and control in grey-box identification of distributed parameter processes Process Design for Reduced Disturbance Sensitivity of Integrated Plants

Jain, Mranal

A filter based approach for estimation of PI achievable performance

Jämsä-Jounela, Sirkka-Liisa

Integrating process indicators with monitoring method hybrids

Jeng, Jyh-Cheng

Model-based autotuning system using ANN and relay feedback test Controller design for integrating processing in SISO or MIMO systems

Jenings, Annika

Multivariate analysis for quality improvement of an industrial fermentation process

Jenne, R.

Dynamic modeling of filamentous bulking in lab-scale activated sludge processes

Joe, Yen Yen

Robust and efficient joint data reconciliation – parameter estimation using a generalized objective function

Jones, James C. Peyton

On-board diagnostic and fault detection strategies for an automotive three-way catalyst

Jørgensen, John Bagterp

Numerical methods for large scale moving horizon estimation and control

Jørgensen, Sten Bay

Numerical methods for large scale moving horizon estimation and control

Ju, L.C.

Use of BP neural network to predict hydrogen content in coal

Junker, S. Tobias

Internal model control of a physical vapor deposition effusion source

K

Kadam, Jitendra V.

Sensitivity-based solution updates in closed-loop dynamic optimization

Kalafatis, A.D.

Design of an on-line titrator for nonlinear pH control

Kano, Manabu

Practical model and detection algorithm for valve stiction

Data-driven quality improvement: handling qualitative variables

Karafyllis, lasson

Robust global stabilization of continuous bioreactors

Kiparissides, Costas

Keynote 2: Challenges in Polymerization Reactor Modeling and Optimization: A Population Balance Perspective

Komulainen, Tiina

Integrating process indicators with monitoring method hybrids

Kordon, Arthur

Multivariate analysis for quality improvement of an industrial fermentation process

Kothare, Mayuresh V.

Embedded model predictive control for system-on-a-chip applications

Kothare, Simone L.

Plant test for MPC

Kourti, Theodora

Multivariate forecasting of batch evolution for monitoring and fault detection

Kraemer, S.

Time optimal control of the molecular weight in a semi batch emulsion polymerization

Kravaris, Costas

Robust global stabilization of continuous bioreactors

Two-degree-of-freedom multirate controllers for nonlinear processes

Kruger, U.

Analysis of non-linear partial least squares algorithms

Kruger, Uwe

Advanced process diagnosis in complex systems using nonlinear variable reconstruction Advanced monitoring of complex autocorrelated processes

Kugemoto, Hidekazu

Practical model and detection algorithm for valve stiction

Kumar, S.

Analysis of non-linear partial least squares algorithms

Kurozumi, Ryota

A design of PID controllers fused CMACs with neural networks

L

Laachi, Nabil

A fast, easily tuned, SISO, model predictive controller

Lakshminarayanan, S.

To cascade or not to cascade?

Identification of algebraic and state-space models using genetic programming

A filter based approach for estimation of PI achievable performance

Enhanced IMC for glucose control in type 1 diabetic patients

Lam, C. Peng

An exchange language for process modeling and model management

Larimore, Wallace E.

Large sample efficiency for adaptx subspace systems identification with unknown feedback

Leblebicioğlu, Kemal

EKF and ANFIS estimator design of multicomponent batch distillation columns

Lee, Cha Kun

Bounding linear time varying hybrid systems with time events

Leoni, Paolo

A critical comparison of linear and nonlinear property estimators in inferential control

Lepore, Renato

State and parameter estimation in cement grinding circuits - practical aspects

Li, Huaizhong

An exchange language for process modeling and model management

Li, Keyu

Nonlinear optimal control using dynamic programming in cell space - application to nonlinear CSTR

Li, Weihua

Fault detection and isolation in non-uniformly sampled systems

Lin, Feng-Yi

Model-based autotuning system using ANN and relay feedback test Controller design for integrating processing in SISO or MIMO systems

Liu, J. Jay

Monitoring of flotation processes using multiresolutional multivariate image analysis (MR-MIA)

Liu, Jialin

The high-pressure polyethylene process monitoring using PCA based Bayesian classification

Liu, Y.

Wavelet-based model reduction of breakage processes

Liu, Yi

Error detection and control in grey-box identification of distributed parameter processes

Long, C. E.

Globally optimal nonlinear model predictive control

Lou, Yiming

Feedback control of surface roughness in a deposition process using a stochastic PDE*

Lovasen, Kjell Ragnar

System analysis of complex reactor behavior – a case study

Lu, Ningyun

A stage-based monitoring method for batch process with minimal reference data

Lu, Zhen

Parameter estimation for batch processes using a Bayesian approach

Lund, Berit Floor

System analysis of complex reactor behavior – a case study

Luyben, Michael L.

Design and control for energy integration in a bio-process

Lyberatos, Gerasimos

Robust global stabilization of continuous bioreactors

M

MacGregor, John F.

Monitoring of flotation processes using multiresolutional multivariate image analysis (MR-MIA)

Multivariate forecasting of batch evolution for monitoring and fault detection

Multivariate image analysis for inferential sensing: a framework

Model predictive control for batch processes using latent variable methods

Machado, V. C.

A new signal design tool for process model identification

Which is the best criterion for identification of dynamic models?

Malassé, O.

Simplified first-principles modeling of glass furnaces for control purpose

Mandler, Jorge A.

Plant test for MPC

Mantzaris, Nikos V.

Effects of cell population heterogeneity on the dynamics of cell populations

Manuja, Seema

Fault diagnosis and fault tolerant control using reduced order models

Mariano, Adriano Pinto

Dynamic modeling of a three-phase catalytic slurry reactor considering the phase change phenomenon

Marlin, T.

Optimal sensor selection for successful real-time optimization Control structure design to achieve multiple performance criteria

Marquardt, Wolfgang

Direct sequential dynamic optimization with automatic switching structure detection Robust and stable nonlinear control and design of a CSTR in a large operating range Sensitivity-based solution updates in closed-loop dynamic optimization

Martin, E. B.

Analysis of non-linear partial least squares algorithms

Martin, Elaine

Gaussian Process Regression for Batch Process Modeling Modeling temperature-induced spectral variations in chemical process monitoring

Martin, Elaine B.

Parameter estimation for batch processes using a Bayesian approach

Martinez, E.

Learning control applied to pH plant

Maruta, Hiroshi

Practical model and detection algorithm for valve stiction

McAuley, Kim B.

Identifiability Analysis of a liquid-liquid phase-transfer catalyzed reaction system

McCullough, Geoffrey

Advanced process diagnosis in complex systems using nonlinear variable reconstruction

McLellan, P. James

Identifiability Analysis of a liquid-liquid phase-transfer catalyzed reaction system

Meaburn, Adrian

Specifying the directionality of fault propagation paths using transfer entropy

Melo, Delba N.C.

Optimization strategy for maximizing production of cyclohexanol

Mhaskar, Prashant

Predictive control of switched nonlinear processes with scheduled mode transitions

Mönnigmann, Martin

Robust and stable nonlinear control and design of a CSTR in a large operating range

Moreno, Jaime A.

Event software sensor and adaptive extremum seeking alternatives for optimizing a class of fed-batch bioreactors

Morris, A. J.

Analysis of non-linear partial least squares algorithms

Morris, Julian

Gaussian Process Regression for Batch Process Modeling

Parameter estimation for batch processes using a Bayesian approach

Modeling temperature-induced spectral variations in chemical process monitoring

Munawar, S.A.

A multi-level, control-theoretic framework for integration of planning, scheduling and rescheduling

Muske, Kenneth R.

On-board diagnostic and fault detection strategies for an automotive three-way catalyst

Ν

Narasimhan, S.

Missing data treatment using iterative PCA and data reconciliation

Narasimhan, Shankar

Detection and diagnosis of data reconciliation problems in an industrial chemical inventory system

Fault diagnosis and fault tolerant control using reduced order models

Robust constrained estimation via unscented transformation

Narasimhan, Sridharakumar

Multi-objective input signal design of multi-harmonic signals for system identification

Nasiri, A.

Design of robust controller for active noise control systems

Nguyen, T.D.

A systematic and fully automated procedure for water and element balancing over pulp and paper mills: a case study at Visy Tumut mill

Ni, Dong

Predictive control of thin film surface microstructure in a complex deposition

Nilsen, Geir Werner

Using a dithering signal in the reference to improve the estimates from subspace identification methods on closed loop data

0

Odloak, D.

Observer-based supervision and fault detection of a FCC unit model predictive control system

Ohno, Hiromu

Data-driven quality improvement: handling qualitative variables

Ona, Ositadinma

A prototype model for Indole-3-Acetic Acid (IAA) production by Azospirillum brasilense SP245

Ou, Xiaoling

Gaussian Process Regression for Batch Process Modeling

Özgen, Canan

EKF and ANFIS estimator design of multicomponent batch distillation columns

P

Panjwani, Pinky

Process design and control of a reactive distillation system

Pannocchia, Gabriele

A critical comparison of linear and nonlinear property estimators in inferential control A fast, easily tuned, SISO, model predictive controller

Park, M. J.

Internal model control of a physical vapor deposition effusion source

Park, Myung-June

On-line particle size distribution control strategy in an emulsion co-polymertization reactor

Parker, Bob

Integration of Biological Systems Content into the Process Dynamics and Control Curriculum

Parker, Robert S.

Keynote 8: Nonlinear Model Predictive Control Algorithm for Breast Cancer Treatment

Patwardhan, Sachin C.

Identification of nonlinear observers for multivariable systems subjected to unmeasured disturbances

Fault diagnosis and fault tolerant control using reduced order models

Perán, José R.

Integrated design of the process and control of supercritical extraction plants with re-circulation

Pistikopoulos, Efstratios

Process design and control of a reactive distillation system

Plenary 1: On-line Optimization via Off-line Optimization! - A Guided Tour to Parametric Programming and Control

Polisetty, P. K.

Globally optimal nonlinear model predictive control

Polowski, N.V.

Simulation of pulping process using neural networks and hybrid model

Poshtan, J.

Design of robust controller for active noise control systems

Prinsen. Els

A prototype model for Indole-3-Acetic Acid (IAA) production by Azospirillum brasilense SP245

Q

Qin, S. Joe

Closed-loop time delay estimation of SISO processes for control performance monitoring

Closed-loop subspace identification an orthogonal projection approach

Subspace identification using the parity space

Multi-parametric nonlinear programming and the evaluation of implicit optimization model adequacy

Keynote 1: Control and Monitoring of Semiconductor Manufacturing Processes: Challenges and Opportunities

R

Ramprasad, Y.

Enhanced IMC for glucose control in type 1 diabetic patients

Rangaiah, G.P.

To cascade or not to cascade?

Enhanced IMC for glucose control in type 1 diabetic patients

Rao, Christopher

Putting the "control" in metabolic control analysis

Rawlings, James B.

Numerical methods for large scale moving horizon estimation and control

A fast, easily tuned, SISO, model predictive controller

Identification for decentralized MPC

Plant-wide optimal control with decentralized MPC

Frontiers of Chemical Engineering: The systems approach

Remy, Marcel

State and parameter estimation in cement grinding circuits - practical aspects

Rengaswamy, Raghunathan

Lexicographic optimization based sensor network design for robust fault diagnosis Multi-objective input signal design of multi-harmonic signals for system identification

Nonlinear residual feedback observer for process fault diagnosis

Robust constrained estimation via unscented transformation

Riedinger, P.

Simplified first-principles modeling of glass furnaces for control purpose

Romagnoli, J. A.

Optimal control of emulsion co-polymerization: application to a pilot-scale reactor under a DCS environment

A systematic and fully automated procedure for water and element balancing over pulp and paper mills: a case study at Visy Tumut mill

Romagnoli, Jose

Robust and efficient joint data reconciliation – parameter estimation using a generalized objective function

Rossi, M.

Automatic detection of stiction in actuators: a technique to reduce the number of uncertain cases

Rossiter, J.A.

A fast suboptimal multi parametric quadratic programming algorithm for predictive control Improving the performance of dual rate control in the absence of a fast rate model

Rouaud, Olivier

Reference Trajectory Tracking of Superficial Temperature in Food Decontamination

Rusli, E.

Keynote 3: Perspectives on the Design and Control of Multiscale Systems

S

Samyudia, Y.

MPC design for constrained multivariable systems under actuator backlash

Sauro, Herbert

Putting the "control" in metabolic control analysis

Scali, C.

Automatic detection of stiction in actuators: a technique to reduce the number of uncertain cases

Scheid, C.M.

Use of bifurcation analysis for model identification purposes

Schenk, Myrian

Process design and control of a reactive distillation system

Schlegel, Martin

Direct sequential dynamic optimization with automatic switching structure detection

Schweickhardt, T.

Plant and control-relevant nonlinearity analysis of a CSTR: a case study

Schweighardt, Frank K.

Keynote 7: Process Engineering is Changing- You Can \$ense It!

Secchi, A. R.

A new signal design tool for process model identification

Seng, Ng Yew

Monitoring of distillation column operation through self-organizing maps

Shabde, Vikram S.

Accelerated karhunen-loeve expansion applied to model reduction

Shah, S.L.

Improving the performance of dual rate control in the absence of a fast rate model Detection and quantification of control valve stiction

Missing data treatment using iterative PCA and data reconciliation

Shah, Sirish

Fault detection and isolation in non-uniformly sampled systems

Detection and diagnosis of data reconciliation problems in an industrial chemical inventory system

Shastri, Y.

Plant and control-relevant nonlinearity analysis of a CSTR: a case study

Shen, S. H.

Multivariable control of multi-zone chemical mechanical polishing

Shimizu, Keiko

Practical model and detection algorithm for valve stiction

Shiu, S. J.

Multivariable control of multi-zone chemical mechanical polishing

Siegel, Ronald A.

Optimal periodic control of a drug delivery system

Siguerdidjane, H.

Nonlinear friction compensation design for suppressing stick slip oscillations in oil well drillstrings

Singh, Abhay K.

Optimal sensor location for nonlinear dynamic systems via empirical Gramians

Smets, I.Y.

Dynamic modeling of filamentous bulking in lab-scale activated sludge processes A prototype model for Indole-3-Acetic Acid (IAA) production by *Azospirillum brasilense SP245*

Snarheim, Dagfinn

Modeling and control of O2/CO2 gas turbine cycle for CO2 capture

Song, Sang-Oak

Object-based diagnostic network based on statistical learning

Soroush, Masoud

Control system selection: A measure of control quality loss in analytical control

Sotomayor, O.A.Z.

Observer-based supervision and fault detection of a FCC unit model predictive control system

Srinivasan, B.

Preferential estimation via the tuning of the Kalman filter Robust predictive control based on neighboring extremals Iterative learning control with input shift

Srinivasan, Rajagopalan

Monitoring of distillation column operation through self-organizing maps

Srinivasarao, M.

Identification of nonlinear observers for multivariable systems subjected to unmeasured disturbances

Stamatelatou, Katerina

Robust global stabilization of continuous bioreactors

Stursberg, Olaf

Dynamic optimization of processing systems with mixed degrees of freedom

Su, A. J.

Multivariable control of multi-zone chemical mechanical polishing

Suraishkumar, G.K.

Multiobjective optimization in *aspergillus niger* fermentations for selective product enhancements

Swartz, Christopher L.E.

Inclusion of actuator saturation as complementarity constraints in integrated design and control

Syafiie, S.

Learning control applied to pH plant

Syrou, Lemonia

Robust global stabilization of continuous bioreactors

Т

Tade, M.O.

Wavelet-based model reduction of breakage processes
Use of BP neural network to predict hydrogen content in coal

Tadeo, F.

Learning control applied to pH plant

Takao, Kenji

A design of PID controllers fused CMACs with neural networks

Talbot, Hank

Multivariate analysis for quality improvement of an industrial fermentation process

Tamura, Masayuki

A study on the selection of model dimensions and sensitivity of PCA-based fault detection

Taringoo, F.

Design of robust controller for active noise control systems

Tatara, Eric

An agent-based framework for control of reactor networks with autocatalytic replicators

Taware. Avinash

Real-time optimal operation decisions for gas turbines

Tay, Arthur

Robust and efficient joint data reconciliation – parameter estimation using a generalized objective function

Teymour, Fouad

An agent-based framework for control of reactor networks with autocatalytic replicators

Thornhill, Nina F.

Specifying the directionality of fault propagation paths using transfer entropy Detection and quantification of control valve stiction

Titica, Mariana

Event software sensor and adaptive extremum seeking alternatives for optimizing a class of fed-batch bioreactors

Tousai.n R.

Keynote 5: Market-Oriented Scheduling, Economic Optimization and Stochastic Constrained Control of Continuous Multi-Grade Chemical Processes

Trierweiler, Jorge Otávio

Monitoring and control based on a FIA-biosensor system with automatic correction

Novel tool for multi-model PID controller design

A new signal design tool for process model identification

Which is the best criterion for identification of dynamic models?

System's non-linearity measurement based on the RPN concept

Tronci, Stefania

Robust dynamic state estimation of a binary distillation column

Tsujita, Shinsuke

A study on the selection of model dimensions and sensitivity of PCA-based fault detection

Tun, Kyaw

Identification of algebraic and state-space models using genetic programming

U

Ulfsnes, Ragnhild

Modeling and control of O2/CO2 gas turbine cycle for CO2 capture

Ungarala, Sridhar

Nonlinear optimal control using dynamic programming in cell space - application to nonlinear CSTR

Bayesian estimation by sequential Monte Carlo sampling: application to high-dimensional nonlinear dynamic systems

V

Vachhani, Pramod

Nonlinear residual feedback observer for process fault diagnosis Robust constrained estimation via unscented transformation

Van den Hof, Paul M. J.

On model selection for state estimation for nonlinear systems

van Hessem, D.H.

Keynote 5: Market-Oriented Scheduling, Economic Optimization and Stochastic Constrained Control of Continuous Multi-Grade Chemical Processes

Van Impe, J.F.

Dynamic modeling of filamentous bulking in lab-scale activated sludge processes A prototype model for Indole-3-Acetic Acid (IAA) production by *Azospirillum brasilense SP245*

Vande Wouwer, Alain

Continuous-discrete observer design for a CHO-K1 cell culture in suspension

A fast computational procedure for the predetermination of parameters in non-linear bioprocess models

State and parameter estimation in cement grinding circuits - practical aspects

Vanderleyden, Jos

A prototype model for Indole-3-Acetic Acid (IAA) production by Azospirillum brasilense SP245

Vargas, Alejandro

Complexity reduction of nonlinear systems for process control

Varigonda, Subbarao

Optimal periodic control of a drug delivery system

Vasco de Toledo, Eduardo C.

Optimization strategy for maximizing production of cyclohexanol

Vega, M.P.

Use of bifurcation analysis for model identification purposes

Venkat, A.

Identification for decentralized MPC

Venkat. Aswin N.

Plant-wide optimal control with decentralized MPC

Venkatasubramanian, Raja

Identification of nonlinear observers for multivariable systems subjected to unmeasured disturbances

Veronesi, Massimiliano

A ratio control architecture for set-point following and load disturbance rejection

Visioli, Antonio

A ratio control architecture for set-point following and load disturbance rejection

W

Waldron, Robert

Multivariate analysis for quality improvement of an industrial fermentation process

Wang, David

Robust and efficient joint data reconciliation – parameter estimation using a generalized objective function

Wang, Fuli

A stage-based monitoring method for batch process with minimal reference data

Wang, Jin

Subspace identification using the parity space

Keynote 1: Control and Monitoring of Semiconductor Manufacturing Processes: Challenges and Opportunities

Wang, L.

Design of an on-line titrator for nonlinear pH control

Welz, C.

Iterative learning control with input shift

Willis, R.

Optimal control of emulsion co-polymerization: application to a pilot-scale reactor under a DCS environment

Wilson, David

Implicit relations and discrete events in process simulation

Wright, Raymond A.

Two-degree-of-freedom multirate controllers for nonlinear processes

Wright, Stephen J.

Plant-wide optimal control with decentralized MPC

Wu, Wei

Neural predictive control design for uncertain nonlinear systems

Wu. Yi

Process Design for Reduced Disturbance Sensitivity of Integrated Plants



Yamamoto, Toru

A design of PID controllers fused CMACs with neural networks

Yang, Yi

A stage-based monitoring method for batch process with minimal reference data

Ydstie, Birger Erik

System analysis of complex reactor behavior – a case study

Yıldız, Uğur

EKF and ANFIS estimator design of multicomponent batch distillation columns

Yip, W. San

Dantzig-Wolfe decomposition and large-scale constrained MPC problems

Yoon, En Sup

Object-based diagnostic network based on statistical learning

Yu, C. C.

A Smith predictor enhanced PID controller Multivariable control of multi-zone chemical mechanical polishing

Yu, Honglu

Multivariate image analysis for inferential sensing: a framework

Ζ

Zabiri, H.

MPC design for constrained multivariable systems under actuator backlash

Zaknoun, Hasna

Detection and diagnosis of data reconciliation problems in an industrial chemical inventory system

Zang, Xiaoyun

Correlation dimension and Lyapunov exponent based isolation of plant-wide oscillations

Zatko, Dave

Keynote 7: Process Engineering is Changing- You Can \$ense It!

Zhang, Yale

Industrial experience on process transition monitoring for continuous steel casting operation Plenary 2: On-line Industrial Implementation of Process Monitoring and Control Applications using Multivariate Statistical Technologies: Challenges and Opportunities

Zheng, Daguang

Accelerated karhunen-loeve expansion applied to model reduction

Zhong, W.

Optimal sensor selection for successful real-time optimization

Zhou, Yiqi

Advanced monitoring of complex autocorrelated processes

Zhu, J.N

Use of BP neural network to predict hydrogen content in coal

Zuniga, Ruben

Reference Trajectory Tracking of Superficial Temperature in Food Decontamination