

## Miroslav Krstic

Sr. Assoc. Vice Chancellor for Research  
Director, Cymer Center for Control Systems and Dynamics  
Daniel L. Alspach Endowed Chair in Dynamical Systems and Control

Distinguished Professor of Mechanical and Aerospace Engineering  
Affiliate Distinguished Professor of Electrical and Computer Engineering  
Affiliate Distinguished Professor of Mathematics

UNIVERSITY OF CALIFORNIA, SAN DIEGO

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Address: Department of Mechanical and Aerospace Engineering  
University of California, San Diego  
La Jolla, CA 92093-0411  
Born: 1964

### EDUCATION

PhD (1994), MS (1992) University of California, Santa Barbara, Dept. ECE  
BSEE (1989) University of Belgrade, Yugoslavia, Dept. EE, summa cum laude, 5-yr prog.

### EMPLOYMENT

2019- Affiliate Distinguished Professor, Department of Mathematics, UCSD  
2017- Senior Associate Vice Chancellor for Research (5-yr re-appointment), UC San Diego  
2016- Affiliate Distinguished Professor, Dept Electrical and Computer Engineering, UCSD  
2015- Distinguished Professor, UCSD  
2012-2017 Associate Vice Chancellor for Research, UC San Diego  
2009- Daniel L. Alspach Endowed Chair, UCSD  
2006-2009 Harold W. Sorenson Distinguished Faculty Fellow, UCSD  
2005- Founding Director, Cymer Center for Control Systems and Dynamics, UCSD  
2000- Full Professor, Dept Mechanical and Aerospace Engineering, UCSD  
1997-1999 Associate Professor, Dept. MAE, UC San Diego  
1995-1997 Assistant Professor, Dept. Mechanical Engineering and Inst. Systems Research, University of Maryland, College Park  
1989-1991 tenure-track lecturer for control systems in mechanical and mining engineering at University of Belgrade

### VISITING Positions

2013 Distinguished Visiting Fellow, *Royal Academy of Engineering*, UK  
2010 Professor of Mathematics, *Université Diderot – Paris 7*, France  
2007 Russell Severance Springer Distinguished Visiting Professor, *UC Berkeley*

## AWARDS AND HONORS

### LIFETIME CAREER RECOGNITIONS

- 2019 *Nonlinear Control Systems Award*, International Federation of Automatic Control (IFAC)
- 2019 *W. T. and Idalia Reid Prize* (for lifetime achievements in control theory and differential equations), Society for Industrial and Applied Mathematics (SIAM)
- 2018 Foreign Member, *Serbian Academy of Sciences and Arts* (SANU)
- 2018 *Distinguished Member Award*, IEEE Control Systems Society
- 2017 *Rufus Oldenburger Medal* (for lifetime achievements in automatic control), American Society of Mechanical Engineers (ASME)
- 2017 *John Ragazzini Education Award*, American Automatic Control Council
- 2017 *Outstanding Contribution to Aerospace Research*, American Institute for Aeronautics and Astronautics (AIAA) San Diego Section
- 2016 *Henry Paynter Outstanding Researcher Award*, American Society of Mechanical Engineers (ASME)
- 2015 *Nyquist Lecture Prize*, American Society of Mechanical Engineers (ASME)
- 2015 Foreign Member, *Academy of Engineering of Serbia* (AINS)

### FELLOW ELECTIONS

- 2017 *Fellow of AAAS* (American Association for the Advancement of Science)
- 2015 *Fellow of SIAM* (Society for Industrial and Applied Mathematics)
- 2015 *Assoc. Fellow of AIAA* (American Institute of Aeronautics and Astronautics)
- 2014 *Fellow of ASME* (American Society of Mechanical Engineers)
- 2014 *Fellow of IET* (Institution of Engineering and Technology, UK)
- 2008 *Fellow of IFAC* (International Federation of Automatic Control)
- 2001 *Fellow of IEEE* (Institute of Electrical and Electronics Engineers)

### PAPER AND BOOK PRIZES

- 2019 *O. Hugo Schuck Best Paper Award*, American Automatic Control Council
- 2014 *Harold Chestnut Textbook Prize*, IFAC (International Federation for Automatic Control), triennial prize—the highest recognition for authoring a book in the field of control systems
- 2012 Semi-plenary paper award at *ASME Dynamic Systems and Control Conference*
- 1998 *George S. Axelby Outstanding Paper Award*, IEEE Trans. Automatic Control
- 1996 *O. Hugo Schuck Best Paper Award*, American Automatic Control Council

### EARLY CAREER AWARDS

- 1999 *Presidential Early Career Award for Scientists and Engineers* (PECASE)
- 1998 *Office of Naval Research Young Investigator Award*
- 1996 *National Science Foundation Career Award*

### OTHER MAJOR RECOGNITIONS

- 2016 *Recent Results on Nonlinear Delay Control Systems: In Honor of Miroslav Krstic*, Springer (a 407-page felicitation volume assembled by 45 leading researchers in the field of control of nonlinear systems with delays on the occasion of my 50<sup>th</sup> birthday)
- 2015-16 Honorary Professorships awarded by Northeastern University, Chongqing University, Donghua University, Dalian Maritime University
- 2016 Invitation Fellow, *Japan Society for the Promotion of Science*
- 2013 Distinguished Visiting Fellow of the *Royal Academy of Engineering*, United Kingdom
- 2007 Russell Severance Springer Distinguished Visiting Professor, *UC Berkeley*
- 2006-10 *Distinguished Lecturer*, Control Systems Society

2005 UCSD Chancellor's Associates *Award for Excellence in Research in Sciences and Engineering*  
(1st from Engineering in 16 years; 2004 winner Roger Tsien, Nobel Prize in Chemistry)

#### GRADUATE STUDENT PERIOD—DISSERTATION AND PAPER PRIZES

1995 *Lancaster Best Dissertation Award* (campus-wide), University of California, Santa Barbara  
1995 Student Best Paper Award, *American Control Conference*  
1993 Student Best Paper Award, *IEEE Conference on Decision and Control*

#### UNDERGRADUATE PERIOD

1988 Serbian Academy of Sciences and Arts Fellowship  
1984 Ivo Lola Ribar Institute Fellowship

#### SERVICE AWARDS

2006 UC San Diego Diversity Award

#### REVIEWER AWARDS

2006 Outstanding Reviewer, *IEEE Transactions on Automatic Control*  
2008 Excellent Reviewer, *AIAA Journal of Guidance, Control, and Dynamics*

#### AWARDS TO MY STUDENTS

2014 *Chancellor's Dissertation Medal* in Engineering (among 150 PhDs granted in 2013), UCSD,  
*Nikolaos Bekiaris-Liberis*  
2014 *Best European Dissertation in Control* of Complex and Heterogeneous Systems, European  
Embedded Control Institute (EECI), *Delphine Bresch-Pietri*  
2013 *Best University-wide Dissertation Award, Paris-Tech* (includes 12 most prestigious and oldest  
technical and business universities in the Paris region such as Ecole des Mines, Ecole  
Polytechnique, ENSAE, etc.), *Delphine Bresch-Pietri*  
2003 *Exon Mobil Best Dissertation Award, Norwegian University of Science and Technology, Ole*  
*Morten Aamo* (for a thesis that I supervised and Aamo and I jointly published as a book *Flow*  
*Control by Feedback* with Springer)

### **Selected EDITORIAL ACTIVITIES**

#### BOOK SERIES

2010- Springer series *Communications and Control Engineering*, Series Editor  
2011- Springer Briefs series *Control, Robotics, and Automation*, Series Co-Editor  
2011- Birkhauser series *Foundations of Systems and Control*, Member, Advisory Board  
2012- Springer *Encyclopedia of Systems and Control*, Section Editor

#### JOURNALS (SELECTED):

2018- *Systems & Control Letters*, Editor-in-Chief  
2006- *Automatica*, Editor for Adaptive and Distributed Parameter Systems  
2009-2018 *IEEE Transactions on Automatic Control*, Senior Editor  
2019- *Advanced Control for Applications*, Editor at Large  
2008 Associate Editor at Large, *IEEE Transactions on Automatic Control*  
2009- *ESAIM: Control, Optimisation, and Calculus of Variations*, Associate Editor  
2012- *Foundations and Trends in Systems and Control*, Member of Editorial Board  
1998-2003 *Systems & Control Letters*, Associate Editor  
1995-2013 *Int. J. Adaptive Control and Signal Processing*, Editor for Adaptive Control until 2012,  
Distinguished Advisor since 2012  
1997-2000 *IEEE Transactions on Automatic Control*, Associate Editor

## SERVICE TO SOCIETIES

### IEEE Control Systems Society service (non-editorial)

2020-22, '18, '00-04	Member, <i>Board of Governors</i> , CSS
2018	Member, <i>Long-Range Planning Committee</i> , CSS
2012	Member, <i>Nominating Committee</i> , CSS
2008-2010	Chair, <i>IEEE Fellow Eval. Committee</i> , CSS
2005-2007	Member, <i>IEEE Fellow Eval. Committee</i> , CSS
2002-2004	<i>Vice President for Technical Activities</i> , CSS
1997-2000	Chair, <i>CDC Student Best Paper Award Committee</i>

### American Automatic Control Council service

2018, 19, 20	Chair, John Ragazzini Education Award selection committee
2012-2013	Member, Richard Bellman Control Heritage Award selection committee

### International Federation on Automatic Control service

2019	Member, Manfred Thoma Medal selection committee
2019	Member, High Impact Paper Award selection committee

### ASME Dynamic Systems and Control Division service

2013	Program Chair, <i>ASME Dynamic Systems and Control Conference</i> , Stanford University, CA
2012-2016	Member, <i>Honors and Awards Committee</i> (chooses recipients of Oldenburger Medal, Takahashi Education Prize, Paynter Researcher Award, Draper Innovation Award, Rabins Leadership Award, DSCC Young Investigator Award, and Kalman Best Paper Award)

## Other Major CONFERENCE ORGANIZATION

2008	General Co-Chair, <i>20<sup>th</sup> International Conference on Magnetically Levitated Systems and Linear Drives</i> , San Diego, CA
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## KEYNOTE LECTURES (36)

2019	<i>IEEE Conference on Control Technology and Applications</i> , Hong Kong
2019	<i>SIAM Cont. on Control and Its Applications</i> , Chengdu, China
2019	<i>IFAC Workshop on Control of Systems Governed by Partial Diff. Equations</i> , Oaxaca, Mexico
2018	<i>Mathematical Theory of Systems and Control</i> , Hong Kong
2018	<i>2<sup>nd</sup> International Symposium on Autonomous Systems</i> , Chongqing, China
2017	<i>Asian Control Conference</i> , Brisbane, Australia
2017	ASME Oldenburger Medal Lecture, <i>Dynamic Systems and Control Conference</i>
2017	<i>IEEE International Conference on Control and Automation</i> , Ohrid, Macedonia
2016	<i>IEEE Intl. Conf. on the Science of Electrical Engineering</i> , Eilat, Israel
2016	<i>IcETran</i> , Zlatibor, Serbia
2015	ASME Nyquist Lecture, <i>Dynamic Systems and Control Conference</i> , Columbus, OH
2015	<i>IFAC Workshop on Adv. Control and Nav. for Autonomous Aerospace Vehicles</i> , Sevilla
2014	<i>IEEE Conference on Decision and Control</i> , Los Angeles
2014	<i>World Congress on Intelligent Control and Automation</i> , Shenyang, China
2014	<i>IcETran</i> , Vrnjacka Banja, Serbia
2013	<i>Congreso Nacional de Control Automático</i> , Mexico
2013	<i>IFAC Workshop on Control of Systems Governed by Partial Differential Equations</i> , Paris

- 2013 *IFAC Nonlinear Control Systems Symposium (NOLCOS)*, Toulouse, France
- 2013 *IFAC Workshop on Adaptation and Learning in Control and Signal Proc.*, Caen, France
- 2013 *IEEE Workshop on Open Problems and Challenges in Automotive Control*, Washington DC
- 2012 *IEEE Conference on Industrial Electronics and Applications*, Singapore
- 2012 *IEEE International Conference on Mechatronics and Automation*, Chengdu, China
- 2011 Diamond Anniversary Distinguished Lecturer, *Coordinated Science Laboratory, U. Illinois*
- 2010 *Intl. Conf. on Control, Automation, Robotics and Vision*, Singapore
- 2010 *Turkish Control Conference*, Gebze, Turkey
- 2010 *IEEE Multi-Conf. on Systems and Control*, Yokohama, Japan
- 2010 *IFAC Symposium on Automatic Control in Aerospace*, Nara, Japan
- 2010 *IFAC Workshop on Time-Delay Systems*, Prague, Czech Republic
- 2009 *ASME Dynamic Systems and Control Conference*, Hollywood, CA
- 2008 *Mediterranean Control Conference*, Ajaccio, Corsica, France
- 2008 *Conf. Control of Physical Systems and PDEs*, Paris, France
- 2008 *Chinese Control and Decision Conference*, Yantai, China
- 2007 *IFAC Symp. Adaptive Sys. in Control & Sig. Proc.*, St. Petersburg, Russia
- 2007 *IFAC NOLCOS Symposium*, Pretoria, South Africa
- 2007 *IEEE Adv. Process Control Workshop*, Vancouver, Canada
- 2006 *Chinese Control Conference*, Harbin, China

### **Selected DISTINGUISHED LECTURES (from > 150 seminars)**

#### KEYNOTE TO INSTITUTE 60-YEAR ANNIVERSARY

- 2011 Diamond Anniversary Distinguished Lecturer, *Coordinated Science Laboratory, University of Illinois, Urbana-Champaign*

#### LECTURE TOURS

- 2013 Lecture tour of UK (6 universities, 2 lectures each), sponsor *Royal Academy of Engineering*
- 2013 Lecture tour of southwestern France (several universities and institutes), sponsors *Institute of Mathematics* and *Institute of Fluid Mechanics* of Toulouse
- 2006-2010 Distinguished Lecturer, *IEEE Control Systems Society*
- 2003 *Southwest Mechanics Lecture Tour*, Distinguished Lecturer (5 universities)

#### INDIVIDUAL LECTURES AND COURSES

- 2018 Oldenburger Lecture, *Purdue University*
- 2017 “Leaders in Engineering,” *Rensselaer Polytechnic Institute*
- 2017 “Kwan Chao-Chi Distinguished Lecture,” *Chinese Academy of Sciences*
- 2013-2016 Distinguished Lecturer, *International Graduate School on Control*, Belgrade, Serbia
- 2012 Distinguished Lecturer, *International Summer School on Automatic Control*, Grenoble, France
- 2012 Distinguished Lecturer, *Dutch Institute of Systems and Control (DISC)*, Summer School on “Optimization and Control”
- 2012 Distinguished Lecturer, *International Graduate School on Control*, Paris, France
- 2009 Eastern Canada Lecture Tour (5 universities), *IEEE Control Systems Society*
- 2008 Nokia Distinguished Lecturer, CITRIS, *UC Berkeley*
- 2007 Springer Distinguished Lecturer, Dept. Mechanical Eng., *UC Berkeley*
- 2007 Distinguished Lecturer, Dept. Mechanical Eng., *Iowa State University*
- 2007 Distinguished Lecturer, Dept. ECE, *Ohio State University*
- 2007 Distinguished Lecturer, *Dutch Institute of Systems and Control (DISC)*, Summer School on “Nonlinear Control”

## FELICITATION TALKS

2016	Basar Fest, IEEE CDC, Las Vegas
2016	Coron Fest, UPMC, Sorbonne Universités, Paris
2015	Praly Fest, Ecole des Mines, Paris
2012	Spong Fest, University of Texas, Dallas
2012	Sontag Fest, Rutgers University
2012	Bastin Fest, Université Catholique de Louvain, Belgium
2010	Helton Fest, University of California, San Diego
2009	Kokotovic Fest, University of California, Santa Barbara

## TEACHING

*Nonlinear Systems* (MAE 281A), 98-18  
*Nonlinear Control* (MAE 281B), 98-03  
*Adaptive Control* (MAE 282), 99-10  
*Control of Distributed Parameter Systems* (MAE 287), 99-11  
*Robust and Multivariable Control* (MAE 284), 04  
*Linear Control* (MAE 143B), Fall 98-07  
*Signals and Systems* (MAE 143A), 05-10

**PhD students graduated: 32**

## STUDENTS/POSTDOCS WITH FACULTY POSITIONS:

1. O. M. Aamo (Norwegian University of Science and Technology)
2. K. Ariyur (Purdue University)
3. A. Balogh (University of Texas)
4. H. Basturk (Bogazici University, Turkey)
5. P. Bernard (MINES ParisTech, France)
6. D. Bresch-Pietri (MINES ParisTech, France)
7. F. Bribiesca Argomedo (Institut National des Sciences Appliquées, Lyon, France)
8. X. Cai (Zhejiang Normal University, China)
9. E. Cerpa (Universidad Técnica Federico Santa María, Chile)
10. J.-Y. Choi (Pohang University, Korea)
11. F. Di Meglio (MINES ParisTech, France)
12. M. Diagne (Rensselaer Polytechnic Institute)
13. A. Ghaffari (Wayne State University)
14. F. Ikhouane (Universitat Politècnica de Catalunya, Spain)
15. H. Ito (Kyushu University of Technology, Japan)
16. W.-J. Liu (University of Southern Arkansas)
17. S.-J. Liu (Sichuan University, China)
18. S. Moura (UC Berkeley)
19. J. Qi (Donghua University, China)
20. B.-B. Ren (Texas Tech University)
21. T. Roux Oliveira (University of Rio de Janeiro, Brazil)
22. E. Schuster (Lehigh University)
23. S.-S. Tang (Texas Tech University)
24. D. Tsubakino (Nagoya University, Japan)
25. R. Vazquez (University of Seville, Spain)
26. H.-H. Wang (Tatung Institute of Technology, Taiwan)
27. C.-C. Yuan (Naval Academy of Taiwan)
28. J.-M. Wang (Beijing Institute of Technology)

## RESEARCH FUNDING

Career total: > \$17M

(This figure includes only my single-PI grants and my personal share on multi-investigator grants.)

### Funding sources:

#### Government:

1. Air Force Office of Scientific Rsch.
2. Army Research Office
3. ARPA-E
4. California Energy Commission
5. Department of Energy
6. Los Alamos National Laboratory
7. NASA
8. National Science Foundation
9. Office of Naval Research

#### Industry:

10. Bosch
11. Cymer
12. Ford
13. General Atomics
14. L-3 Communications
15. Northrop Grumman
16. United Technologies

### All Publications (841):

14 books, 373 journal papers, 31 chapters, 421 refereed conference papers, 2 patents

### Books Authored

- [B1] M. Krstic, I. Kanellakopoulos, and P. V. Kokotovic, *Nonlinear and Adaptive Control Design*, Wiley, 1995.
- [B2] M. Krstic and H. Deng, *Stabilization of Nonlinear Uncertain Systems*, Springer, 1998.
- [B3] O. M. Aamo and M. Krstic, *Flow Control by Feedback*, Springer, 2002.
- [B4] K. Ariyur and M. Krstic, *Real Time Optimization by Extremum Seeking Control*, Wiley, 2003.
- [B5] M. Krstic and A. Smyshlyaev, *Boundary Control of PDEs: A Course on Backstepping Designs*, SIAM, 2008.
- [B6] R. Vazquez and M. Krstic, *Control of Turbulent and Magnetohydrodynamic Channel Flows*, Birkhauser, 2007.
- [B7] M. Krstic, *Delay Compensation for Nonlinear, Adaptive, and PDE Systems*, Birkhauser, 2010.
- [B8] A. Smyshlyaev and M. Krstic, *Adaptive Control of Parabolic PDEs*, Princeton University Press, 2010.
- [B9] S.-J. Liu and M. Krstic, *Stochastic Averaging and Stochastic Extremum Seeking*, Springer, 2012.
- [B10] N. Bekiaris-Liberis and M. Krstic, *Nonlinear Control Under Non-constant Delays*, SIAM, 2013.
- [B11] I. Karafyllis and M. Krstic, *Predictor Feedbacks for Delay Systems: Implementations and Approximations*, Springer, 2017.
- [B12] A. Scheinker and M. Krstic, *Model-Free Stabilization by Extremum Seeking*, Springer, 2017.
- [B13] I. Karafyllis and M. Krstic, *Input-to-State Stability for PDEs*, Springer, 2018.
- [B14] Y. Zhu and M. Krstic, *Delay-Adaptive Linear Control*, Princeton University Press

### CITATIONS (as of December 2019)

ISI (excludes books): h = 65  
Scopus (excludes books): h = 73  
Google Scholar (includes books): h = 92 (total ~42,000)

Citation ranking on Google Scholar in relevant categories:

- Control Systems: 2<sup>nd</sup>

## **ADMINISTRATIVE LEADERSHIP (selected) at UC San Diego**

2012- *Senior Associate Vice Chancellor for Research*

UCSD's Office of Research Affairs administers about \$1.1 Billion per year in research funding (UCSD is ranked #5 nationwide in research revenue). I oversee:

- (1) Organized Research Units (17 large cross-campus research institutes and centers; total budget \$90-120M/year; among directors: 9 members of NAS/NAE/NAM and one National Medal of Science recipient)
- (2) Research Personnel (academic review of 150 Research & Project Scientists)
- (3) Postdoctoral Affairs (1,500 postdocs, largest in the UC System)
- (4) Research Development
  - a. Seed Funds programs (Center Launch and FISP/CRES): program design and selection of multidisciplinary faculty teams, postdocs, and students grantees; budget about \$3M/year
  - b. Research Initiatives: work with the leadership of federal agencies, nat'l labs, UC system, foundations, industry, elected representatives, City of San Diego, and partner universities in creating funding opportunities
  - c. Team-building and matching negotiations for large grant applications
  - d. Limited Submissions (oversee four campus committees that select grant proposals to be submitted from UCSD: science & engineering, humanities and social sciences, life sciences, life sciences young investigators)
- (5) Advisory Council for Research Initiatives and Strategy (founder and chair of the campuswide council of associate deans for research)

2005- *Founding Director, Cymer Center for Control Systems and Dynamics*

2013-2018 Chair, External Affairs Committee, MAE Department

2012-13, 17-18 Chair, Vice Chair, Strategic Planning Committee, MAE Department

2000-2004 Vice Chair, Dept. MAE, UCSD

2000-2004 Chair, Undergraduate Affairs Committee, Dept. MAE, UCSD



## Publications—Miroslav Krstic

### Journal Papers

1. M. Krstic, "Algorithms for calculating flow and pressure distribution in gas networks," *Nafta*, vol. 41, pp. 265--274, 1990.
2. M. Krstic, "General gas network design for a desired stationary flow/pressure distribution," *Nafta*, vol. 41, pp. 493--498, 1990.
3. M. Krstic, I. Kanellakopoulos, and P. V. Kokotovic, "[Adaptive nonlinear control without overparametrization.](#)" *Systems Control Letters*, vol. 19, pp. 177--185, 1992.
4. M. Krstic, P. V. Kokotovic and I. Kanellakopoulos, "[Transient performance improvement with a new class of adaptive controllers.](#)" *Systems Control Letters*, vol. 21, pp. 451--461, 1993.
5. M. Krstic, I. Kanellakopoulos, and P. V. Kokotovic, "[Nonlinear design of adaptive controllers for linear systems.](#)" *IEEE Transactions on Automatic Control*, vol. 39, pp. 738--752, 1994.
6. M. Krstic and P. V. Kokotovic, "[Observer-based schemes for adaptive nonlinear state-feedback control.](#)" *International Journal of Control*, vol. 59, pp. 1373--1381, 1994.
7. M. Krstic, I. Kanellakopoulos and P. V. Kokotovic, "[Passivity and parametric robustness of a new class of adaptive systems.](#)" *Automatica*, vol. 30, pp. 1703--1716, 1994.
8. M. Krstic and P. V. Kokotovic, "[Adaptive nonlinear design with controller-identifier separation and swapping.](#)" *IEEE Transactions on Automatic Control*, vol. 40, pp. 426--441, 1995.
9. M. Krstic and P. V. Kokotovic, "[Control Lyapunov functions for adaptive nonlinear stabilization.](#)" *Systems Control Letters*, vol. 26, pp. 17--23, 1995.
10. M. Krstic and P. V. Kokotovic, "[Adaptive nonlinear output-feedback schemes with Marino-Tomei controller.](#)" *IEEE Transactions on Automatic Control*, vol. 41, pp. 274-80, 1996.
11. M. Krstic and P. V. Kokotovic, "[Modular approach to adaptive nonlinear stabilization.](#)" *Automatica*, vol. 32, pp. 625--629, 1996.
12. M. Krstic, J. Sun and P. V. Kokotovic, "[Robust control of nonlinear systems with input unmodeled dynamics.](#)" *IEEE Transactions on Automatic Control*, vol. 41, pp. 913--920, 1996.
13. M. Krstic, "[Invariant manifolds and asymptotic properties of adaptive nonlinear stabilizers.](#)" *IEEE Transactions on Automatic Control*, vol. 41, pp. 817--829, 1996.
14. M. M. Monahemi and M. Krstic, "[Control of wing rock motion using adaptive feedback linearization.](#)" *Journal of Guidance, Control, and Dynamics*, vol 19, pp. 905--912, 1996.
15. Z.-H. Li and M. Krstic, "[Maximizing regions of attraction via backstepping and CLFs with singularities.](#)" *Systems and Control Letters*, vol. 30, pp. 195-207, 1997.
16. Z. H. Li and M. Krstic, "[Optimal design of adaptive tracking controllers for nonlinear systems.](#)" *Automatica*, vol. 33, pp. 1459-1473, 1997.
17. H. Deng and M. Krstic, "[Stochastic nonlinear stabilization---Part I: A backstepping design.](#)" *Systems and Control Letters*, vol. 32, pp. 143-150, 1997.
18. H. Deng and M. Krstic, "[Stochastic nonlinear stabilization---Part II: Inverse optimality.](#)" *Systems and Control Letters*, vol. 32, pp. 151-159, 1997.
19. M. Krstic and Z. H. Li, "[Inverse optimal design of input-to-state stabilizing nonlinear controllers.](#)" *IEEE Transactions on Automatic Control*, vol. 43, pp. 336-351, 1998.
20. F. Ikhouane and M. Krstic, "[Robustness of the tuning functions adaptive backstepping design for linear systems.](#)" *IEEE Transactions on Automatic Control*, vol. 43, pp. 431-437, 1998.
21. Z.-H. Li and M. Krstic, "[Geometric/asymptotic properties of adaptive nonlinear systems with partial excitation.](#)" *IEEE Transactions on Automatic Control*, vol. 43, pp. 419-425, 1998.
22. F. Ikhouane and M. Krstic, "[Adaptive backstepping with parameter projection: robustness and asymptotic performance.](#)" *Automatica*, vol. 34, pp. 429-435, 1998.
23. M. Krstic, D. Fontaine, P. V. Kokotovic, and J. Paduano, "[Useful nonlinearities and global bifurcation control of jet engine surge and stall.](#)" *IEEE Transactions on Automatic Control*, vol.43, p.1739-45, 1998.

24. R. A. Freeman, M. Krstic, and P. V. Kokotovic, "[Robustness of adaptive nonlinear control to bounded uncertainties.](#)" *Automatica*, vol.34, p.1227-30, 1998.
25. H. Deng and M. Krstic, "[Output-feedback stochastic nonlinear stabilization.](#)" *IEEE Transactions on Automatic Control*, vol.44, p.328-33, 1999.
26. M. Krstic and P. Tsiotras, "[Inverse optimality results for the attitude motion of a rigid spacecraft.](#)" *IEEE Transactions on Automatic Control*, vol.44, p.1042-9, 1999.
27. M. Krstic, A. S. Krupadanam, and C. A. Jacobson, "[Self-tuning control of a nonlinear model of combustion instabilities.](#)" *IEEE Transactions on Control Systems Technology*, vol.7, p.424-436, 1999.
28. M. Krstic, "[On global stabilization of Burgers' equation by boundary control.](#)" *Systems and Control Letters*, vol.37, p.123-142, 1999.
29. H.-H. Wang, M. Krstic, and G. Bastin, "[Optimizing bioreactors by extremum seeking.](#)" *International Journal of Adaptive Control and Signal Processing*, vol. 13, pp. 651-669, 1999.
30. D. Boskovic and M. Krstic, "[Global attitude/position regulation for underwater vehicles.](#)" *International Journal of Systems Science*, vol. 30, pp. 939-946, 1999.
31. K.B.Ariyur and M. Krstic, "[Feedback attenuation and adaptive cancellation of blade-vortex interaction noise on a helicopter blade element.](#)" *IEEE Transactions on Control Systems Technology*, vol. 7, pp. 424-426, 1999.
32. H.-H. Wang, S. Yeung, and M. Krstic, "[Experimental application of extremum seeking on an axial-flow compressor.](#)" *IEEE Transactions on Control Systems Technology*, vol. 8, pp. 300-309, 1999.
33. H. Deng and M. Krstic, "[Output-feedback stabilization of stochastic nonlinear systems driven by noise of unknown covariance.](#)" *Systems and Control Letters*, vol. 39, pp. 173-182, 2000.
34. H.-H. Wang and M. Krstic, "[Extremum seeking for limit cycle minimization.](#)" *IEEE Transactions on Automatic Control*, vol. 45, pp. 2432-2436, 2000.
35. M. Krstic and H. H. Wang, "[Stability of extremum seeking feedback for general dynamic systems.](#)" *Automatica*, vol. 36, pp. 595-601, 2000.
36. W.-J. Liu and M. Krstic, "[Stability enhancement by boundary control in the Kuramoto-Sivashinsky equation.](#)" *Nonlinear Analysis*, vol. 43, pp. 485-583, 2000.
37. M. Krstic, "[Performance improvement and limitations in extremum seeking control.](#)" *Systems & Control Letters*, vol. 39, pp. 313-326, 2000.
38. W.-J. Liu and M. Krstic, "[Strong stabilization of the system of linear elasticity by a Dirichlet boundary feedback.](#)" *IMA Journal of Applied Mathematics*, vol. 65, pp. 109-121, 2000
39. H.-H. Wang, M. Krstic, and M. Larsen, "[Control of deep hysteresis aeroengine compressors.](#)" *Journal of Dynamic Systems, Measurement, and Control*, vol. 122, pp. 140-152, 2000.
40. A. Balogh and M. Krstic, "[Burgers' equation with nonlinear boundary feedback:  \$H^1\$  stability, well posedness, and simulation.](#)" *Mathematical Problems in Engineering*, vol. 6, pp. 189-200, 2000.
41. A. Balogh and M. Krstic, "[Boundary control of the Korteweg--de Vries--Burgers equation: Further results on stabilization and numerical demonstration.](#)" *IEEE Transactions on Automatic Control*, vol. 45, pp. 1739-1745, 2000.
42. W.-J. Liu and M. Krstic, "[Backstepping boundary control of Burgers' equation with actuator dynamics.](#)" *Systems & Control Letters*, vol. 41, pp. 291-303, 2000.
43. H. Ito and M. Krstic, "[Recursive scaling design for robust global nonlinear stabilization via output feedback.](#)" *International Journal of Robust and Nonlinear Control*, vol. 10, pp. 821-48, 2000.
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