

# Curriculum Vitae Dragan Nesic

## Personal Details:

**Surname:** Nesic  
**Name:** Dragan  
**Nationality:** Australian (since 1995, formerly Yugoslav)



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Electrical and Electronic Engineering Department Building,  
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## Education:

- April 1997, PhD in Systems Engineering, Thesis title *Dead-beat control for polynomial systems*, Supervisor Prof. I.M.Y. Mareels
- September 1990, Bachelor of Mechanical Engineering, Thesis title *Static and Dynamic Analysis of a Hydro-Mechanical Control System*, Supervisor Prof. Z. Ribar
- May 1985, High School Graduation, Elektro-masinska skola, Lukavac, former Yugoslavia. Awarded certificates for the highest overall achievement and for the excellence in Serbo-Croatian language

## Present employment:

**Deputy Head**, Research and Engagement (since January 2013)

**Professor**, Level E, continuing position (since June 2006)

Department of Electrical and Electronic Engineering,

Melbourne School of Engineering,

The University of Melbourne

Parkville 3010 Vic

Australia

## **Employment history:**

### **Past research positions:**

- *Jan 2010 – Jan 2014* **ARC Future Fellow**, Australia
- *Jun 2004 - Jun 2009*, **Australian Professorial Fellow**, Australia
- *Oct 2003- Jun 2004*, **Alexander von Humboldt Fellow**, Germany

### **Past academic positions:**

- *Jun 2006 – present*, Professor, Level E, Electrical and Electronic Engineering Department, University of Melbourne, Australia.
- *Jan 2003 – Jun 2006*, Associate Professor and Reader, Level D, Electrical and Electronic Engineering Department, University of Melbourne, Australia.
- *Jan 2001 - Dec 2002*, Senior Lecturer, Level C, Electrical and Electronic Engineering Department, University of Melbourne, Australia.
- *Feb 1999 –Dec 2000*, Lecturer, Level B, Electrical and Electronic Engineering Department, University of Melbourne, Australia.
- *Jan 1998 - Feb 1999*, Postdoctoral Fellow, Electrical and Computer Engineering Department, University of California, Santa Barbara, California, USA.
- *Apr 1997 - Jan 1998*, Postdoctoral Fellow, CESAME, Catholic University, Louvain la Neuve, Belgium.
- *Sep 1996 - Apr 1997*, Research Fellow, Level A, Department of Electrical and Electronic Engineering, The University of Melbourne, Australia.
- *Mar 1996 - Jul 1996*, Tutor and Lecturer, Engineering Department, FEIT, Australian National University, Canberra, Australia.
- *Mar 1995 - Jul 1995*, Tutor, Engineering Department, FEIT, Australian National University, Canberra, Australia.
- *Jan 1991 - Nov 1992*, Full-time Teaching Assistant, Department for Automatic Control, Mechanical Engineering Faculty, University of Belgrade, Yugoslavia.

### **Past Academic Management Positions:**

- *Jan 2013-present*, Deputy Head Research & Engagement, Electrical and Electronic Engineering Department
- *Sept 2001-Nov 2003*, Deputy Head of Department, Department of Electrical and Electronic Engineering

### **Administrative Duties at the University of Melbourne:**

- *June 2014-present*, Member, Research Higher Degrees Committee
- *June 2014-present*, Member, Equal Opportunity Committee, Melbourne School of Engineering
- *January 2012-present*, Member, Engagement Committee, Melbourne School of Engineering
- *January 2008-present*, Member, Research & Research Training Committee, Melbourne School of Engineering
- *March 2007- January 2010*, Research Director, Electrical and Electronic Engineering Department
- *March 2007-November 2007*, RQF Signals & Systems Group Captain, Department of Electrical and Electronic Engineering

- *November 2006 –January 2010*, Member of the Research Mentoring Committee, Department of Electrical and Electronic Engineering
- *January 2007-January 2010*, Member of the Planning Committee, Department of Electrical and Electronic Engineering
- *January 2007-present*, Member of the Academic Board
- *September 2006-December 2007*, Member of the Biomedical Engineering Management Committee
- *January 2004-December 2006*, Co-Director, Victorian Node, Centre of Expertise in Guidance & Control, Department of Electrical and Electronic Engineering
- November 1999-November 2003, Coordinator of the Signals & Systems Discipline
- February 1999-December 2000, Coordinator of the Discovery Day, Department of Electrical and Electronic Engineering
- February 1999-December 2000, Member of the Engineering Computing Resources Committee

**Note:** I also served in a range of other roles, such as Acting Head of Department, Acting 4<sup>th</sup> Year Coordinator, Promotion Committees at the Melbourne School of Engineering and Melbourne Law School and Commerce, Performance Development Framework Committees, Interview Panels. I am currently a supervisor for two professors, one associate professor and a number of younger researchers in his department.

### **Past Professional Service Positions:**

- *2012-present*, Elected Member, Board of Directors, Control Systems Society, IEEE
- *2011*, Appointed Member, Board of Directors, Control Systems Society, IEEE
- *2011-present*, Chair, Steering Committee of the Australian Control Conference
- *2009-2012*, Chair, CSS IEEE Technical Committee on Nonlinear Systems
- *2003-present*, Member, CSS IEEE Technical Committee on Nonlinear Systems
- *2004-present*, Member, IFAC Technical Committee on Networks and Networked Control
- *2006-present*, Member, IFAC Technical Committee on Nonlinear Systems
- *2010-present*, Member, IFAC Technical Committee on Discrete Event and Hybrid Systems

## **Professional Recognition**

### **Membership of Learned Societies**

- **Fellow**, Institution of Electrical and Electronic Engineers (IEEE), (Fellow since 2006, 1995-present)
- **Fellow**, Institution of Engineers Australia (IEAust), (Fellow since 2005, 2000-2013)

### **Awards, Honours & Prestigious Fellowships**

- **ARC Future Fellow**, 2010-2014
- **Australian Professorial Fellow**, 2004-2009
- **Distinguished Lecturer**, Control Systems Society (CSS) IEEE, since 2008
- **Best Student Paper Award** (as supervisor), Australian Control Conference (AUCC), A. Mohammadi, D. Netic and C. Manzie, “Emulation design for a class of extremum seeking controllers: Case studies in ABS design and spark timing calibration”, 2013
- **Interactive Paper Prize**, Conference on Decision and Control, San Diego, P.M. Dower, P. Farrell and D. Netic, "An application of extremum seeking in cascaded optical amplifier control", 2006.
- **EGIDE Scholarship for High Level Researchers**, France, 2005
- **Finalist for the Best Student Paper Award** (as supervisor), joint Conference on Decision and Control and European Control Conference, Seville, M. Tabbara, D. Netic and A.R. Teel, “Input-output stability of wireless networked control systems”, 2005
- **Humboldt Fellowship**, Alexander von Humboldt Foundation, Germany, 2003

- **Finalist for the Best Paper Award**, International Conference on Robotics, Automation and Vision (ICARV), Singapore, D. Netic and P.M. Dower, “Further results on preservation of stability under sampling”, 2000.

### Plenary or keynote lectures

- **Plenary Lecture**, “Analysis and design of networked control systems”, Australian Control Conference, Gold Coast, Australia, 2015
- **Keynote Lecture**, “Extremum seeking: convergence analysis and applications”, European Control Conference, Budapest, Hungary, 2009
- **Keynote Lecture**, “A unified approach to analysis and design of networked and quantized control systems”, Chinese Control & Decision Conference, Guilin, China, 2009
- **Invited Lecturer**, Tutorial Workshop on “Trends in Nonlinear Control”, IEEE Conference on Decision and Control, Mexico, December 2008
- **Keynote Lecture**, “Networked control systems: an emulation based approach to controller design”, NOLCOS, Pretoria, South Africa, Aug 2007

## Teaching and Learning Experience

**Note:** I held research only positions in the period 2003-2014 and consequently my teaching load was reduced during this period.

### Undergraduate Subject Delivery

- **Foundations of Automatic Control**, University of Belgrade, 1990, 1991
- **Automatic Control**, University of Belgrade, 1990, 1991
- **Hydraulic Components of Control Systems**, University of Belgrade, 1990, 1991
- **Process Controllers**, University of Belgrade, 1990, 1991
- **Nonlinear Systems**, University of Belgrade, 1990, 1991
- **Digital Control (431-314)**, University of Melbourne, 1996
- **Fundamentals of Control and Modeling**, Catholic University, Louvain la Leuve, Belgium, 1997
- **Adaptive Control**, University of California, Santa Barbara, 1998
- **Design Lab (431-330)**, University of Melbourne, 1999, 2000, 2001, 2002, 2003
- **Fundamentals of Electrical Engineering (431-101)**, University of Melbourne, 1999, 2000, 2001, 2002
- **Control 1 (431-324)**, University of Melbourne, 2000, 2001, 2002, 2003
- **Digital Electronics and Microprocessors (431-102)**, University of Melbourne, 2002
- **Bioengineering Systems Modeling (431-286)**, University of Melbourne, 2006, 2007, 2008
- **Control Systems (ELEN 90055)**, University of Melbourne, 2015
- **Advanced Control Systems (ELEN 90064)**, University of Melbourne, 2015

**Undergraduate Subject Development:** I prepared lecture materials for a range of subjects during my career. In particular, during my employment at the University of Melbourne, I developed lecture content and all materials for the following subjects: Fundamentals of Electrical Engineering (431-101), Systems Modelling and Control (431-324), Bioengineering Systems Modelling (431-286), Control Systems (ELEN 90055) and Advanced Control Systems (ELEN 90064).

### Graduate Subjects Delivery

- **Nonlinear Systems**, University of Melbourne, 1999, 2000, 2003, 2005, 2007, 2009, 2011, 2013
- **Linear Systems**, University of Melbourne, 2002, 2014

**Graduate Subject Development:** I have developed the content and all lecture material for the graduate subjects Linear Systems and Nonlinear Systems.

### Teaching Feedback

The summary of Quality of Teaching feedback on Question 4 (Overall, has this subject been well taught?) is given below with years in which the subject was taught. Note that this corresponds to Question 2 on old questionnaires. My average teaching score for this question is 4.13 over all subjects I taught at The University of Melbourne.

- **Nonlinear Systems:** 4.4 (1999), 4.8 (2000), 4.67 (2003), 4.33 (2005), 4.75 (2007), 4.52 (2009), 4.6 (2011), 3.94 (2013)
- **Linear Systems:** 4.1 (2002), 4.45 (2014)
- **Bioengineering Systems Modeling,** 4.4 (2006)
- **Control 1:** 3.8 (2000), 3.9 (2001), 4.1 (2002), 4.37 (2003)
- **Digital Electronics and Microprocessors (431-102):** 3.7 (2002)
- **Fundamentals of Electrical Engineering (431-101):** 2.6 (1999), 3.6 (2000), 3.6 (2001)

## Research Student Training and Supervision

### Current PhD students

1. **Amirhosein Jaffarian** (*co-supervised with D. Grayden and D. Freestone*), *Estimation of Epileptic Seizures via Neural Mass Models*
2. **Saeed Ahmedizadeh** (*co-supervised with D. Grayden and D. Freestone*), *Synchronisation of Neural Mass Models*
3. **Omid Monifared** (*co-supervised with H. Meffin, D. Grayden and D. Freestone*), *Modelling of Cortical Neural Tissue*
4. **Zhiyang Ju** (*co-supervised with I. Shames*), *Control of networks of quadrotor helicopters*
5. **Changfu Zou** (*co-supervised with C. Manzie*), *Li-Ion Battery Modelling and Management*
6. **Kaixiang Wang** (*co-supervised with C. Manzie*), *Control of Nano-positioning Systems*
7. **Alejandro Maas** (*co-supervised with P.M. Dower and W. Wang*), *Stochastic Networked Control Systems*
8. **Tianci Yang**, (*co-supervised with M. Kuijper*), *Stability of Networked Control Systems*
9. **Luis Angel Cuevas Ramirez**, (*co-supervised with C. Manzie*), *Observer design for nonlinear singularly perturbed systems*

### PhD Students that graduated

1. **Rina Shvartsman** (*co-supervised with D. Oetomo and Y. Tan*), *System of funnels framework for robust non-linear control*, 2014.
2. **Merid Ljesjanin**, *Networked control systems: stability, robustness and controllability with respect to packet dropouts and scheduling*, 2014. Research Fellow, The University of Melbourne.
3. **Alireza Mohamadi** (*co-supervised with C. Manzie*), *Extremum seeking methods for online optimization of alternative fuelled engines*, The University of Melbourne, 2013. Research Fellow, The University of Melbourne.
4. **Michelle Tsoi Chong** (*co-supervised with L. Kuhlman and A. Varszavski*), *Parameter and state estimation of nonlinear systems with applications in neuroscience*, 2013. Head Tutor, The University of Melbourne.

5. **Wei Wang**, *Averaging and singular perturbation methods for analysis of dynamical systems with disturbances*, The University of Melbourne, 2011. Senior Research Fellow, The University of Melbourne.
6. **Tatiana Kameneva**, *Robustness of quantized control system*, The University of Melbourne, 2009. ARC DECRA Fellow, The University of Melbourne.
7. **Mohammad Tabbara**, *Analysis and design of networked control system*, The University of Melbourne, 2007. Risk Analysis Officer, ANZ Bank.
8. **Gangyu Liu** (co-supervised with I. Mareels), *Modeling and control of non-holonomic and under-actuated mechanical systems*, The University of Melbourne, 2006. Professor, Mechanical Engineering, Hangzhou Dianzi University, China.
9. **Dina Shona Laila**, *Design and analysis of nonlinear sampled-data control systems*, The University of Melbourne, 2003. Lecturer, School of Engineering Sciences, Engineering and the Environment, The University of Southampton.

### Research fellows supervised

1. **Merid Ljesnjanin**, *Extremum seeking control: a systematic design framework*, 2015. Research Fellow, The University of Melbourne.
2. **Wei Wang**, *Networked control systems: enabling technology for future applications*, 2010-2015. Senior Research Fellow, The University of Melbourne.
3. **Farzin Taringoo**, *Extremum seeking control: a systematic design framework*, 2012-2015.
4. **Sei Zhen Khong**, *Extremum seeking control: analysis, design and applications*, 2011. Research Fellow, Lund University.
5. **Dean Freestone**, *Optimisation Of Signal Processing And Electrical Stimulation Algorithms For The Abatement Of Epileptic Seizures*, 2010-2013. Fulbright Fellow.
6. **Romain Postoyan**, *Analysis and Design of Networked Control Systems*, 2010. CNRS Researcher, University of Lorraine, Nancy.
7. **Thang Nguyen**, *Extremum seeking control: analysis, design and application*, 2011. Postdoctoral Fellow, University of Exeter.
8. **Darko Musicki**, *Feedback enhanced sensor signal processing for robust target tracking using underwater sensors*, 2009-2011. Deceased.
9. **Rahul Sharma**, *Efficient and practical hydrogen fuelled vehicle technologies*, 2008-2011. Lecturer, The University of Queensland.
10. **Wei Bin**, *New research directions in the area of nonlinear sampled-data systems*, 2009.
11. **Ying Tan**, *Nonlinear systems with disturbances: analysis, controller design and tradeoffs*, 2003-2006; *Finite-dimensional sampled-data control of nonlinear spatially distributed parameter systems*, 2006-2008; *Extremum seeking control: analysis, design and applications*; 2009. Associate Professor and Reader, The University of Melbourne.
12. **Mohammad Tabarra**, *New research directions in the area of nonlinear sampled-data systems*, 2007-2009. Risk Analysis Officer, ANZ Bank.
13. **Dragan Dacic**, *Sampled-data and networked control systems*, 2005-2006. Quantitative Researcher, Jump Trading.
14. **Christopher Kellett**, *Sampled-data and networked control systems*, 2004. Associate Professor and Reader, The University of Newcastle.

### Student and research fellows supervised under an exchange program

1. **Guanglei Zhao**, *Design of Reset Controllers and Fundamental Limitations*, PhD student, Department of Automation, Shanghai Jiao Tong University, 2013.
2. **Dr Hongyue Du**, *Tracking Control of Networked Control Systems*, Postdoctoral Researcher, China Scholarship Council-University, Harbin University of Science and Technology, PR China, 2014.
3. **J. S. de Beer**, *Sampled-data Observer Design for Networked Control Systems*, Internship, Eindhoven University of Technology, The Netherlands, 2011.

4. **Dr Ximing Sun**, *Networked Control Systems with Time Delays*, Postdoctoral Researcher, China Scholarship Council-University, Control Science and Engineering (SCSE), Dalian University of Technology, PR China, 2009.

## Other Professional & Academic Experience

### Editorial Positions

- **Associate Editor**, IEEE Transactions on Control of Network Systems, 2016-present
- **Associate Editor**, Automatica, 2003-2015
- **Associate Editor**, European Journal of Control, 2007-2011
- **Associate Editor**, Systems and Control Letters, 2001-2010
- **Associate Editor**, IEEE Transactions on Automatic Control, 2004-2008

### Conference Organisation

- **General Co-Chair** (with Prof. R. Middleton), IEEE Conference on Decision and Control, Melbourne, 2017.
- **Member IPC**, 6th IFAC Workshop on Distributed Estimation and Control in Networked Systems, NecSys, Tokyo, Japan, 2016.
- **Area Chair**, IFAC NOLCOS, Monterey, CA, USA, 2016.
- **Vice Program Chair**, IEEE Conference on Decision and Control, Osaka, Japan, 2015.
- **Member TPC**, IEEE Multi-conference on Systems and Control, Sydney, 2015.
- **Member IPC**, MTNS, Groningen, Netherlands, 2014.
- **Member TPC**, Australian Control Conference (AUCC), Canberra, 2014.
- **Member IPC**, IFAC Distributed Estimation and Control in Networked Systems (NecSys), Koblenz, Germany, 2013.
- **Member TPC**, International Symposium on Information, Communication and Automation Technologies (ICAT), Sarajevo, Bosnia & Herzegovina, 2013.
- **Member TPC**, Australian Control Conference (AUCC), Perth, 2013.
- **Member TPC**, Australian Control Conference (AUCC), Sydney, 2012.
- **General Chair**, Australian Control Conference (AUCC), Melbourne, 2011.
- **Program Chair** (with J. Velagic), International Symposium on Information, Communication and Automation Technologies (ICAT), Sarajevo, Bosnia & Herzegovina, 2011.
- **Decision and Control Program Chair**, IEEE Information and Decision Conference, Adelaide, 2007.
- **Member IPC**, IFAC NOLCOS, Pretoria, South Africa, 2007.
- **Associate Editor**, joint IEEE Conference on Decision and Control and European Control Conference, Seville, Spain, 2005.
- **Member IPC**, IASTED International Conference on Control and Applications, Cancun, Mexico, 2005.
- **Co-Chair of IPC** (with R. Middleton), Asian Control Conference, Melbourne, 2004.
- **Area Chair**, IFAC NOLCOS, Stuttgart, Germany, 2004.
- **Member IPC**, Information Decision and Control (IDC) Conference, Adelaide, 2002
- **Member of CSS Conference Editorial Board**, IEEE Conference on Decision and Control & American Control Conference
- **Member IPC**, Asian Control Conference, Shanghai, China

**Review Activities:** Prof. Nesic regularly reviews papers for top international journals (e.g. Automatica, IEEE Trans. Automat. Contr., SICON, Systems & Control Letters) and conferences (e.g. CDC, ACC, ASCC, ECC, IFAC world congress and IFAC symposia), grants for ARC, books for various publishers and student theses.

### Specialist Review Activities

- ARC Future Fellow Evaluation Committee, 2010
- European Commission ICT Research Program, FP7, Objective 3.7, 2007

## Grants

I have received research funding totaling \$5.5 M.

- 2013-2015, M. Cook, D. Grayden, H. McDermot & D. Netic, NMHRC Project Grant, 1048360, *Monitoring Cortical Excitability using a Probing Stimulus for Epileptic Seizure Anticipation*, \$380,361
- 2012-2014, D. Netic, Y. Tan & P.M. Dower, ARC Discovery, DP120101144, *Extremum seeking control: a systematic design framework*, \$390,000
- 2010-2015, D. Netic, ARC Discovery, DP1094326, *Analysis and Design of Networked Control Systems*, \$482,000
- 2009-2013, D. Netic, ARC Future Fellowship, FT0990727, *Networked Control Systems: Harnessing An Emerging Technology*, 891,200
- 2010-2012, D. Grayden, D. Freestone, M. Cook & D. Netic, ARC Linkage, LP100200571, *Optimisation Of Signal Processing And Electrical Stimulation Algorithms For The Abatement Of Epileptic Seizures*, \$265,000
- 2009-2011, D. Netic, Y. Tan, C. Manzie & I.M.Y. Mareels, ARC Discovery, *Extremum seeking control: analysis, design and applications*, \$350,000
- 2009-2011, T. L. Song, D. Musicki & D. Netic, ADD-09-70-01-03, *Feedback Enhanced Sensor Signal Processing for Robust Target Tracking Using Underwater Sensors*, \$200,000
- 2007-2010, M. Brier, H. Watson, C. Manzie, W. Ducker & D. Netic, Department of Innovation, Industry & Regional Development, Victorian Government, Energy Technology Innovation Strategy (ETIS), SU504122, *Efficient and practical hydrogen fuelled vehicle technologies*, \$1.2 M
- 2008, D. Netic, Melbourne Research Grants Scheme, 600764, *Analysis, design and applications of hybrid systems - a new perspective on complex engineering problems*, \$35,520
- 2006-2008, D. Netic & Y.Tan, ARC Discovery & Australian Postdoctoral Fellowship (APD), *Finite-dimensional sampled-data control of nonlinear spatially distributed parameter systems*, \$315,000
- 2005-2007, D. Netic & L. Zaccarian, ARC International Linkage, *Analysis and design of control systems with saturation and time delay*, \$10,000
- 2005, D. Netic, EGIDE Scholarship, France, *Stability of hybrid systems in application to network controlled systems*, €5,600
- 2004, D.Netic & 30 other researchers, ARC Special Initiatives, *Seed funding for "Network on Control, Dynamics and Systems"*, \$30,000
- 2004-2008, D. Netic, ARC Discovery & Australian Professorial Fellowship (APF), *New research directions in sampled-data nonlinear systems*, \$914,000
- 2003-2004, D. Netic, Humboldt Fellowship, *Redesign of continuous time nonlinear controllers for digital implementation*, €14,000
- 2003-2005, D. Netic, I. Mareels & P.Dower, ARC Discovery, *Nonlinear systems with disturbances: analysis, controller design and tradeoffs*, \$240,000
- 2002, D. Netic & P. Dower, ARC Discovery, *Tools for nonlinear continuous-time control systems with disturbances*, \$50,000
- 2001-2003, D. Netic, ARC Large, *Sampled-data nonlinear control systems and numerical methods*, \$183,000
- 2000, D. Netic, ARC Small, *Analysis of properties of time-varying systems with disturbances via averaging*, \$20,000
- 1998-2001, I. Mareels & D. Netic, ARC Large, *Control of nonlinear systems described by polynomial equations*, \$160,000
- 1997, D. Netic, Linkoping University, Sweden, Travel Grant, \$2,000
- 1997, D. Netic, Catholic University, Louvain la Neuve, Belgium, Travel Grant, \$3,000
- 1996, D. Netic, Australian National University, Travel Grant, \$5,300
- 1995, D. Netic, Australian National University, Travel Grant, \$2000



## Professional development:

- 2016: Academic PDF: coaching and feedback session, by Greg Cook (4 hours)
- 2016: Promoting Positive Workplace Behaviours, online (1.5 hours)
- 2013: Experienced Supervisor Workshop, (2 hours)
- 2002: Head Start, (16 Days) This program is very comprehensive, intensive and covers a range workshops, projects and a shadowing programs that address most aspects and issues that arise in senior managerial roles, such as the Head of Department. The emphasis of Head Start is on generic skills that form the essence of successful leadership in an academic environment. Moreover, this program deals with a range of other important aspects of leadership within The University of Melbourne: it acquaints the participants with the detailed administrative structure of the university and arranges their participation in the most important university committees; organizes interviews with the most important academic leaders at the university, including the Vice Chancellor; arranges a one-week full-time shadowing program of a Head or a Dean; raises awareness of the mechanisms within the university that influence decision making; facilitates liaising with academics from other departments that are likely to or already hold most responsible management positions across the university; involves the participants in a project of a university-wide importance and facilitates them in presenting their recommendations to the most senior university management; and so on.
- 2002: How to Write a Promotion Application (2 hours)
- 2001: Professional Development Workshop in Teaching, CSHE (3 times for 2 hours)
- 2002: Occupational health and safety (2 hours)
- 2000: Planning and Delivering Good Lectures, CSHE (4 hours)
- 2001: Workshop on Recruitment and Selection for Academic Staff (1 Day)
- 2000: How to Write a Promotion Application (2 hours)
- 2000: Feedback for Lecturer Skills Development, by Nick Stone (CSHE)
- 1999: Feedback for Lecturer Skills Development, by Nick Stone (CSHE)



## **Publications – a complete list:**

### **Citation/Publication Statistics (21 April 2015)**

	h-index	Citations	i-10 index
<b>Google Scholar</b>	50	10593	165
<b>SCOPUS</b>	34	5092	94
<b>Web of Science</b>	30	3685	73

- Papers [28], [49] and [93] were listed as “Highly cited papers” in Essential Science Indicators.
- I am the most published author in the past 10 years (2004-2015) in the journal of Automatica, according to ISI Web of Science.
- I am the 4<sup>th</sup> most published author in the past 10 years (2004-2015) in the journal of IEEE Transactions on Automatic Control, according to ISI Web of Science.

### **Theses (2 total):**

- [1] D. Netic, “Dead-Beat Control for Polynomial Systems”, PhD Thesis, Australian National University, Canberra, Australia, 1996.
- [2] D. Netic, “Static and Dynamic Analysis of Hydro-Mechanical Control System”, Diploma Thesis, The University of Belgrade, Yugoslavia, 1990.

### **Book chapters:**

- [3] D. Netic, I.M.Y. Mareels, T. Glad and M. Jirstrand, “Software for control system analysis and design: symbol manipulation”, Encyclopedia of Electrical and Electronics Engineering, J. Webster (Ed.), J. Wiley, 2001, available online, <http://www.interscience.wiley.com:83/eeee/> [invited]
- [4] D. Netic and A.R. Teel, “Sampled-data control of nonlinear systems: an overview of recent results”, in *Perspectives on Robust Control*, R.S.O. Moheimani (Ed.), Springer-Verlag: New York, pp. 221-239, 2001. [invited]
- [5] D.S. Laila, D. Netic and A. Astolfi, "Sampled-data control of nonlinear systems", in *Advanced topics in control systems theory II, Lecture notes from FAP*, A. Loria, F. Lamnabhi-Lagarrigue, E. Panteley (Eds.), Springer-Verlag, vol. 328, pp. 91-137, 2006. [invited]
- [6] D. Liberzon and D. Netic, “Stability analysis of hybrid systems via small gain theorems”, in *Proceedings of the Ninth International Workshop on Hybrid Systems: Computation and Control, Santa Barbara, CA, Mar 2006, Lecture Notes in Computer Science*, J. P. Hespanha and A. Tiwari (Eds.), Springer, Berlin, vol. 3927, pp. 421-435, 2006.
- [7] L. Grune, D. Netic and J. Pannek, “Model predictive control for nonlinear sampled-data systems”, in: F. Allgöwer, L. Biegler and R. Findeisen, eds., in *Assessment and Future Directions of Nonlinear Model Predictive Control (NMPC05), Lecture Notes in Control and Information Sciences*, Springer Verlag, vol. 358, pp. 105-113, 2006. [invited]
- [8] M. Tabbara, D. Netic and A.R. Teel, "Networked control systems: emulation based design", in *Networked Control Systems: theory and applications* (Eds. D. Liu and F.-Y. Wang) Springer-Verlag, New York, pp. 57-94, 2008. [invited]
- [9] W. Wang, A.R. Teel and D. Netic, “Averaging Results Pertaining to the Implementation of Hybrid Feedback via PWM Control”, in *Switched Electronic Systems* (eds F. Vasca and L. Ianneli), Springer- Verlag, pp. 275–297, 2012. [invited]
- [10] D. Freestone, L. Kuhlmann, M.S. Chong, D. Netic and D. Grayden, “Patient-Specific Neural Mass Modeling - Stochastic and Deterministic Methods”, *Recent Advances in Predicting and Preventing Epileptic Seizures*, World Scientific Publishing Co. pp. 63–82, 2013. [invited]

- [11] C. Manzie, W. Moase, R. Shekhar, A. Mohammadi, D. Nesic and Y. Tan, “Extremum Seeking Methods for Online Automotive Calibration”, *Optimization and Optimal Control in Automotive Systems, Lecture Notes in Control and Information Sciences*, Vol. 455, pp. 23–39, 2014.
- [12] D. Nesic and R. Postoyan, Nonlinear sampled-data systems, *Encyclopedia of Systems and Control* (Eds. J. Bailleul and T. Samad), Springer, 2014.
- [13] W.P.M.H. Heemels, R. Postoyan, M.C.F. Donkers, A.R. Teel, A. Anta, P. Tabuada and D. Nesic, “Periodic Event-Triggered Control”, In *Event-based control and signal processing* (Ed. M. Miskowicz), the Embedded System Series, CRC Press/Taylor & Francis, 2014.
- [14] M. Abdelrahim, R. Postoyan, J. Daafouz, D. Nesic, “Output feedback event-triggered control”, *Delays and Networked Control Systems* (2016), pp. 113-131.

**Refereed journal article:**

- [15] D. Nesic, “Controllability of generalized Hammerstein systems”, *Sys. Contr. Lett.*, vol. 29, No. 4 (1997), 223-231.
- [16] D. Nesic, I.M.Y. Mareels, G. Bastin and R. Mahony, “Output dead beat control for a class of planar polynomial systems”, *SIAM J. Contr. Optimiz.*, vol. 36, No. 1 (1998), 253-272.
- [17] D. Nesic and I.M.Y. Mareels, “Dead beat controllability of polynomial systems: symbolic computation approaches”, *IEEE Trans. Automat. Contr.*, vol. 43, No. 2 (1998), 162-175.
- [18] D. Nesic and I.M.Y. Mareels, “Dead beat control of simple Hammerstein systems”, *IEEE Trans. Automat. Contr.*, vol. 43, No. 8 (1998), 1184-1189.
- [19] D. Nesic and E.D. Sontag, “Input-to-state stability of linear systems with positive measurements”, *Sys. Contr. Lett.*, vol. 35 (1998), 245-255.
- [20] D. Nesic, “A note on observability for general polynomial and simple Wiener-Hammerstein systems”, *Sys. Contr. Lett.*, vol. 35, No. 4 (1998), 219-227.
- [21] D. Nesic and I.M.Y. Mareels, “Controllability of structured polynomial systems”, *IEEE Trans. Automat. Contr.*, vol. 44, No. 4 (1999), 761-765.
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#### **Unrefereed conference and workshop papers:**

- [383] D. Netic, I.M.Y. Mareels, G. Bastin and R. Mahony, “Dead-beat control of scalar polynomial systems”, *Workshop on Nonlinear and Adaptive Systems*, 24-27 September 1994, no proceedings were printed, Sydney, Australia. [invited]
- [384] D. Netic and I.M.Y. Mareels, “Odd polynomial systems: invariant sets and output dead-beat controllability”, *Workshop on Nonlinear Control*, University of Newcastle, Newcastle, August 1995, no proceedings were printed. [invited]
- [385] P. De Lenheer and D. Netic, “A note on stabilizing and time optimal controllers for discrete-time linear systems with positive controls”, Book of Abstracts, 17th *Benelux Meeting on Systems and Control*, Mierlo, The Netherlands, March 4-6, 1998.
- [386] D.S. Laila and D. Netic, “Changing supply rates for input-output to state stable discrete-time nonlinear systems with applications”, in Book of Abstracts of *Australian East Coast Conference on Signals, Networks and Systems*, Canberra, pp. 28, 2001.
- [387] D. Netic and A.R.Teel, “Sampled-data control of nonlinear systems: overview of recent results”, *Workshop on Robust and Nonlinear Systems*, Newcastle, New South Wales, December 5-8, CD-ROM, 2000. [invited]
- [388] D. Netic, “An overview of recent results in averaging and singular perturbations of systems with disturbances”, *46<sup>th</sup> Annual meeting of the Australian Mathematical Society*, Newcastle, Australia, September 30 - October 3, 2002. [invited]

#### **Industrial contracts:**

- [389] Z. Ribar, M. Milovanovic, D. Lazic, D. Netic, S. Ribar and P. Duka, “Control of an industrial furnace for the production of ceramic tiles”, contract, IGK Polet, Novi Becej, 1991 (in Serbian).
- [390] Z. Ribar, D. Lazic, D. Netic and P. Duka, “A concept of automatic control for a mole”, contract, Gradevinsko Preduzece Polet, Zemun, 1991 (in Serbian).
- [391] D. Netic, “A report on the design of an auto-pilot for a ship”, Expert opinion for Australian Maritime College, Tasmania, Australia, 16 pages, May 2002.

#### **Technical Reports:**

- [392] M. Jirstrand and D. Netic, “On switched polynomial systems and exact output tracking”, Technical Report LiTH-ISY-R-2042, ISSN 1400-3.
- [393] A. Loría and D. Netic, “On necessary and sufficient conditions for UGAS of discrete-time parameterized systems”, tech. rep., LSS, 2002.
- [394] D. Netic and A. Loría, “A remark on stability of cascaded systems”, tech. rep., LAG UMR CNRS 5528, 2002.
- [395] L. Gruene, D. Netic and J. Pannek, “Redesign Techniques for nonlinear sampled-data control”, Oberwolfach Reports, vol. 2, No. 1, Report 11, pp. 584-586, 2005 .

#### **Patents:**

- [396] H. Meffin, T. Kameneva, D. Netic, D. B. Grayden, B.N. Burkitt, PCT/AU2013/000678, *A stimulus generator, a neuroprosthetic apparatus and a stimulation method*, Granted in Australia; Filed in USA and Europe, 2014.

## Teaching:

### Teaching at the University of Melbourne:

Code	Subject	Year	Number of Lectures	Number of Tutorials	Number of Students
431-314	Digital Control	1996	3	11	90
431-101	Fundamentals of Electrical Engineering	1999	9	0	100
431-659	Advanced Studies 2: Nonlinear Systems	1999	24	11	19
431-330	Design Lab	1999	supervision	N/A	5
431-406	Final Year Project	1999	supervision	N/A	5
431-101	Fundamentals of Electrical Engineering	2000	9	0	100
431-324	Systems Modeling and Control	2000	24	0	94
431-659	Advanced Studies 2: Nonlinear Systems	2000	24	11	11
431-330	Design Lab	2000	supervision	N/A	5
431-406	Final Year Project	2000	supervision	N/A	5
431-101	Fundamentals of Electrical Engineering	2001	9	0	86
431-324	Systems Modeling and Control	2001	24	0	80
431-659	Advanced Studies 2: Nonlinear Systems	2001	24	0	10
431-330	Design Lab	2001	supervision	N/A	5
431-406	Final Year Project	2001	supervision	N/A	5
431-101	Fundamentals of Electrical Engineering	2002	9	0	110
431-324	Systems Modeling and Control	2002	24	0	56
431-658	Advanced Studies 1: Adv. Lin. Systems	2002	8	0	15
431-330	Design Lab	2002	supervision	N/A	8
431-406	Final Year Project	2002	supervision	N/A	5
431-102	Digital Electronics and Microprocessors	2003	24	0	92
431-324	Systems Modeling and Control	2003	24	0	73
431-660	Advanced Studies 3: Nonlinear Systems	2003	12	0	15
431-470	Directed Study 4.2	2003	supervision	N/A	1
431-330	Design Lab	2003	supervision	N/A	8
431-406	Final Year Project	2003	supervision	N/A	5
431-658	Advanced Studies 2: Nonlinear Systems	2005	12	0	14
431-406	Final Year Project	2005	supervision	N/A	9
421-286	Bioengineering Systems Modeling	2006	9	5(+10)	40
431-687	Nonlinear Systems Theory	2007	24	0	20
421-286	Bioengineering Systems Modeling	2008	9	10	40
ELEN90028	Nonlinear Systems Theory	2009	24	12	27
ELEN90028	Nonlinear Systems Theory	2011	24	0	20
ELEN90028	Nonlinear Systems Theory	2013	24	0	20
ELEN90027	Linear Systems Theory	2014	24	0	25
ELEN90067	Capstone Project	2015	0	0	6
ELEN90064	Advanced Control Systems	2015	36	0	119
ELEN90055	Control Systems	2015	36	0	139
ELEN90067	Capstone project	2016	0	0	2
ELEN90011	Directed Studies	2016	0	0	2

**Subject Experience Survey (“Q4: Overall, this subject has been well-taught”):**

Code	Subject	Year	Q4
ELEN90028	Nonlinear Systems Theory	2011	4.6
ELEN90028	Nonlinear Systems Theory	2013	3.94
ELEN90027	Linear Systems Theory	2014	4.45
ELEN90064	Advanced Control Systems	2015	4.3
ELEN90055	Control Systems	2015	4.5

**Teaching outside the University of Melbourne:**

Subject	University	Year	No. of Lectures	No. of Tutorials	No. of Labs	Approx. No. of students
Foundations of Automatic Control	Uni. of Belgrade	1990	2	24	80	400
Automatic Control	Uni. of Belgrade	1990	2	36	10	50
Hydraulic Components of Control Systems	Uni. of Belgrade	1990	0	24	12	40
Process Controllers	Uni. of Belgrade	1990	0	24	12	40
Nonlinear Systems	Uni. of Belgrade	1990	0	36	0	40
Foundations of Automatic Control	Uni. of Belgrade	1991	2	24	80	400
Automatic Control	Uni. of Belgrade	1991	2	36	10	50
Hydraulic Components of Control Systems	Uni. of Belgrade	1991	2	24	12	40
Process Controllers	Uni. of Belgrade	1991	0	24	12	40
Nonlinear Systems	Uni. of Belgrade	1991	0	36	0	40
Computer Controlled Systems	ANU	1995	0	12	0	50
Fundamentals of Control and Modeling	Catholic Uni., LLN Belgium	1997	0	12	0	50
Adaptive control	UCSB	1998	4	0	0	15

