

PAST AWARD WINNERS

TABLE OF CONTENTS

| | |
|---|-----------|
| QUAZZA MEDAL | 2 |
| NICHOLS MEDAL | 3 |
| INDUSTRIAL ACHIEVEMENT AWARD | 4 |
| HAROLD CHESTNUT CONTROL ENGINEERING TEXTBOOK PRIZE | 5 |
| APPLICATIONS PAPER PRIZE | 6 |
| YOUNG AUTHOR PRIZE | 7 |
| AUTOMATICA PAPER PRIZE | 8 |
| CONTROL ENGINEERING PRACTICE PAPER PRIZE | 10 |
| JOURNAL OF PROCESS CONTROL PAPER PRIZE | 12 |
| ENGINEERING APPLICATIONS OF AI PAPER PRIZE | 13 |
| MECHATRONICS JOURNAL PAPER PRIZE | 14 |

QM: GIORGIO QUAZZA MEDAL
(Created 1979)

| CONGRESS SITE, YEAR | WINNER | COUNTRY |
|----------------------------|----------------------------|----------------|
| KYOTO, 1981 | JOHN F. COALES | UK |
| BUDAPEST, 1984 | YAKOV Z. TSYPKIN | SU |
| MUNICH, 1987 | KARL J. ÅSTRÖM | SE |
| TALLIN, 1990 | PETAR KOKOTOVIC | US |
| SYDNEY, 1993 | EDWARD J. DAVISON | CA |
| SAN FRANCISCO, 1996 | ALBERTO ISIDORI | IT |
| BELJING, 1999 | BRIAN D.O. ANDERSON | AU |
| BARCELONA, 2002 | LENNART LJUNG | SE |
| PRAGUE 2005 | TAMER BASAR | US |
| SEOUL 2008 | GRAHAM GOODWIN | AU |

NM: NATHANIEL B. NICHOLS MEDAL
(Created 1996)

| CONGRESS SITE, YEAR | WINNER | COUNTRY |
|----------------------------|--------------------------|----------------|
| SAN FRANCISCO, 1996 | JÜRGEN ACKERMANN | DE |
| BEIJING, 1999 | GUNTHER STEIN | US |
| BARCELONA, 2002 | CARL NETT | US |
| PRAGUE, 2005 | WILLIAM F. POWERS | US |
| SEOUL 2008 | GERD HIRZINGER | DE |

IAA: INDUSTRIAL ACHIEVEMENT AWARD (Created 2000)

| CONGRESS SITE, YEAR | WINNER | COUNTRY |
|------------------------|---|-----------|
| BARCELONA, 2002 | Development and Establishment Team for Hot Rolling Technology from Kawasaki Steel Corporation and Toshiba GE Automation Systems Corporation headed by Yasuo Ichii, Shoji Murayama and Takahiro Yamasaki for the project Application of Advanced Process Control Technologies to Endless Hot Strip Rolling | JP |
| PRAGUE, 2005 | Serge BOVERIE | FR |
| SEOUL, 2008 | Not awarded | |

TBP: HAROLD CHESTNUT TEXTBOOK PRIZE
(Created 1986, renamed in 2002)

| CONGRESS SITE, YEAR | WINNER | COUNTRY |
|----------------------------|---|-----------------|
| MUNICH, 1987 | G. GOODWIN, K.H. SIN: Adaptive Filtering, Prediction and Control, Prentice Hall, 1984 | AU |
| TALLIN, 1990 | G.F. FRANKLIN, J.D. POWELL, E. EMAMI-NAEINI: Feedback Control of Dynamic Systems, Addison Wesley, 1986 | US |
| SYDNEY, 1993 | K.J. ÅSTRÖM, B. WITTENMARK: Computer Controlled Systems, Theory and Design, Prentice Hall, 1984 | SE |
| SAN FRANCISCO, 1996 | J.M. MACIEJOWSKI: Multivariable Feedback Design, Addison-Wesley, 1989 | UK |
| BEIJING, 1999 | C.G. CASSANDRAS: Discrete event systems: modeling and performance analysis, R.D. Irwin, Inc. And Aksen Associates, Inc., Boston, MA, 1993. | US |
| BARCELONA, 2002 | HASSAN K. KHALIL: Nonlinear Systems (Prentice Hall, 1996 and 2002) | US |
| PRAGUE, 2005 | G. GOODWIN, S. GRAEBE, M. SALGADO Control Systems Design (Prentice Hall, 2001) | AU/AT/CL |
| SEOUL, 2008 | Not awarded | |

APP: APPLICATION PAPER PRIZE (Created 1986)

| CONGRESS SITE, YEAR | WINNER | COUNTRY |
|----------------------------|--|-----------|
| MUNICH, 1987 | Not Awarded Candidates for APP were published in Newsletters, 6, 1987 | |
| TALLIN, 1990 | S.M. MEERKOV, F. TOP: Asymptotically Reliable Serial Lines: Analysis, Synthesis and a Case Study | US |
| SYDNEY, 1993 | M. NAKAMOTO, K. SHIMIZU, H. FUKUDA: Multivariable Control for a Combined Cycle Power Plant | JP |
| SAN FRANCISCO, 1996 | J.M. SEEM: A New Pattern Recognition Adaptive Controller | US |
| BEIJING, 1999 | J.F. MAGNI, C. DOLL, C. CHIAPPA, B. FRAPARD, B. GIROUART: Mixed mu Analysis for Flexible Systems (I and II). | FR |
| BARCELONA, 2002 | JOACHIM HORN, JOACHIM BAMBERGER, PETER MICHAU AND STEPHAN PINDL: Flatness-Based Clutch Control for Automated Manual Transmissions | DE |
| PRAGUE, 2005 | ANDREA BALLUCHI, LUCA BENVENUTI, ALBERTO SANGIOVANNI-VINCENTELLI, GABRIELE SERRA, CLAUDIO LEMMA Actual Engaged Gear Identification: A Hybrid Observer Approach | IT |
| | STAFFAN HAUGWITZ, PER HAGANDER Process Control of an Open Plate Reactor | SE |
| SEOUL 2008 | CHRISTIAN BENATZKY, MARTIN KOZEK, ALEXANDER SCHIRRER, & ANTON STRIBERSKY Vibration Damping of a Flexible Car Body Structure Using Piezo-Stack Actuators | AT |

YAP: YOUNG AUTHOR PRIZE (Created 1986)

| CONGRESS SITE, YEAR | WINNER | COUNTRY |
|----------------------------|---|-----------|
| MUNICH, 1987 | H. KASAHARA, H. FUJII, M. IWATA: Parallel Processing of Robot Simulation | JP |
| TALLIN, 1990 | R. KULHAVY: Differential Geometry of Recursive Nonlinear Estimation | CZ |
| SYDNEY, 1993 | L. GUO: The Logarithm Law of Self Tuning Regulators | CN |
| SAN FRANCISCO, 1996 | L. PAO: Input Shaping Design for Flexible Systems with Multiple Actuators | US |
| | K.H. JOHANSSON; A. RANTZER: Global analysis of third-order relay feedback systems | SE |
| BEIJING, 1999 | Y. HONG: H-infinity control, stabilization and input-output stability of nonlinear systems based on homogeneous techniques | US |
| BARCELONA, 2002 | DANIEL LIBERZON: Stabilization by Quantized State or Output Feedback: A Hybrid Control Approach | US |
| PRAGUE, 2005 | LEI ZHANG, DIMITRIOS HRISTU-VARSAKELIS: Stabilization of Networked Control Systems: Designing Effective Communication Sequences | US |
| | SATORU SAKAI, KENJI FUJIMOTO: Dynamic Output Feedback Stabilization of a Class of Nonholonomic Hamiltonian Systems | JP |
| SEOUL, 2008 | LACHLAN BLACKHALL & MICHAEL ROTKOWITZ Recursive Sparse Estimation using a Gaussian Sum Filter | AU |

AUT PP: AUTOMATICA PAPER PRIZE (Created 1979)

(1. SURVEY; 2. THEORY/METHODOLOGY ORIENTED; 3. APPLICATION)

| CONGRESS SITE, YEAR | WINNERS | COUNTRY |
|---|---|---------|
| KYOTO, 1981 | 1. T. SÖDERSTRÖM, L. LJUNG, I. GUSTAVSSON: A Theoretical Analysis of Recursive Identification Methods, 14, 231-244, 1978 | SE |
| | 2. J. RISSANEN: Modeling by Shortest Data Description, 14, 465-471, 1978 | CA |
| | 3. G.K. LAUSTERER, W.H. RAY, H.R. MARTENS: Real Time Distributed Parameter State Estimation Applied to a Two Dimensional Heated Ingot, 14, 335-344, 1978 | DE, US |
| BUDAPEST, 1984 | 1. K.J. ÅSTRÖM: Theory and Applications of Adaptive Control - A Survey, 19, 5, 471-486, 1983 | SE |
| | 2. H. KIMURA: Perfect and Subperfect Regulation in Linear Multivariable Control Systems, 18, 2, 125-145, 1982 | JP |
| | R. ROUHANI, R.K. MEHRA: Model Algorithmic Control (MAC); Basic Theoretical Properties, 18, 4, 401-414, 1982 | US |
| 3. T. SHIRAIWA, Y. SAKAMOTO, S. KOBAYASHI, S. ANEZAKI, H. KATO, A. KUWABARA: Automatic Control of Casting Speed in Ingot Casting, 17, 4, 613-618, 1981 | JP | |
| MUNICH, 1987 | 1. W. LEINHARD: Microcomputer Control of High Dynamic Performance AC-Drives - A Survey, 22, 1, 1-19, 1986 | UK |
| | 2. D.W. CLARKE: Self-Tuning Control of Nonminimum-Phase Systems, 20,5,501-517, 1984 | NL |
| | J.C. WILLEMS: From Time Series to Linear Systems, Part 1: Finite Dimensional Linear Time Invariant Systems, 22,5, 561-580, 1986; Part 2: Exact Modeling, 22, 6, 675-694, 1986; Part 3: Approximate Modeling, 1, 87-115, 1987 | BE |
| 3. O.L.R. JACOBS, R.E.S. BULLINGHAM, P. LAMMER, H.J. MCDUAY, G.O. SULLIVAN, M.P. REASBECK: Modeling, Estimation and Control in the Relief of Post-Operative Pain, 21, 4, 349-360, 1985 | UK | |
| TALLIN, 1990 | 1. V. KUCERA, P. ZAGALAK: Fundamental Theorem of State Feedback for Singular Perturbations, 24, 5, 653-658, 1988 | CZ |
| | 2. B.R. BARMISH, Z. SHI: Robust stability of Perturbed Systems with Time Delays, 25, 3, 371-381, 1989 | US |
| | 3. I. HOSHINA, Y. MAEKAWA, T. FUJIMOTO, H. KIMURA, H. KIMURA: Observer-Based Multivariable Control of the Aluminum Cold Tandem Mill, 24, 6, 741-754, 1988 | JP |
| SYDNEY, 1993 | 1. L. LJUNG, S. GUNNARSSON: Adaptation and Tracking in System Identification - A Survey, 26,1, 7-21, 1990 | SE |
| | 2. B.R. BARMISH, R. TEMPO: The Robust Root Locus, 26, 2, 283-292, 1990 | US, IT |
| | 3. C.I. BYRNES, A. ISIDORI: On the Attitude Stabilization of Rigid Spacecraft, 27, 1, 87-95, 1991 | US, IT |
| SAN FRANCISCO, 1996 | 1. R. DAVID, H. ALLA: Petri Nets for Modeling of Dynamic Systems - A Survey, 30, 2, 175-202, 1994 | FR |
| | 2. P. VAN OVERSCHEE, B. DE MOOR: N4SID: Subspace Algorithms for the Identification of Combined Deterministic-Stochastic Systems, 30, 1, 75-94, 1994 | BE |
| | 3. A. J. SORENSON, O. EGELAND: Design of Ride Control System for Surface Effect Ships Using Dissipative Control, 31, 2, 183-200, 1995 | NO |

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|------------------------|---|---|
| BEIJING, 1999 | <ol style="list-style-type: none"> 1. B.D.O. ANDERSON: From Youla-Kucera to Identification, Adaptation and Nonlinear Control, 34, 12,1485-1506, 1998. 2. N. LEONARD: Stability of Bottom-Heavy Underwater Vehicles, 33, 3, 331-346, 1997. 3. A. SEEM: A New Pattern Recognition Adaptive Controller with Applications to HVAC Systems, 34, 8, 969-982, 1998. | AU US US |
| BARCELONA, 2002 | <ol style="list-style-type: none"> 1. F. BLANCHINI: Set Invariance in Control, 35, 11, 1747-1767, 1999. 2. M. VIDYASAGAR: Randomized Algorithms for Robust Controller Synthesis Using Statistical learning Theory, 37, 10, 1515-1528, 2001. 3. T.I. FOSSEN: Nonlinear Passive Weather Optimal Positioning Control (WOPC) System for Ships and Rigs: Experimental Results, 37, 5, 701-715, 2001. | IT IN NO |
| PRAGUE, 2005 | <ol style="list-style-type: none"> 1. J.P. RICHARD: Time Delay Systems: An overview of some recent advances and open problems 2. J.P. HESPANHA and A.S. MORSE: Switching Between Stabilizing Controllers 3. C. BONIVENTO, A. ISIDORI, L. MARCONI and A. PAOLI: Implicit Fault-tolerant Control: Application to Induction Motors | FR US IT |
| SEOUL, 2008 | <ol style="list-style-type: none"> 1. P.F. HOKAYEM and M.W. SPONG: Bilateral teleoperation: An historical survey 2. S.C. BENGEE and R.A. DECARLO: Optimal control of switching systems 3. E. PREMPAIN and I. POSTLETHWAITE: Static H-infinity loop shaping control of a fly-by-wire helicopter | US US UK |

CEP PP:
CONTROL ENGINEERING PRACTICE PAPER PRIZE
 (Created 1993)

(1. SURVEY; 2. THEORY/METHODOLOGY ORIENTED; 3. APPLICATION)

| CONGRESS SITE, YEAR | WINNERS | COUNTRY |
|---------------------|---|---------|
| SAN FRANCISCO, 1996 | N.G. WALKER, G.F. WYATT-MAIR: Sensor Signal Validation using Analytical Redundancy for an Aluminum Cold Rolling Mill, 3,6, 753-760 | US |
| BEIJING, 1999 | 1. P. BIDAN, L.K. KOUADIO, M. VALENTIN and G. MONTSENY: Electrical assistance for SI engine idle-speed control, 6, 7, 829-836, 1998. | FR |
| | 2. J.H. MORTENSEN, T. MOELBAK, P. ANDERSEN and T.S. PEDERSEN: Optimization of boiler control to improve the load-following capability of power-plant units, 6, 12, 1531-1539, 1998. | DK |
| | 3. M. WU, M. NAKANO and J.H. SHE: A distributed expert control system for a hydrometallurgical zinc process, 6, 12, 1435-1446, 1998. | JP |
| BARCELONA, 2002 | 1. H. SEKI, M. OGAWA, S. OROYAMA, K. KAMATSU, M. OHSHIMA AND W. YANG: Industrial Application of a Nonlinear Model Predictive Control to Polymerization Reactors, 9, 8, 819-828, 2001. | JP |
| | 2. A.J. SMERLAS, D.J. WALKER, I. POSTLETHWAITE, M.E. STRANGE, J. HOWITT, A.W. GUBBLES: Evaluation H-infinite Controllers on the NRC Bell 205 fly-by-wire helicopter, 9, 1, 1-10, 2001. | UK |
| | 3. M. JÄRVENSIVU, K. SAARI, S.-L. JÄMSÄ-JOUNELA: Intelligent Control System of an Industrial Lime Kiln Process, 9, 6, 589-606, 2001. | FI |
| PRAGUE, 2005 | 1. S. JOE QIN and THOMAS A. BADGWELL: A survey of industrial model predictive control technology, 11, 7, 733-764, 2003 | US |
| | 2. C. A. BODE, B. S. KO, and T. F. EDGAR: Run-to-run control and performance monitoring of overlay in semiconductor manufacturing, 12, 7, 893-900, 2004 | US |
| | 3. OLIVER SAWODNY, HARALD ASCHEMANN, and STEPHAN LAHRES: An automated gantry crane as a large workspace robot, 10, 12, 1323-1338, 2002 | DE |

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| <p>SEOUL, 2008</p> | <p>1. Z. K. NAGY, B. MAHN, R. FRANKE, F. ALLGÖWER: Evaluation study of an efficient output feedback nonlinear model predictive control for temperature tracking in an industrial batch reactor, Volume 15, Issue 7, pgs 839-850</p> <p>2. M MENSLER, S. JOE, T. KAWABE: Identification of a toroidal continuously variable transmission using continuous-time system identification methods", Volume 14, Issue 1, pgs 45-58</p> <p>3. S. HAUGWITZ, P. HAGANDER, T. NOREN: Modeling and control of a novel heat exchange reactor, the Open Plate Reactor, Volume 15, Issue 7, pgs 779-792</p> | <p>DE</p> <p>JP</p> <p>SE</p> |
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JPC PP: JOURNAL OF PROCESS CONTROL PAPER PRIZE
(Created 2002)

(1. SURVEY; 2. THEORY/METHODOLOGY; 3. APPLICATION)

| CONGRESS SITE, YEAR | WINNERS | COUNTRY |
|---------------------|---|---|
| PRAGUE, 2005 | <p>1. R. K. PEARSON: A survey of industrial model predictive control technology, 13, 1, 1-26, 2003</p> <p>2. N. F. THORNHILL, BIAO HUANG, H. ZHANG: Detection of multiple oscillations in control loops, 13, 1, 91-100, 2003</p> <p>3. N. PETIT, P. ROUCHON, J.-M. BOUEILH, F. GUÉRIN, P. PINVIDIC: Control of an industrial polymerization reactor using flatness, 12, 659-665, 2002</p> | <p>CH</p> <p>UK, CA</p> <p>FR</p> |
| SEOUL, 2008 | <p>1. M. FUJIWARA, Z.K NAGY., J.W. CHEW, R.D: First-principles and direct design approaches for the control of pharmaceutical crystallization (2005) <i>Journal of Process Control</i>, 15 (5), pp. 493-504</p> <p>S. ENGELL: Feedback control for optimal process operation, <i>Journal of Process Control</i> 17 (2007) 203–219</p> <p>2. R.D BRAATZ, R.C. ALKIRE, E. SEEBAUER, E. RUSLI, R. GUNAWAN, T.O. DREWS, X. LI, Y.HE: Perspectives on the design and control of multiscale systems, <i>Journal of Process Control</i>, 16 (3), p.193-204, Mar 2006</p> <p>3. S. CAUX, J. LACHAIZE, M. FADEL, P. SHOTT, L. NICOD: Modelling and control of a Fuel Cell System and Storage Elements in transport applications (2005) <i>Journal of Process Control</i>, 15 (4), pp. 481-491</p> <p>E. ZAMPROGNA, M.BAROLO, D.E. SEBORG: Optimal selection of soft sensor inputs for batch distillation columns using principal component analysis <i>Journal of Process Control</i>, 15 (1), p.39-52, Feb 2005</p> | <p>US</p> <p>DE</p> <p>US</p> <p>UK</p> <p>IT/US</p> |

EAAI PP: **ENGINEERING APPLICATIONS OF AI
PAPER PRIZE**

(Created 2002)

(1. THEORY; 2. SYMBOLIC AI; 3. SUB-SYMBOLIC AI)

| CONGRESS SITE, YEAR | WINNER | COUNTRY |
|---------------------|---|-----------|
| PRAGUE, 2005 | 1. YIXIN DIAO AND KEVIN M. PASSINO: Immunity-based hybrid learning methods for approximator structure and parameter adjustment, 15, 6, 587-600, 2002 | US |
| | 2. MANO RAM MAURYA, RAGHUNATHAN RENGASWAMY and VENKAT VENKATASUBRAMANIAN: Application of signed digraphs-based analysis for fault diagnosis of chemical process flowsheets, 17, 5, 501-518, 2003 | US |
| | 3. E. MUHL, P. CHARPENTIER and F. CHAXEL: Optimization of physical flows in an automotive manufacturing plant: some experiments and issues, 16, 4, 293-305, 2004 | FR |
| SEOUL, 2008 | M.BARLETTA, A.GISARIO, S.GUARINO Modelling of electrostatic fluidized bed (EFB) coating process using artificial neural networks, EAAI, vol 20 issue 6 (2007), 721-733. | IT |

MECHATRONICS PAPER PRIZE
(Created 2006)

| CONGRESS SITE, YEAR | WINNER | COUNTRY |
|---------------------|---|---------------------|
| SEOUL, 2008 | <p>1. A. NOTENBOOM, D. BRUIJNEN, E. HOMBURG, R.v.d. MOLENGRAFT, L.v.d. BEDEM, M. STEINBUCH Mechatronic design of an active printhead alignment mechanism for wide format printing systems, 2007 Mechatronics 17 (2-3), pp109-120</p> <p>2. E. van WEST, A. YAMAMOTO, T. HIGUCHI The concept of "Haptic Tweezer", a non-contact object handling system using levitation techniques and haptics, 2007 Mechatronics 17 (7), pp 345-356</p> | <p>NL</p> <p>JP</p> |