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# Curriculum Vitae

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Updated 9/5/2018

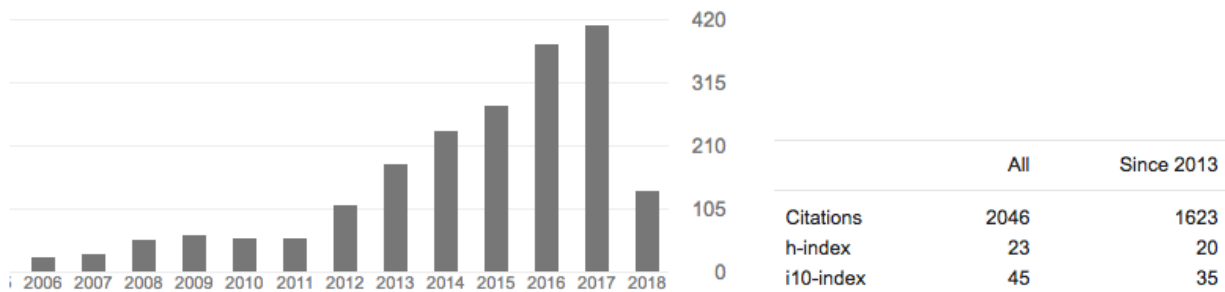
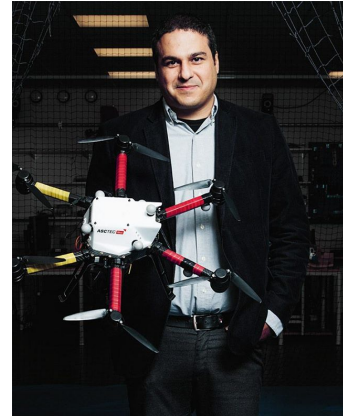
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## 1. Personal Information

### 1.1 Contact Information

Name: George Nikolakopoulos  
 Date of Birth: 9/10/1976  
 Place of Birth: Athens, Greece  
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 Nationality: Greek  
 Email: [geonik@ltu.se](mailto:geonik@ltu.se)  
 Homepage: [www.gnikolak.com](http://www.gnikolak.com)



### 1.2 Current Employment

I work as a Professor in Robotics and Automation, within the Automatic Control Group at the Division of Systems and Interaction in the Department of Computer Science, Electrical and Space Engineering, Luleå University of Technology, Sweden.

My main research interests are in the areas of: Field Robotics, UAVs, Networked Embedded Controlled Systems, Wireless Sensor and Actuator Networks, Cyber Physical Systems, Mechatronics, Adaptive Control, System Identification and Multimedia Wireless Sensor Networks.

### 1.3 Previous Employment in Academia<sup>1</sup>

| Duration                   | Description   |
|----------------------------|---|
| 1/1/2013-1/5/2016          | <b>Associate Professor</b> - Department of Computer Science Electrical and Space Engineering, Luleå University of Technology, Sweden.                   |
| 1/6/2011-31/12/2013        | <b>Assistant Professor</b> - Department of Computer Science Electrical and Space Engineering, Luleå University of Technology, Sweden.                   |
| 21/02/2011 –<br>31/06/2011 | <b>Adjunct Lecturer</b> – Department of Electrical & Computer Engineering, University of Patras, Greece<br><br><b>Course:</b> “Digital Control Systems” |

<sup>1</sup> The Professorship position are provided with respect to the USA categorization [http://en.wikipedia.org/wiki/Professor#Non-tenure-track\\_positions](http://en.wikipedia.org/wiki/Professor#Non-tenure-track_positions)

|                         |  |
|-------------------------|--|
| 4/11/2009 – 31/7/2010   | <b>Assistant Professor</b> – Faculty of Technological Applications, Department of Energy Technology, Technological Institute of Athens, Greece<br><br><b>Course:</b> "Automatic Control Systems" |
| 08/10/2009 – 31/07/2010 | <b>Adjunct Lecturer</b> – Department of Electrical & Computer Engineering, University of Patras, Greece<br><br><b>Courses:</b> "Automatic Control Systems I"<br>"Automatic Control Systems II"   |
| 14/01/2009-31/8/2009    | <b>Adjunct Lecturer</b> – Department of Electrical & Computer Engineering, University of Patras, Greece<br><br><b>Courses:</b> "Automatic Control Systems I"<br>"Automatic Control Systems II"   |
| 13/11/2007-22/2/2008    | <b>Adjunct Lecturer</b> – Department of Electrical & Computer Engineering, University of Patras, Greece<br><br><b>Courses:</b> "Robust Control"  |
| 2/4/2007-31/8/2007      | <b>Adjunct Lecturer</b> – Department of Electrical & Computer Engineering, University of Patras, Greece<br><br><b>Courses:</b> "Automatic Control Systems II"                                    |

#### 1.4 Previous Employment in Industry

| Duration              | Description  |
|-----------------------|--|
| 1/10/2007-1/7/2008    | <b>Company:</b> ZENON S.A. Robotics and Automation ( <a href="http://www.zenon.gr">www.zenon.gr</a> )<br><b>Position:</b> Director of the Electrical and Electronic Team at the R&D Division |
| 01/10/2005-31/01/2007 | <b>Company:</b> Glafcos Marine Ltd. ( <a href="http://www.glafcos-marine.com">www.glafcos-marine.com</a> )<br><b>Position:</b> Director of the R&D Division                                  |
| 01/11/2003-30/09/2005 | <b>Company:</b> Glafcos Marine Ltd. ( <a href="http://www.glafcos-marine.com">www.glafcos-marine.com</a> )<br><b>Position:</b> Software Manager in the R&D Division                          |

#### 1.5 Research Experience / Participation in Research Programs

| Duration | Description   |
|----------|---|
| 1/4/2017 | Principal investigator H2020 project SIMS                   |
| 1/9/2015 | Principal investigator FETopen in H2020 Project ComplInnova |

|                         |  |
|-------------------------|--|
| 1/1/2015                | Project Coordinator H2020 Project AEROWORKS  |
| 1/1/2015                | Project Coordinator H2020 Project DISIRE   |
| 1/1/2015                | Principal Investigator for the project «New understanding of Motor Control and Fails by Novel Postural Sway Analysis, Robotics and Mathematical modeling» funded by the Swedish Research Council, Vetenskapsrådet 2014.  |
| 1/10/2013 - Current     | Founder of Working Group on Motor Control and Biomechanics at Luleå University of Technology: <a href="http://www.ltu.se/research/Working-groups/Motor-Control-and-Biomechanics?l=en">http://www.ltu.se/research/Working-groups/Motor-Control-and-Biomechanics?l=en</a>  |
| 1/2/2014 - Current      | Project Manager – ARTEMIS R5-COP: Reconfigurable ROS based Resilient Reasoning Robotic Cooperating Systems, <a href="http://www.r5-cop.eu/en/">http://www.r5-cop.eu/en/</a>  |
| 1/1/2014 - current      | Project Manager – Robotic Pneumatic Dancer   |
| 1/1/2012-31/6/2012      | Project Manager: Mine Patrolling Rovers, funded by the Hjalmar Lundbohm Research Center (HLRC)<br><a href="http://www.hlrc.se/en/Projects/Mine-Patrolling-Rovers/">http://www.hlrc.se/en/Projects/Mine-Patrolling-Rovers/</a>  |
| 1/1/2012 - current      | EQoREF: Energy and Quality Oriented Modeling and Control of Refiners   |
| 1/6/2011-16/12/2011     | Smart Mine of the Future –SMIFU-II, Funded by the Rock Technology Center (RTC) - <a href="http://www.rocktechcentre.se/?q=node/9">http://www.rocktechcentre.se/?q=node/9</a><br>WP-1: Zero Entry Production Area<br>WP11: Integrated Process Control   |
| 24/01/2006-1/6/2011     | Post Doc Researched at the Laboratory of Automation and Robotics, Department of Electrical and Computer Engineering, University of Patras, Greece  |
| 1/03/2007-31/07/2009    | Researcher at the R&D Division of ZENON S.A. Robotics and Automation ( <a href="http://www.zenon.gr">www.zenon.gr</a> )  |
| 7/2/2006 - 7/2/2007     | Researcher at the Bureau of Research and Technology of the Greek Naval Army (GETEN), Athens, Greece  |
| 1/2003 – 12/2006        | Graduate Fellow, (Herakleitos Program), founded by the greek Greek Ministry's of Education, EPEAEK II, contract number #2782#, Design and Development of Networked Controlled Systems  |
| 1/2001-12/2004          | Graduate Fellow, (Karatheodoris Program), Research Committee, University of Patras, contract number #2782#, Design and Development of Reconfigurable Control Schemes   |
| 01/04/2008-30/10/2008   | Researcher in the Industrial Systems Institute (ISI) for the project “Industrial Control”  |
| 01/10/2007 – 31/07/2009 | Project Manager/Researcher at the European Research Project “CommRob” (Advanced Behavior and High-Level Multimodal Communication with and among Robots), STREP - IST #045441#, <a href="http://www.commrob.eu/">http://www.commrob.eu/</a>   |
| 01/02/2007 – 31/07/2009 | Project Manager/Researcher at the European Research Project “C@R” (Collaboration at Rural), IP-IST #34921#, <a href="http://www.c-rural.eu">http://www.c-rural.eu</a>  |
| 01/10/2007-31/12/2008   | Project Manager/Researcher at the European Research Project “SYMBIOSIS-EU” (Scientific Synergism of Nano-Bio-Info-Cogni Science for an Integrated System to Monitor Meat Quality and Safety During Production, Storage, and Distribution in the EU. STREP, <a href="http://www.symbiosis-eu.net/">http://www.symbiosis-eu.net/</a> |

|                       |   |
|-----------------------|---|
| 01/06/2007-31/12/2008 | Project Manager/Researcher at the Hellenic Research Project “ΔΙΑΝΟΗΜΑ” (Optical Analysis and Sign Recognition for Sign Language Modeling and its Applications in Robot Teleoperation” , <a href="http://dianoema.zenon.gr/">http://dianoema.zenon.gr/</a>                           |
| 01/10/2005-01/5/2006  | Researcher at the European Research program “COMPASS”, contract number #G3RD-CT-2002-00809#, Developing of a sea sick measurement system.   |
| 01/10/2004-30/4/2007  | Researcher at the European Research program “RUNES”, (Reconfigurable Ubiquitous Networked Controlled Systems) IST-004536 <a href="http://www.ist-runes.org/">http://www.ist-runes.org/</a>  |
| 01/11/2005-31/10/2006 | Researcher at the European Research program “HYCON” (Hybrid Control), FP6-IST-511368, <a href="http://www.ist-hycon.org/">http://www.ist-hycon.org/</a>   |
| 01/09/2001-01/07/2003 | Researcher at the European Project “OPTINAV” (Optimal Navigation) Strep FP6-IST-29459,<br><a href="http://cordis.europa.eu/fetch?CALLER=PROJ_ICT&amp;ACTION=D&amp;CAT=PROJ&amp;RCN=57179">http://cordis.europa.eu/fetch?CALLER=PROJ_ICT&amp;ACTION=D&amp;CAT=PROJ&amp;RCN=57179</a> |
| 1/1999 - 12/2000      | Researcher in the European Research Program “WINGEM” (Wind Generators), Design and development of algorithms for the fuzzy and neural control of a flywheel.  |
| 9/2000-11/2000        | Researcher at the European Research Program “PSIM”<br>Contract Number #60004#   |

## 2. Publications

### 2.1 Monographs

[M1] **G. Nikolakopoulos**, “*Adaptive Control of Varying Systems*”, Ph.D. Dissertation, Department of Electrical & Computer Engineering, University of Patras, Greece, 24 January 2006.

[M2] **G. Nikolakopoulos**, “*Intelligent Control of a Flywheel*”, Master Thesis, Department of Electrical & Computer Engineering, University of Patras, Greece, 24 January 2000.

### 2.2 Books

[B1] S. Manesis and G. Nikolakopoulos, “*Introduction to Industrial Automation and Control*”, Taylor and Francis, 2016 ISBN: 978-1-4987-0540-0.

### 2.3 Peer-Reviewed Publications in International Journals

[J50] S. S. Mansouri, C. Kanellakis, G. Georgoulas, D. Kominiak, T. Gustafsson and **G. Nikolakopoulos**, “*2D visual area coverage and path planning coupled with camera footprints*”, Control Engineering Practice, Elsevier, 2018.

- [J49] S. S. Mansouri, C. Kanellakis, E. Fresk, D. Kominiak and **G. Nikolakopoulos**, "*Cooperative Coverage Path Planning for Visual Inspection*", Control Engineering Practice, Elsevier, 2018.
- [J48] T. Nayl, **G. Nikolakopoulos**, T. Gustafsson, D. Kominiak and R. Nyberg, "Design and Experimental Evaluation of a Novel Sliding Mode Controller for an Articulated Vehicle", Robotics and Autonomous Systems, Elsevier, 2018.
- [J47] U. Röjjezon, R. Faleij, P. Karvelis, G. Georgoulas, **G. Nikolakopoulos**, "A new clinical test for sensorimotor function of the hand - development and preliminary validation", BMC Journal of Musculoskeletal Disorders, 2017.
- [J46] G. Andrikopoulos and **G. Nikolakopoulos**, "Humanoid Robotic leg via pneumatic muscle actuators: Implementation and Control", Meccanica, Springer, 10.1007/s11012-017-0738-6
- [J45] C. Kanellakis and **G. Nikolakopoulos**, "*Survey on computer Vision for UAVs: Current Developments and Trends*" accepted for publication in the Journal of Intelligent and Robotic Systems, Springer, 2017.
- [J44] George Georgoulas, Vicente Climente-Alarcon, Jose A. Antonino-Daviu, Chrysostomos D. Stylios, Antero Arkkio, and **G. Nikolakopoulos**, "*A Multi-label Classification Approach for the Detection of Broken Bars and Mixed Eccentricity Faults Using the Start-up Transient*", accepted for publication in the IEEE Transactions on Industrial Electronics, 2016.
- [J43] G. Andrikopoulos, **G. Nikolakopoulos**, and S. Manesis, "*Novel Considerations on Static Force Modeling of Pneumatic Muscle Actuators*", accepted for publication in the IEEE Transactions on Mechatronics, 2016.
- [J42] T. Edrees, **G. Nikolakopoulos**, and L. Dritsas, "*Semi-Active Control of Flexible Structures Using Closed Loop Input Shaping Techniques*", accepted for publication in the Structural Control and Health Monitoring Journal, Wiley, 2016.
- [J41] T. Edrees and **G. Nikolakopoulos**, "*Identification of Building Damage Using ARMAX Model: A parametric study*", accepted for publication in the Diagnostyka Journal, 2016.
- [J40] E. Fresk, **G. Nikolakopoulos**, and T. Gustafsson, "**A Generalized Reduced Complexity Inertial Navigation System for Unmanned Aerial Vehicles**", accepted for publication in the IEEE Transactions of Control Systems Technology, 2016.
- [J39] D. Varagnolo, M.O. Mustafa, and **G. Nikolakopoulos**, "*Detecting Broken Rotor Bars in Induction Motors with Model-Based Support Vector Classifiers*", accepted for publication in the Control Engineering Practice, Elsevier, 2016.
- [J38] M.O. Mustafa, **G. Nikolakopoulos**, T. Gustafsson, and D. Kominiak, "*A Fault Detection Scheme Based on Minimum Uncertainty Bounds Violation for Broken Rotor Bars in Induction Motors*", accepted for publication in the Control Engineering Practice, Elsevier, 2015.
- [J37] T. Edrees, **G. Nikolakopoulos**, "*Posicast Control of Structures Using MR Dampers*", accepted for publication in the Structural Control and Health Monitoring Journal, Wiley, 2015.
- [J36] G. Andrikopoulos, **G. Nikolakopoulos**, and S. Manesis, "*Design and Development of an Exoskeletal Wrist Prototype via Pneumatic Artificial Muscles*", Online Published in Meccanica, Elsevier, 2015, DOI-10.1007/s11012-015-0199-8.

- [J35] T. Nayl, G. **Nikolakopoulos**, and T. Gustafsson, “*Effect of Kinematic Parameters on MPC based On-line Motion Planning for an Articulated Vehicle*”, in the Robotics and Autonomous Systems, Vol. 70, pp 16-24, Elsevier, August 2015.
- [J34] T. Edrees, G. **Nikolakopoulos**, N. Grip and J.E. Jonasson, “*Investigation of changes in modal characteristics before and after damage of a railway bridge: A case study*”, in IES Journal, Part A: Civil and Structural Engineering, Vol. 4, 2015, Taylor and Francis.  
DOI: 10.1080/19373260.2015.1020889
- [J33] T. Nayl, G. **Nikolakopoulos**, and T. Gustafsson, “*A Full Error Dynamics Switching Modeling and Control Scheme for an Articulated Vehicle*”, in the Journal of Control, Automation and Systems, Vol. 13, No. 5, pp. 1-12, Springer, 2015. DOI 10.1007/s12555-014-0049-9
- [J32] T. Edrees, G. **Nikolakopoulos** and J.E. Jonasson, “*Comfort Level Identification for Irregular Multi-storey Building Subjected to Vibrations*”, in Automation in Construction Journal from Elsevier, Vol. 50, pp. 40-49, 2015.
- [J31] G. Andrikopoulos, G. **Nikolakopoulos** and S. Manesis, “*Advanced Non-Linear PID based Antagonistic Control for Pneumatic Muscle Actuators*”, in IEEE Transactions on Industrial Electronics, Vol. 61, No. 12, pp. 6926-6937, Dec. 2014.
- [J30] K. Alexis, G. **Nikolakopoulos** and A. Tzes, “*Experimental Constrained Optimal Attitude Control of a Quadrotor subject to Wind Disturbances*”, in the International Journal of Control, Automation and Systems, Vol. 12, No. 6, pp. 1289-1302, Springer, 2014.
- [J29] G. **Nikolakopoulos**, L. Dritsas and S. Sayyaddelshad, “*Combined Networked Switching Output Feedback Control with D-Region Stability for Performance Improvement*”, in International Journal of Control, Taylor and Francis, Vol. 87, No. 6, pp. 1172-1180, Feb. 2014.
- [J28] M. Mustafa, G. **Nikolakopoulos**, T. Gustafsson, “*Fault Classification Scheme for Three Phase Induction Motor*”, International Journal of System Dynamics Applications, Vol. 3, No. 1, IGI Global, 2013.
- [J27] G. Andrikopoulos, G. **Nikolakopoulos**, and S. Manesis, “*Pneumatic Artificial Muscles: A Switching Model Predictive Control Approach*”, in Control Engineering Practice Journal, Vol. 21, No. 12, pp. 1653-1664, Elsevier, 2013.
- [J26] M. O. Mustafa, G. **Nikolakopoulos**, T. Gustafsson, “*Broken Bars Fault Diagnosis Based on Uncertainty Bounds Violation for Three Phase Induction Motors*”, in International Transactions on Electrical Energy Systems, Wiley, 2013. (In press)
- [J25] G. Andrikopoulos, G. **Nikolakopoulos**, I. Arvanitakis and S. Manesis, “*Switching Model Predictive Control of a Pneumatic Muscle Actuator*”, accepted for publication in the International Journal of Control, Automation and Systems, Springer, 2013. DOI: <http://dx.doi.org/10.1016/j.conengprac.2013.09.003>
- [J24] G. Georgoulas, M. O. Mustafa, I. P. Tsoumas, J. A. Antonino-Daviu, V. Climente-Alarcon, C.D. Stylios and G. **Nikolakopoulos**, “*Principal Component Analysis of the Start-up Transient and Hidden Markov Modeling for Broken Rotor Bar Fault Diagnosis in Asynchronous Machines*”, in Expert Systems with Applications Journal, Vol. 40, Issue 17, pp. 7024-7033, Elsevier, 2013, DOI: j.eswa.2013.06.006
- [J23] G. Andrikopoulos, G. **Nikolakopoulos**, J. Arvanitakis and S. Manesis, “*Piecewise Affine Modeling and Constraint Optimal Control for a Pneumatic Artificial Muscle*”, in IEEE Trans on Industrial Electronics, Vol. 61, No. 2, pp 904-916, IEEE, 2014.



- [J22] **G. Nikolakopoulos**, and K. Alexis, “Switching Networked Attitude Control of an Unmanned Quadrotor”, *International Journal of Control, Automation and Systems*, Vol. 11, No. 2, Springer, 2013, DOI: 10.1007/s12555-011-0132-4.
- [J21] A. Tarek, **G. Nikolakopoulos**, J.E. Jonasson, H. Hedlund, “A state of the art review of Structural Control Systems”, in press, *Journal of Vibration and Control*, SAGE Journals, 2013, E-pub ahead of printing DOI: 10.1177/1077546313478294.
- [J20] **G. Nikolakopoulos**, P. Stavrou, D. Tsitsipis, D. Kandris, A. Tzes and T. Theoharis “A Dual Scheme for Compression and Restoration of Sequentially Transmitted Images over Wireless Sensor Networks”, *Journal of Ad-Hoc Networks*, Vol. 11 , No.1 , pp. 410–426, 2013, Elsevier.
- [J19] K. Alexis, **G. Nikolakopoulos** and A. Tzes, "On Trajectory Tracking Model Predictive Control of an Unmanned Quadrotor Helicopter subject to aerodynamic disturbances", in press, *Asian Journal of Control*, Elsevier, E-pub ahead of printing DOI: 10.1002/asjc.587 2012.
- [J18] K. Alexis, **G. Nikolakopoulos** and A. Tzes, "Model Predictive quadrotor control: attitude, altitude and position experimental studies", in *IET Control Theory and Applications*, Vol. 6, No. 12, pp.1-16, Elsevier 2012.
- [J17] E. Kelasidi, G. Andrikopoulos, **G. Nikolakopoulos** and S. Manesis, “A Survey on Pneumatic Muscle Actuators Modeling”, in *Journal of Energy and Power Engineering*, David Publishing, Vol. 6, No. 9, pp. 1442-1452, 2012.
- [J16] G. Andrikopoulos, **G. Nikolakopoulos** and S. Manesis, “Development and Control of a Hybrid Controlled Vertical Climbing Robot Based on Pneumatic Muscle Actuators”, in *International Journal of Control Engineering and Technology (JCET)*, Vol. 1, No. 2, pp. 53-58, October, 2011.
- [J15] K. Alexis, **G. Nikolakopoulos** and A. Tzes, "Quadrotor Autonomous Position and Attitude PID/PIDD Control in GPS-Denied Environments", in *International Review of Automatic Control Journal*, Vol. 4, No.3, pp.421-430, May 2011.
- [J14] K. Alexis, **G. Nikolakopoulos** and A. Tzes, “Switching Model Predictive Attitude Controller for a Quadrotor Helicopter Subject to Atmospheric Disturbances”, in *Control Engineering Practice*, Vol. 19, No. 10, pp. 1195-1207, October 2011. doi: doi:10.1016/j.conengprac.2011.06.010.
- [J13] **G. Nikolakopoulos**, D. Kandris and A. Tzes, “Adaptive Compression of Slowly Varying Images Transmitted Over Wireless Sensor Networks”, in *Sensors Journal*, Vol. 10, pp. 7170-7191, 2010, doi:10.3390/s100807170.
- [J12] M. Vagia, Y. Koveos, **G. Nikolakopoulos**, and A. Tzes “Robust PID controller design for an electrostatic microactuator with measurement uncertainties”, in *IET Control Theory and Applications*, Vol. 4, No. 12, pp 2793-2801, Dec 2010, doi: 10.1049/iet-cta.2009.0350
- [J11] **G. Nikolakopoulos** and A. Tzes “Application of Adaptive Lattice Filters for Modal Parameter Tracking of a Single Flexible Link Carrying a Shifting Payload”, in the *Journal of Mechanical Systems and Signal Processing*, Elsevier, Vol. 24, No. 5, pp. 1338-1348, July 2010.
- [J10] D. Kandris, P. Tsioumas, A. Tzes, **G. Nikolakopoulos**, and D. Vergados, “Power Conservation Through Energy Efficient Routing in Wireless Sensor Networks”, Published at *Sensors Journal*, 2009, Vol. 9, pp 7320-7342, doi:10.3390/s90907320.
- [J9] M. Vagia, **G. Nikolakopoulos**, A. Tzes “Design of a Robust PID--Control Switching Scheme for an Electrostatic micro-actuator”, in *Control Engineering Practice*, Vol. 16, Issue 11, pp. 1321-1328, November 2008.

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- [J8] **G. Nikolakopoulos** and A. Tzes "AR Lattice *l-step ahead output uncertainty prediction scheme with uncertainty intervals*", in the Journal of Circuits, Systems and Computers, World Scientific, Vol. 17, No. 5, pp. 893-904, 2008.
- [J7] G. Panousopoulou, **G. Nikolakopoulos**, A. Tzes and J. Lygeros, "Recent Trends on QoS for Networked Controlled Systems", in the Mediterranean Journal of Computer Networks, Vol.2, No.1, pp.31-40, 2005.
- [J6] **G. Nikolakopoulos**, A. Panousopoulou, A. Tzes and J. Lygeros, "Multi-Hopping Induced Gain Scheduling for Wireless Networked Controlled Systems", in the Asian Journal of Control, Vol. 9, No. 4, pp 450-457, December 2007.
- [J5] M. Vagia, **G. Nikolakopoulos**, and A. Tzes, "Intelligent Robust Controller Design for a Micro-Actuator", in the Intelligent and Robotic Systems Journal, Vol. 47, No. 4, pp. 299-315, Springer, 2005
- [J4] **G. Nikolakopoulos**, A. Tzes and Y. Koveos, "Application of Adaptive Lattice Filters to Internal Model Control", in the International Journal of Adaptive Control and Signal Processing, Vol. 22, No. 6, pp 569-589, September 2007.
- [J3] **G. Nikolakopoulos**, A. Panousopoulou, and A. Tzes, "Experimental Controller Tuning and QoS Optimization of a Wireless Transmission Scheme for Real-Time Remote Control Applications", In Control Engineering Practice, Vol. 16, No. 3, pp. 333-346, March, 2008
- [J2] A. Tzes, **G. Nikolakopoulos** and I. Koutroulis, "Development and Experimental Verification of a Mobile Client-Centric Networked Controlled System", In European Journal of Control, Vol.11, No. 3, pp. 229-241, 2005. A shorter version (Paper #227) appeared in the Proceedings of the 2003 European Control Conference, Cambridge, UK, September 1-7, 2003. (This article received the IST-prize award from EU in 2003).
- [J1] **G. Nikolakopoulos**, A. Tzes, "Reconfigurable Adaptive Control Based on Lattice Filtering", Journal of Mathematics and Computers in Simulation, Vol. 60, No. 3-5, pp. 303-314, 2002.

### 3.3.2 Books

- [B1] S. Manesis and G. Nikolakopoulos, "Introduction to Industrial Automation and Control", Taylor and Francis, 2016 ISBN: 978-1-4987-0540-0.

### 3.3.2 Book Chapters

- [B7] T. Nayl, **G. Nikolakopoulos** and T. Gustafsson, "Real-Time Bug-Like Dynamic Path Planning for an Articulated Vehicle", Lecture Notes in Computer Engineering, Springer, 2013.
- [B6] K. Alexis, **G. Nikolakopoulos**, and A. Tzes, "Coordination of Helicopter UAVs for Aerial Forest Fire Surveillance" in K.P. Valavanis, "Intelligent Control Applications to Engineering Systems", pp. 169-193, Springer, 2009.
- [B5] **G. Nikolakopoulos**, A. Panousopoulou and A. Tzes, "Switched Feedback Control for Wireless Networked Systems", in Fei-Yue Wang and Derong Liu, 'Networked Control Systems: Theory and Applications', pp. 153-195, 2008, Springer Verlag, ISBN: 978-1-84800-214-2
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- [B4] A. Tzes\_ & **G. Nikolakopoulos**, 'Classical Control Laboratory Manual', 2002, Published by the University of Patras, Publishing office
- [B3] R. King and **G. Nikolakopoulos**, Chapter in the book Robert King, "Συστήματα Μετρήσεων-Virtual measurement systems (Εικονικά Συστήματα Μέτρησης)", Tziolas Publications
- [B2] **G. Nikolakopoulos**, "*Adaptive Control of Varying Systems*", Department of Electrical and Computer Engineering, Published by the University of Patras, Publishing Office, Greece.
- [B1] K. Andrianesis, A. Tzes, **G. Nikolakopoulos** and Y. Koveos, "*Experimental Study of a Shape Memory Alloy Actuation System for a Novel Prosthetic Hand*", published in "*Shape Memory Alloy*", Psciyo Publications.

### 3.3.3 Conference Publications (all full article reviewed contributions)

- [C145] C. Kanellakis, S. Mansouri, G. Georgoulas, and **G. Nikolakopoulos**, "*Towards autonomous surveying of underground mine using MAVs*" at the 27<sup>th</sup> International Conference on Robotics in Alpe-Adria Danube Region, Patra, 6-8 of June, 2018.
- [C144] J. Niemi, G. Cimini, G. Georgoulas, **G. Nikolakopoulos**, "*Framework for integrated process control and in-line measurements of a walking beam furnace*", In-line Measurement and Control for Metals Processing, 6-7 December 2017, Warwick, UK.
- [C143] E. Fresk and **G. Nikolakopoulos**, "*A generalized Frame Adaptive MPC for the low-level control of UAVs*", European Control Conference, Limassol, Cyprus, June 12-15, 2018.
- [C142] E. Fresk, D. Wuthier and **G. Nikolakopoulos**, "*Generalized center of gravity compensation for multirotors with application to aerial manipulation*", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vancouver, Canada, September 24-28, 2017. IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vancouver, Canada, September 24-28, 2017.
- [C141] A. Adaldo, S. S. Mansouri, C. Kanellakis, D. Dimarogonas, K. H. Johansson, and **G. Nikolakopoulos**, "*Cooperative coverage for surveillance of 3D structures*", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vancouver, Canada, September 24-28, 2017.
- [C140] S. S. Mansouri, C. Kanellakis, D. Kominiaik and **G. Nikolakopoulos**, "*Cooperative UAVs as tools for aerial inspection of the aging infrastructure*", 11th Conference on Field and Service Robotics, ETH Zurich, Switzerland, 12-15, September 2017.
- [C139] C. Kanellakis, M. Terreran, D. Kominiaik and **G. Nikolakopoulos**, "*On Vision Enabled Aerial Manipulation for Multirotors*", International Conference on Emerging Technologies and Factory Automation (ETFA), Limassol, Cyprus, from 13-15, September, 2017.
- [C138] S. S. Mansouri, G. Georgoulas, T. Gustafsson and **G. Nikolakopoulos**, "*On the Covering of a Polygonal Region with Fixed Size Rectangles with an Application towards Aerial Inspection*", 25th Mediterranean Conference on Control and Automation, 3-6 July, 2017, Valletta, Malta.
- [C137] E. Fresk, S. S. Mansouri, C. Kanellakis, and **G. Nikolakopoulos**, "*Reduced Complexity Calibration of MEMs IMUs*", 25th Mediterranean Conference on Control and Automation, 3-6 July, 2017, Valletta, Malta.
- [C136] A. Brusell, G. Andrikopoulos and **G. Nikolakopoulos**, "*Novel Considerations on the Negative Pressure Adhesion*", 25th Mediterranean Conference on Control and Automation, 3-6 July, 2017, Valletta, Malta.

- [C135] G. Andrikopoulos, **G. Nikolakopoulos**, "*Design, Development and Control of a Human-Inspired Two-Arm Robot via Pneumatic Artificial Muscles*", 25th Mediterranean Conference on Control and Automation, 3-6 July, 2017, Valletta, Malta.
- [C134] H. Jafari, C. A. Miguel, T. Gustafsson, **G. Nikolakopoulos**, "*On Control Structure Design for a Walking Beam Furnace*", 25th Mediterranean Conference on Control and Automation, 3-6 July, 2017, Valletta, Malta.
- [C133] D. Herceg, G. Georgoulas, P. Sopasakis, C. A. Miguel, P. Patrinos, A. Bemporad, J. Niemi, and **G. Nikolakopoulos**, "*Data-driven Modelling, Learning and Stochastic Predictive Control for the Steel Industry*", 25th Mediterranean Conference on Control and Automation, 3-6 July, 2017, Valletta, Malta.
- [C132] G. Ephraim, F. Dan, G. Georgoulas, C. A. Miguel, and **G. Nikolakopoulos**, "*Cloud Computing for Big Data Analytics in the Process Control Industry*", 25th Mediterranean Conference on Control and Automation, 3-6 July, 2017, Valletta, Malta.
- [C131] C. Kanellakis, S. S. Mansouri, and **G. Nikolakopoulos**, "*Dynamic Visual Sensing on MPC controller UAV*", 25th Mediterranean Conference on Control and Automation, 3-6 July, 2017, Valletta, Malta.
- [C130] P. Karvelis, U. Røijejon, R. Faleij, G. Georgoulas and **G. Nikolakopoulos**, "*A Laser Dot Tracking Method for the Assessment of Sensorimotor Function of the Hand*", 25<sup>th</sup> Mediterranean Conference on Control and Automation, 3-6 July, 2017, Valletta, Malta.
- [C129] S. S. Mansouri, P. Karvelis, G. Georgoulas and **G. Nikolakopoulos**, "*Remaining Useful Battery Life Prediction for UAVs based on Machine Learning*", in proceedings of the 20<sup>th</sup> World Congress of the International Federation of Automatic Control (IFAC), Toulouse, France, 9-14, July, 2017.
- [C128] M. C. Arranz, W. Birk and **G. Nikolakopoulos**, "*A Survey on Control Reconfiguration Selection and New Challenges in Relation to Wireless Sensor and Acuator Networks*", in proceedings of the 20<sup>th</sup> World Congress of the International Federation of Automatic Control (IFAC), Toulouse, France, 9-14, July, 2017.
- [C127] D. Wuither, D. Kominiak, E. Fresk, and **G. Nikolakopoulos**, "*A Geometric Pulling Force Controller for Aerial Robotic orkers*", in proceedings of the 20<sup>th</sup> World Congress of the International Federation of Automatic Control (IFAC), Toulouse, France, 9-14, July, 2017.
- [C126] E. Fresk, K. Ödmark, and **G. Nikolakopoulos**, "*Ultra WideBand enabled Inertial Odometry for Generic Localization*", in proceedings of the 20<sup>th</sup> World Congress of the International Federation of Automatic Control (IFAC), Toulouse, France, 9-14, July, 2017.
- [C125] Georgoulas, G., Kappatos, V. and **G. Nikolakopoulos**, "*Acoustic emission localization on ship hull structures using a deep learning approach*", In 23<sup>rd</sup> International Conference of Vibroengineering on Modeling, Identification and Fault Detection in Oil and Gas Equipment and Infrastructures. Turkey, 2016.
- [C124] G. Andrikopoulos and **G. Nikolakopoulos**, "*On the Design, Development and Motion Control of a Humanoid Robotic Leg via Pneumatic Artificial Muscles*", accepted for publication in the 2016 IEEE International conference of Robotics and Biomimetics, Qingdao, China, December 3-7, 2016.
- [C123] C. Kanellakis and **G. Nikolakopoulos**, "*A Robust Reconfigurable Control Scheme Against Pose Estimation Induced Time Delays*", accepted for publication at the 2016 IEEE Mutli-Conference on Systems and Control, Buenos Aires, Argentina, September 19-22,2016.
- [C122] G. Georgoulas and **G. Nikolakopoulos**, "*Bearing fault detection and diagnosis by fusing vibration data*", accepted for publication at the 42<sup>nd</sup> Annual Conference on IEEE Industrial Electronics Society, October 24-27, 2016, Florence, Italy.
- [C121] G. Georgoulas, D. Gavrilis, N. Vasiloglou, and **G. Nikolakopoulos**, "*An Intelligent Assistant for Physicians*", accepted for publication at the 38<sup>th</sup> Annual International Conference on the IEEE

- Engineering in Medicine and Biology Society, Disney's Contemporary Resort, Orlando, FL, August, 16-20, 2016.
- [C120] U. Mamikoglu, G. Andrikopoulos, **G. Nikolakopoulos**, U. Röinezon, M. Paulsen and T. Gustafsson, "*Electromyography based joint angle estimation and control of a robotic leg*", accepted for publication in the Proceedings of the 6<sup>th</sup> IEEE RAS/EMBS International Conference on Biomeical Robotics and Biomechatronics (BioRob2016), June 26-29, 2016, Singapore.
- [C119] George Georgoulas, Dimitris Gavriliis, Nikolaos Vasiloglou, **George Nikolakopoulos**, "*An Intelligent Assistant for Physicians*", 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Orlando, FL, 17-20 August 2016.
- [C118] G. Georgoulas, V. Climente-Alarcon, J.A. Antonino-Daviu, C.D. Stylios, A. Arkkio, and **G. Nikolakopoulos**, "*A Multi-label Classification Approach for the Detection of Broken Bars and Mixed Eccentricity Faults Using the Start-up Transient*", accepted for publication at the 14<sup>th</sup> International Conference on Industrial Informatics, Futuroscope- Poitiers, France, 18-21, July 2016.
- [C117] G. Vachtsevanos, G. Georgoulas, and **G. Nikolakopoulos**, "*Fault Diagnosis, Failure Prognosis and Fault Tolerant Control of Aerospace/Unmanned Aerial Systems*", accepted for publication in the 24<sup>th</sup> Mediterranean Conference on Control and Automation, June 21-24, Athens, Greece, 2016.
- [C116] D. Wuthier, D. Kominiak, C. Kanellakis, G. Andrikopoulos, M. Fumagalli, G. Schipper and **G. Nikolakopoulos**, "*On the Design, Modeling and Control of a Novel Compact Aerial Manipulator*", accepted for publication in the 24<sup>th</sup> Mediterranean Conference on Control and Automation, June 21-24, Athens, Greece, 2016.
- [C115] O. C. Carholt, E. Fresk, G. Andrikopoulos and **G. Nikolakopoulos**, "*Design, Modeling and Control of a Single Rotor UAV*", accepted for publication in the 24<sup>th</sup> Mediterranean Conference on Control and Automation, June 21-24, Athens, Greece, 2016.
- [C114] U. Mamikoglu, **G. Nikolakopoulos**, M. Pauelsen, D. Varagnolo, U. Röijezon and T. Gustafsson, "*Elbow Joint Angle Estimation by Using Integrated Surface Electromyography*", accepted for publication in the 24<sup>th</sup> Mediterranean Conference on Control and Automation, June 21-24, Athens, Greece, 2016.
- [C113] E. Small, E. Fresk, G. Andrikopoulso and **G. Nikolakopoulos**, "*Modelling and Control of a Tilt-Wing Unmanned Aerial Vehicle*", accepted for publication in the 24<sup>th</sup> Mediterranean Conference on Control and Automation, June 21-24, Athens, Greece, 2016.
- [C112] A. Brusell, G. Andrikopoulos and **G. Nikolakopoulos**, "*A survey on Pneumatic Wall-Climbing Robots for Inspection*", accepted for publication in the 24<sup>th</sup> Mediterranean Conference on Control and Automation, June 21-24, Athens, Greece, 2016.
- [C111] C. Kanellakis and **G. Nikolakopoulos**, "*Evaluation of Visual Localization Systems in Underground Mining*", accepted for publication in the 24<sup>th</sup> Mediterranean Conference on Control and Automation, June 21-24, Athens, Greece, 2016.
- [C110] G. Georgoulas, V.C. Alarcon, L. Dritsas, J.A.A. Daviu and **G. Nikolakopoulos**, "*Start-up analysis methods for the diagnosis of rotor asymmetries in induction motors – seeing is believing*", accepted for publication in the 24<sup>th</sup> Mediterranean Conference on Control and Automation, June 21-24, Athens, Greece, 2016.
- [C109] G. Andrikopoulos, **G. Nikolakopoulos**, "Towards the Development of a Novel Upper-Body Pneumatic Humanoid: Design and Implementation", accepted for publication in the European Control Conference, Aalborg, Denmark, June 29-July 1, 2016.
- [C108] S. S. Mansouri, **G. Nikolakopoulos** and T. Gustafsson, "*Distributed Model Predictive Control for Unmanned Aerial Vehicles*", accepted for publication in the 2015 workshop on Research,

- Education and Development of Unmanned Aerial Systems, November 23-25, Cancun, Mexico, 2015.
- [C107] G. Georgoulas, P. Karvelis, I. Tsoumas, J. A. Antonino-Daviu, J. Corral Herna, C. Stylios, V. Climente-Alarco and **G. Nikolakopoulos**, “*Automatizing the detection of rotor failures in induction motors operated via soft-starters*”, in the Proceedings of the 41st Annual Conference of the IEEE Industrial Electronics Society, IECON 2016, November 9-12, 2015, Yokohama, Japan.
- [C106] D. Gavrilis, **G. Nikolakopoulos**, and G. Georgoulas, “*A One Class Approach to Cardiotocogram Assessment*”, in the Proceedings of the 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Milano, Italy, August 25-29, 2015.
- [C105] E. Frisk and **G. Nikolakopoulos**, “*Experimental Evaluation of a Full Quaternion Based Attitude Quadrotor Controller*”, in the Proceedings of the 20<sup>th</sup> IEEE International Conference on Emerging Technologies and Factory Automation, September 8-11, 2015, Luxembourg.
- [C104] G. Andrikopoulos, **G. Nikolakopoulos**, and S. Manesis, “*Motion Control of Novel Robotic Wrist Exoskeleton via Pneumatic Muscle Actuators*”, in the Proceedings of the 20<sup>th</sup> IEEE International Conference on Emerging Technologies and Factory Automation, September 8-11, 2015, Luxembourg.
- [C103] A. Lindqvist, E. Fresk and **G. Nikolakopoulos**, “*Optimal Design and Modeling of a Tilt Wing Aircraft*”, in the Proceedings of the 2015 IEEE Mediterranean Conference on Control and Automation, Torremolinos, Spain, June, 16-19, 2015.
- [C102] T. Giannakas, G. Andrikopoulos, **G. Nikolakopoulos**, and S. Manesis, “*On Energy Optimization of a Pulp and Paper Refiner based on Model Predictive Control*”, in the Proceedings of the 2015 IEEE Mediterranean Conference on Control and Automation, Torremolinos, Spain, June, 16-19, 2015.
- [C101] A. Andrikopoulos, **G. Nikolakopoulos**, and S. Manesis, “*Incorporation of Thermal Expansion in Static Force Modeling of Pneumatic Artificial Muscle*”, in the Proceedings of the 2015 IEEE Mediterranean Conference on Control and Automation, Torremolinos, Spain, June, 16-19, 2015.
- [C100] **G. Nikolakopoulos**, T. Gustafsson, P.E. Erik and U. Andersson, “*A Vision of Zero Entry Production Areas in Mines*”, in the Proceedings of the 4<sup>th</sup> Workshop on Mining, Mineral and Metal Processing, IFAC MMM 2015, 25-27 August, Oulu, Finland, 2015.
- [C99] M.O. Mustafa, G. Georgoulas and **G. Nikolakopoulos**, “*Fault classification of Broken Rotor Bars in Induction Motors Based on Envelope Current Analysis*”, 2015 IEEE International Conference on Industrial Informatics (INDIN 2015) to be held in Cambridge, UK, July 22-24, 2015.
- [C98] G. Georgoulas, **G. Nikolakopoulos** and M.O. Mustafa, “*A Data Fusion Approach to Bearing Fault Detection and Diagnosis*”, in the 5<sup>th</sup> International Conference on Power Engineering, Energy and Electrical Drives, POWERENG 2015, May 11-13, Riga, Latvia, 2015.
- [C97] P. Karvelis, G. Georgoulas, C. Stylios, J. Antonino-Daviu, I. Tsoumas, J. Hernandez and **G. Nikolakopoulos**, “*Symbolic Time Series Analysis of the Soft Starting Transient in Induction Machines*”, accepted in the 2015 IEEE International Conference on Industrial Technology (ICIT 2015), Seville, Spain, March 17-19, 2015.
- [C96] E. Fresk and **G. Nikolakopoulos**, “*Frame Induced Vibration Estimation and Attenuation Scheme on a Multirotor Helicopter*”, 53<sup>rd</sup> IEEE Conference on Decision and Control, December 15-17, Los Angeles, CA, USA, 2014.

- [C95] E. Fresk and **G. Nikolakopoulos**, “*Experimental Model Derivation and Control of a Variable Pitch Propeller Quadrotor*”, IEEE Multi-Conference on Systems and Control, Nice, Anibes, France, 2014.
- [C94] R. Nyberg, **G. Nikolakopoulos** and D. Kominiak, “*Experimental Evaluation of a Modified Obstacle Based Potential Field Algorithm for an Off-Road Mobile Robot*”, 11<sup>th</sup> International Conference on Informatics in Control, Automation and Robotics, Vienna, Austria, 1-3 September
- [C93] M.O. Mustafa, G. Georgoulas and **G. Nikolakopoulos**, “*Principal Component Analysis Anomaly Detector for Rotor Broken Bars*”, IEEE IECON 2014, 40<sup>th</sup> Annual Conference of the IEEE Industrial Electronics Society, Dallas, TX, USA, October 29-November 1, 2014.
- [C92] T. Edrees, **G. Nikolakopoulos**, J-E Johansson, “*A comparison study on the identification of building natural frequencies based on parametric models*”, IASTED Modelling, Identification and Control (MIC 2014), Innsbruck, Austria, February 17-19, 2014.
- [C91] M.O. Mustafa, **G. Nikolakopoulos**, and T. Gustafsson “*Experimental Evaluation of a Broken Rotor Bar Fault Detection Scheme Based on Uncertainty Bounds Violation*”, accepted for publication in the 39<sup>th</sup> Annual Conference of the IEEE Industrial Electronics Society, Vienna, Austria, November 10-13, 2013.
- [C90] M.O. Mustafa, G. Georgoulas and **G. Nikolakopoulos**, “*Bearing Fault Classification Based on Minimum Volume Ellipsoid Feature Extraction*”, in Proceedings of the IEEE Multiconference on Systems and Control (MSC), Hyderabad, India, 28-30, August, 2013.
- [C89] T. Nayl, **G. Nikolakopoulos** and T. Gustafsson, “*On-Line Path Planning for an Articulated Vehicle based on Model Predictive Control*”, in Proceedings of the IEEE Multiconference on Systems and Control (MSC), Hyderabad, India, 28-30, August, 2013.
- [C88] G. Andrikopoulos, **G. Nikolakopoulos** and S. Manesis, “*Non-Linear Control of Pneumatic Artificial Muscles*”, in Proceedings of the 21<sup>st</sup> IEEE Mediterranean Conference on Control and Automation, June 25-28, Platanias, Chania, Crete, 2013.
- [C87] M.O. Mustafa, **G. Nikolakopoulos**, and T. Gustafsson “*Broken Rotor Bar Fault Detection Based on Uncertainty Ellipsoidal Intersection for Three Phase Induction Motors*”, in Proceedings of the 21<sup>st</sup> IEEE Mediterranean Conference on Control and Automation, June 25-28, Platanias, Chania, Crete, 2013.
- [C86] T. Nayl, **G. Nikolakopoulos** and T. Gustafsson, “*Online Dynamic Smooth Path Planning for an Articulated Vehicle*”, in Proceedings of the 10<sup>th</sup> International Conference on Informatics in Control, Automation and Robotics, Reykjavik, Iceland, 29-31, July, 2013.
- [C85] M.O. Mustafa and **G. Nikolakopoulos**, “*Stator Winding Short Circuit Fault Detection Based on Uncertainty Ellipsoidal Intersection for Three Phase Induction Motors*”, in Proceedings of the 10<sup>th</sup> International Conference on Informatics in Control, Automation and Robotics, Reykjavik, Iceland, 29-31, July, 2013.
- [C84] E. Fresk and **G. Nikolakopoulos**, “*Full Quaternion Based Attitude Control for a Quadrotor*”, in Proceedings of the European Control Conference (ECC), July 17-19, Zurich, Switzerland, 2013.
- [C83] G. Andrikopoulos, **G. Nikolakopoulos** and S. Manesis, “*Adaptive Internal Model Control Scheme for a Pneumatic Artificial Muscle*”, in Proceedings of the European Control Conference (ECC), July 17-19, Zurich, Switzerland, 2013.

- [C82] M.O. Mustafa, **G. Nikolakopoulos** and T. Gustafsson, “*A Robust Linear Discrimination Fault Classification Scheme for Three Phase Induction Motors*”, in Proceedings of the 1<sup>st</sup> IEEE International Conference on Control, Decision and Information Technologies, 6-8 May, Hammamet, Tunisia, 2013.
- [C81] M.O. Mustafa, **G. Nikolakopoulos** and T. Gustafsson, “*A Fault Diagnosis Scheme for Three Phase Induction Motors Based on Uncertainty Bounds*”, in Proceedings of the 38<sup>th</sup> Annual Conference of the IEEE Industrial Electronics Society (IECON), 25-28 October, Montreal, Canada, 2012.
- [C80] T. Nayl, **G. Nikolakopoulos** and T. Gustafsson, “*Path following for an articulated vehicle based on switching model predictive control under varying speeds and slip angles*”, in Proceedings of the 17<sup>th</sup> IEEE International conference on Emerging Technologies and Factory Automation (ETFA’12), September 17-21, Krakow, Poland, 2012.
- [C79] G. Andrikopoulos, **G. Nikolakopoulos**, I. Arvanitakis and S. Manesis, “*Multi-parametric Constrained Control of a Pneumatic Artificial Muscle*”, in Proceedings of the 10<sup>th</sup> Portuguese Conference in Automatic Control (Controlo2012), University of Madeira, Portugal, July 16-18, 2012.
- [C78] M. O. Mustafa, **G. Nikolakopoulos** and T. Gustafsson, “*Broken Bar Fault Detection Based on Set Membership Identification for Three Phase Induction Motors*”, in Proceedings of the 9<sup>th</sup> International Conference on Informatics in Control (ICINCO’12), Automation and Robotics, Rome, Italy, 28-31, July, 2012.
- [C77] T. Nayl, **G. Nikolakopoulos** and T. Gustafsson, “*Switching Model Predictive Control for an Articulated Vehicle Under Varying Slip Angle*”, in Proceedings of the 20<sup>th</sup> IEEE Mediterranean Conference on Control and Automation, Barcelona, Spain, July 3-6, 2012.
- [C76] M.O. Mustafa, **G. Nikolakopoulos**, and T. Gustafsson, “*Stator Winding Short Circuit Fault Detection Based on Set Membership Identification for Three Phase Induction Motors*”, in Proceedings of the 20<sup>th</sup> IEEE Mediterranean Conference on Control and Automation, Barcelona, Spain, July 3-6, 2012.
- [C75] G. Andrikopoulos, **G. Nikolakopoulos** and S. Manesis, “*An Experimental Study on Thermodynamic Properties of Pneumatic Artificial Muscles*”, in Proceedings of the 20<sup>th</sup> IEEE Mediterranean Conference on Control and Automation, Barcelona, Spain, July 3-6, 2012.
- [C74] G. Andrikopoulos, **G. Nikolakopoulos** and S. Manesis, “*A Switched System Modeling Approach for a Pneumatic Muscle Actuator*”, accepted for publication in the 2012 IEEE International Conference on Industrial Technology (ICIT’12), 19-21 March, Kos Island, Greece, 2012.
- [C73] A. Gkikopouli, **G. Nikolakopoulos**, and S. Manesis, “*A Survey on Underwater Wireless Sensor Networks and Applications*”, in Proceedings of the 20<sup>th</sup> IEEE Mediterranean Conference on Control and Automation, Barcelona, Spain, July 3-6, 2012.
- [C72] G. Andrikopoulos, J. Arvanitakis, G. Nikolakopoulos and S. Manesis, “*A Switched System Modeling Approach for a Pneumatic Muscle Actuator*”, in Proceedings of the 2012 IEEE International Conference on Industrial Technology (ICIT’12), 19-21 March, Kos Island, Greece, 2012.
- [C71] C. Papachristos, K. Alexis, **G. Nikolakopoulos** and A. Tzes, “*Model Predictive Control of an Unmanned Tilt-Rotor Aircraft*”, in the Proceedings of the 2011 IEEE International Symposium on Industrial Electronics, 27-30 June, Gdansk, Poland, 2011.



- [C70] M. Obaid, **G. Nikolakopoulos** and T. Gustafsson, “A Survey on Modeling Approaches for Three Phase Induction Motors”, in the Proceedings of the IASTED International Conference on Modeling, Simulation and Identification, November 7-9, Pittsburgh, USA, 2011.
- [C69] T. Nayl, **G. Nikolakopoulos** and T. Gustafsson, “Kinematic Modeling and Extended Simulation Studies of a Load Haul Dumping Vehicle Under the Presence of Slip Angles”, in the Proceedings of the IASTED International Conference on Modeling, Simulation and Identification, November 7-9, Pittsburgh, USA, 2011.
- [C68] G. Andrikopoulos, J. Arvanitakis, **G. Nikolakopoulos** and S. Manesis, “Dynamic Analysis and Cascade Movement Simulation of a Pneumatic Muscle Actuator”, in the Proceedings of the IASTED International Conference on Modeling, Simulation and Identification, November 7-9, Pittsburgh, USA, 2011.
- [C67] J. Arvanitakis and **G. Nikolakopoulos**, D. Zermas and A. Tzes, “On the Adaptive Performance Improvement of a Trajectory Tracking Controller for Non-Holonomic Mobile Robots”, in the Proceedings of the 16<sup>th</sup> IEEE Conference on Emerging Technologies and Factory Automation ETFA, 2011, Toulouse, France.
- [C66] D. Tsitsipis, **G. Nikolakopoulos**, A. Tzes and S. Koubias, “A Dual Scheme for Secured Multimedia Wireless Sensor Network”, in Proceedings of the 19<sup>th</sup> Mediterranean Conference on Control and Automation, June 20-23, Corfu, Greece.
- [C65] K. Alexis, C. Papachristos, **G. Nikolakopoulos** and A. Tzes, “Model Predictive Quadrotor Indoor Position Control”, in Proceedings of the 19<sup>th</sup> Mediterranean Conference on Control and Automation, June 20-23, Corfu, Greece, 2011.
- [C64] G. Andrikopoulos, **G. Nikolakopoulos** and S. Manesis, “A survey on Applications of Pneumatic Artificial Muscles”, in Proceedings of the 19<sup>th</sup> Mediterranean Conference on Control and Automation, June 20-23, Corfu, Greece.
- [C63] K. Alexis, **G. Nikolakopoulos** and A. Tzes, “Switching Model Predictive Control for a Quadrotor Helicopter under Sever Environmental Flight Conditions”, in Proceedings of the 18<sup>th</sup> IFAC World Congress, 2011, Milano, Italy.
- [C62] E. Kelasidi, **G. Andrikopoulos**, G. Nikolakopoulos and S. Manesis, “A Survey on Modeling Pneumatic Muscle Actuators”, in Proceedings of the 20<sup>th</sup> Conference on Industrial Electronics, Gdansk, Poland, 2011.
- [C61] K. Alexis, **G. Nikolakopoulos** and A. Tzes, “Trajectory Tracking Model Predictive Control for an Unmanned Quadrotor Helicopter”, in Proceedings of the 20<sup>th</sup> Conference on Industrial Electronics, Gdansk, Poland, 2011.
- [C60] C. Papachristos, K. Alexis, **G. Nikolakopoulos** and A. Tzes, “Model Predictive Attitude Control of an Unmanned Tilt-Rotor Aircraft”, in Proceedings of the 20<sup>th</sup> Conference on Industrial Electronics, Gdansk, Poland, 2011.
- [C59] K. Alexis, **G. Nikolakopoulos** and A. Tzes, “Experimental Application of a Model Predictive Controller for an Autonomous Quadrotor Helicopter”, in the Proceedings of the 2<sup>nd</sup> Hellenic Robotic Conference (HEROC’2010).

- [C58] C. Papachristos, K. Alexis, **G. Nikolakopoulos** and A. Tzes, “*Modeling and Control of an Unmanned Tilt-Rotor air vehicle in a helicopter flying configuration*”, in the Proceedings of the 2<sup>nd</sup> Hellenic Robotic Conference (HEROC’2010).
- [C57] **G. Nikolakopoulos**, K. Alexis, I. Arvanitakis and A. Tzes, ‘*A Collaborative Unmanned Helicopter Control Strategy for Image Compression and Wireless Transmission*’ In Proceedings of the 18<sup>th</sup> IEEE Mediterranean Conference on Control and Automation, pp. 1206-1211, June 23-25, Marrakech, Morocco.
- [C56] K. Alexis, **G. Nikolakopoulos**, and A. Tzes, ‘*Experimental Model Predictive Attitude Tracking Control of a Quadrotor Helicopter subject to Wind-Gusts*’ In Proceedings of the 18<sup>th</sup> IEEE Mediterranean Conference on Control and Automation, pp. 1461-1466, June 23-25, Marrakech, Morocco.
- [C55] **G. Nikolakopoulos**, N. Roussos and K. Alexis, “*A Constrained Finite Time Optimal Controller for the Diving and Steering Problem of an Autonomous Underwater Vehicle*”, in Proceedings of the 7<sup>th</sup> International Conference on Informatics in Control, Automation and Robotics, pp. 260-267, 15-18 June, 2010, Funchal, Madeira, Portugal.
- [C54] K. Alexis, **G. Nikolakopoulos** and A. Tzes, “*Model Predictive Control for a Miniature Coaxial Helicopter*”, in Proceedings of the 7<sup>th</sup> IFAC Symposium on Intelligent Autonomous Vehicles, September 6-8, 2010, Lecce, Italy.
- [C53] K. Alexis, **G. Nikolakopoulos** and A. Tzes, “*Model Predictive Attitude Control of an Unmanned Quadrotor Helicopter subject to atmospheric disturbances*”, in Proceedings of the IEEE International Symposium on Industrial Electronics (ISIE’10), Bari, Italy, 4-7 July, 2010.
- [C52] K. Alexis, **G. Nikolakopoulos** and A. Tzes, “*Constrained Control of a Quadrotor Helicopter for Trajectory Tracking under Wind-Gust Disturbances*”, in Proceedings of the 15<sup>th</sup> IEEE Mediterranean Electrotechnical Conference (MELECON’10), pp. 1411-1416, Valletta, Malta, 26-28 April 2010.
- [C51] K. Alexis, **G. Nikolakopoulos** and A. Tzes, “*Constrained Optimal Attitude Control of a Quadrotor Helicopter subject to Wind-Gusts: Experimental Studies*”, in Proceedings of the IEEE American Control Conference (ACC’10), No. ThC15.5, pp. 4451-4455, Baltimore, Maryland, June 30 – July 2, 2010
- [C50] K. Alexis, **G. Nikolakopoulos** and A. Tzes, “*Design and Experimental Verification of a Constrained Finite Time Optimal Control Scheme for the Attitude Control of a Quadrotor Helicopter Subject to Wind Gusts*”, in Proceedings of the IEEE International Conference on Robotics and Automation (ICRA’10), pp.1636-1641, Anchorage, Alaska, May 3-8, 2010.
- [C49] **G. Nikolakopoulos** and N. Fanakis, “*A Reconfigurable Transmission Scheme for Lossy Image Transmission*”, in the 2<sup>nd</sup> International Congress on Image and Signal Processing (CISP’09), 17-19 October, Tianjin, China, 2009.
- [C48] P. Stavrou, **G. Nikolakopoulos**, N. Fanakis, A. Tzes and T. Theoharis, “*An Application of the Inpainting Algorithm for Recovering Packet Losses from Transmitting Sequential Quad Tree Compressed Images Over Wireless Sensor Networks*”, in the proceedings of the 2<sup>nd</sup> IFAC International Conference on Intelligent Control Systems and Signal Processing (ICONS’09), September 21-23, Istanbul, Turkey, 2009.

- [C47] L. Dritsas, A. Tzes and **G. Nikolakopoulos**, “*Robust Stability Analysis of Networked Systems with Varying Delays*” in the proceedings of the European Control Conference, Budapest, Hungary, 23-26 August, 2009.
- [C46] **G. Nikolakopoulos**, A. Tzes and I. Kovaios “*Reconfigurable Internal Model Control Based on Adaptive IIR Lattice Filters*”, in the Proceeding of 16<sup>th</sup> Mediterranean Conference on Control and Automation, pp. 1314-1319, Ajaccio, Corsica, France, June 25-27, 2008.
- [C45] **G. Nikolakopoulos** and N. Roussos, “*Constrained Finite Time Optimal Controller for the Depth Plane Motion of an Autonomous Underwater Vehicle*”, in the proceedings of IASTED Modelling, Identification, and Control (MIC 2007) conference, Innsbruck, Austria — February 12 – 14, 2007
- [C44] L. Dritsas, **G. Nikolakopoulos**, and A. Tzes, “*Constrained Optimal Control for a Special Class of Networked Systems*”, In Proceedings of the 2007 American Control Conference, pp. 1009-1014, July 11-13, 2007, New York, NY, U.S.A.
- [C43] **G. Nikolakopoulos** and N. Roussos, “*Optimal Depth Controller for an Autonomous Underwater Vehicle under constraints and uncertainties*”, in the proceedings of the European Control Conference (ECC’ 07), Kos, Greece, July 2007
- [C42] L. Dritsas, **G. Nikolakopoulos** and A. Tzes, “*On the Modeling of Networked Controlled Systems*”, In Proceedings of the 15<sup>th</sup> Mediterranean Conference on Control & Automation, Session FrM-1, article T09-004, June 27-29, Athens, Greece.
- [C41] K. Hrissagis, **G. Nikolakopoulos**, P. Karlsson and V. Spais, “*The C@R Project: Rural Living Labs for the Collaborative Creation of Services – Enhancing Rural Development by People Working and Living in Rural Areas*”, in the proceedings of the Ruralearn International Conference, Chios, Greece, June 24-27, 2007.
- [C40] M. Vagia, **George Nikolakopoulos** and Anthony Tzes “*An  $H_{\infty}$ -Control Scheme for an Electrostatic micro-Actuator with Structured Uncertainty*”. In the Proceedings of the IEEE Multi Conference on Systems and Control (CCA~2007 and ISIC~2007), Singapore, Paper MoA04.5 October 2007.
- [C39] M. Vagia, Y. Koveos, **G. Nikolakopoulos** and A. Tzes, “*Robust PID Control for a Micro-Actuator with Structural Uncertainty*”, In Proceedings of the 14<sup>th</sup> Mediterranean Conference on Control and Automation (MED’06), Paper #90, June 28-30, Ancona, Italy.
- [C38] **G. Nikolakopoulos**, L. Dritsas, A. Tzes and J. Lygeros, “*Adaptive Constrained Control of Uncertain ARMA-Systems based on Set-Membership Identification*”, In Proceedings of the 14<sup>th</sup> IEEE Mediterranean Conference on Control and Automation (MED’06), Paper# 66, June 28-30, Ancona, Italy.
- [C37] A. Panousopoulou, **G. Nikolakopoulos**, A. Tzes and J. Lygeros, “*Experimental Evaluation of a Mobile Ad-Hoc Networked (MANET) Controlled System*”, In Proceedings of the 17<sup>th</sup> International Symposium on Mathematical Theory of Networks and Systems (MTNS’06), Paper FrA09.1-495, pp. 2425-2430, July 24-28, 2006, Kyoto, Japan.
- [C36] L. Dritsas, A. Tzes and **G. Nikolakopoulos**, “*Constrained Finite Time Control of Networked Systems with Uncertain Delays*”, In Proceedings of the 14<sup>th</sup> Mediterranean Conference on Control and Automation (MED’06), Paper #135, June 28-30, Ancona, Italy.

- [C35] L. Dritsas, **G. Nikolakopoulos**, and A. Tzes, “*Constrained Finite Time Optimal Control of a Micro Capacitor*”, Paper PD-3751, In Proceedings of IEEE Industrial Electronics Conference (IECON’06), November 7-10, Paris, France
- [C34] L. Dritsas, **G. Nikolakopoulos**, and A. Tzes, “*Constrained Optimal Control over Networks with Uncertain Delays*”, In Proceedings of the 45<sup>th</sup> IEEE Conference on Decision and Control, Paper FrA11.4/1384, pp. 4993-8, December 13-15, San Diego, CA, U.S.A
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- [C33] Y. Stergiopoulos, S. Manesis, A. Tzes and **G. Nikolakopoulos**, “*Control via Input Shaping of a Penumatic Crane System*”, In Proceedings of the 2005 American Control Conference, pp. 545-550, Portland, OR, USA, June 2005
- [C32] **G. Nikolakopoulos**, and A. Tzes, “*l-step Ahead Optimal Robust Controller for Uncertain Auto-Regressive Systems*”, In Proceedings of the 13<sup>th</sup> Mediterranean Conference on Control and Automation (2005 ISIC-MED), Paper # 252, pp. 1476-1480, June 27-30, Limassol, Cyprus
- [C31] A. Tzes, **G. Nikolakopoulos**, and L. Dritsas “*Design and Sensitivity Analysis of Constrained Finite Time Optimal Controller for a Micro-Actuator*”, In Proceedings of the 13<sup>th</sup> Mediterranean Conference on Control and Automation (2005 ISIC-MED), Paper # 191, pp.958-963, June 27-30, Limassol, Cyprus
- [C30] A. Panousopoulou, **G. Nikolakopoulos**, and A. Tzes, “*Recent Trends on QoS for Wireless Networked Controlled Systems*”, In Proceedings of the 2<sup>nd</sup> International Conference on Cybernetics and Information Technologies, Systems and Applications (CITSA 2005), Paper I359RH, July 14-17, Orlando, USA
- [C29] **G. Nikolakopoulos**, A. Panousopoulou, A.Tzes and J. Lygeros, “*Multi-hopping Induced Gain Scheduling for Wireless Networked Controlled Systems*”, In Proceedings of the 44<sup>th</sup> IEEE Conference on Decision and Control and the European Control Conference 2005, Paper MoA14.3, pp. 470-475, December 13-15, Seville, Spain.
- [C28] M. Vagia, **G. Nikolakopoulos**, and A. Tzes, “*Intelligent Robust Controller Design for a Micro-Actuator*”, In Proceedings of the 44<sup>th</sup> IEEE Conference on Decision and Control and the European Control Conference 2005, Paper MoB15.6, pp. 1191-1196, December 13-15, Seville, Spain
- [C27] **G. Nikolakopoulos**, A. Panousopoulou and A. Tzes, “*MANET-Issues and their Effects on Control Applications*”, In Proceedings of the 10<sup>th</sup> IEEE Conference on Emerging Technologies and Factory Automation (ETFA 2005), pp. 369-376, Sep. 2005, Catania, Italy.
- [C26] M. Vagia, **G. Nikolakopoulos** and A. Tzes, “*Intelligent Robust-Switching PID Controller Design for a Micro-Actuator*”, In Proceedings of the 5<sup>th</sup> International Conference on Technology and Automation (IEEE-ICTA’05), pp. 102-107, October 2005, Thessaloniki, Greece.
- [C25] E. Kolyvas, Y. Koveos, **G. Nikolakopoulos** and A. Tzes, “*Modeling and Robust PID-Control of a Shape Memory Alloy Actuated Haptic Finger*”, In Proceedings of the 5<sup>th</sup> International Conference on Technology and Automation (IEEE-ICTA’05), pp. 179-184, October 2005, Thessaloniki, Greece
- [C24] A.Tzes, **G. Nikolakopoulos**, L.Dritsas and Y.Koveos “*Multi-Parametric  $H^\infty$  Control of a Micro Actuator*”, In Proceedings of the 16<sup>th</sup> IFAC World Congress, Paper # 4455, July 4-8, 2005, Prague, Czech Republic.

- [C23] A. Tzes and **G. Nikolakopoulos**, “LQR-output feedback gain scheduling of mobile networked controlled systems”, In Proceedings of the 2004 American Control Conference, Paper #FrA17.6, pp. 4325-4329, June 30-July 2, 2003, Boston, MA, USA.
- [C22] A. Panousopoulou, **G. Nikolakopoulos**, and A. Tzes, “Experimental Optimization of a Wireless (802.11b) Transmission Scheme for Real-Time Remote Control Applications”, In Proceedings of the 12<sup>th</sup> Mediterranean Conference on Control and Automation (MED2004), Paper #1204, June 6-9, Kusadasi, Izmir, Turkey.
- [C21] **G. Nikolakopoulos** and A. Tzes, “An Adaptive Reconfigurable Lattice Identification Scheme for IIR Systems”, In Proceedings of the 12<sup>th</sup> Mediterranean Conference on Control and Automation (MED2004), Paper #1199, June 6-9, Kusadasi, Izmir, Turkey.
- [C20] **G. Nikolakopoulos**, A. Tzes and N. Panousopoulou, “Adaptive Gain Scheduling for Congested Wi-Fi(802.b) Networked Controlled Systems”, in the proceedings of 5<sup>th</sup> IFAC Workshop on Time-Delay Systems, September 8-10, 2004, Katholieke University Leuven, Belgium
- [C19] **G. Nikolakopoulos**, Y.Koveos, and A.Tzes, “Transfer Function Identification of a Single Flexible Link via Adaptive Lattice Filters”, In Proceedings of 2004 IEEE International Conference on Industrial Technology, Paper #1797, pp. 1468-1473, December 8-10, Hammamet, Tunisia.
- [C18] A. Panousopoulou, **G. Nikolakopoulos**, A. Tzes, “Experimental Controller Tuning and QoS Optimization of a Wireless Transmission Scheme for Real-Time Remote Control Applications”, In Proceedings of 2004 IEEE International Conference on Industrial Technology, Paper #1719, pp. 801-806, December 8-10, Hammamet, Tunisia.
- [C17] E. Kolyvas, **G. Nikolakopoulos**, Y. Koveos, and A. Tzes, “Experimental Design, Development and Visual-Servoing of a Shape Memory Alloy Actuated Finger”, In Proceedings of 2004 IEEE International Conference on Industrial Technology, Paper #1708, pp. 1448-1452, December 8-10, Hammamet, Tunisia.
- [C16] J. Petropoulos, S. Manesis, A.Tzes, and **G. Nikolakopoulos**, “Position and Swing Control of a Pneumatic Pendulum System”, In Proceedings of 2004 IEEE International Conference on Industrial Technology, Paper #662, pp. 1307-1312, December 8-10, Hammamet, Tunisia.2003.
- [C15] **G. Nikolakopoulos** and A.Tzes, “Lattice I-step Ahead Output Uncertainty Predictor for Auto-Regressive Systems”, Paper #121, In Proceedings of the 11<sup>th</sup> Mediterranean Conference on Control and Automation, MED2003, June 17-20, 2003, Rhodes, Greece.
- [C14] **G. Nikolakopoulos**, M.Koundourakis and A.Tzes, “An Integrated System based on WEB and/or WAP Framework for Remote Monitoring and Control of Industrial Processes”, In Proceedings of the IEEE International Symposium on Virtual Environments, Human-Computer Interfaces, and Measurement Systems VECIMS 2003, Paper # 3017, pp. 201-206, July 27-29, 2003, Lugano, Switzerland.
- [C13] **G. Nikolakopoulos**, «OPTINAV (Optimum Navigation Decision Support System)”, In Proceedings of National Instruments Hellas 2003 Conference, Athens, Greece.
- [C12] A.Tzes, **G.Nikolakopoulos** and I.Koutroulis, “Development and Experimental verification of a Mobile Client-Centric Networked Controlled System”, Paper #227, In Proceedings of the 2003 European Control Conference, Cambridge, UK, September 1-7, 2003 (this article received the IST-ECC03 prize award)

- [C11] **G. Nikolakopoulos**, A. Tzes, “*Adaptive Inverse-Lattice Learning Control*”, In Proceedings of the 15<sup>th</sup> IFAC World Congress on Automatic Control, Paper #2624, Barcelona, Spain, July 2002
- [C10] G. Georgoulas, **G. Nikolakopoulos**, Y. Koutroulis, A. Tzes & P. Groumpos, “*An Intelligent Visual Based System for Object Inspection and Welding, relying on Active Contour Model-Algorithms*”, in Proceedings of the 2<sup>nd</sup> Hellenic Conference on Artificial Intelligence, Thessaloniki, Greece, pp. 399-409, 2002
- [C9] **G. Nikolakopoulos**, M. Koundourakis, A. Tzes and G. Georgoulas, “*Use of the Simulation Interface Toolkit for the Simulation and Experimentation of Automatic Control Systems*”, In Proceedings of National Instruments Hellas 2003 Conference, Athens, Greece.
- [C8] **G. Nikolakopoulos**, “*OPTINAV System Integration within the XML framework*”, In Proceedings of 3<sup>rd</sup> SWAN Workshop, Paris, April 2002.
- [C7] **G. Nikolakopoulos**, “*Fuzzy Control of an Active Magnetic Bearing*”, Technical Choice (Texniki Eklogiin Greek), Year 2001, July 2001
- [C6] **G. Nikolakopoulos**, R. E. King, “*Intelligent Control of a Suspended Flywheel*”, European Workshop on Intelligent Forecasting, Diagnosis and Control, June 24-28, 2001, Santorini, Greece.
- [C5] **G. Nikolakopoulos**, A. Tzes, “*Reconfigurable Adaptive Control Based on Lattice Filtering*”, European Workshop on Intelligent Forecasting, Diagnosis and Control, June 24-28, 2001, Santorini, Greece.
- [C4] **G. Nikolakopoulos**, M. Koundourakis, A. Tzes & Y. Koutroulis, “*An integrated system based on the WEB and/or WAP framework for Remote Control of Industrial Processes*”, In Proceedings of National Instruments Hellas 2001 Conference, Athens, Greece.
- [C3] **G. Nikolakopoulos** “*Fuzzy Control of an Active Magnetic Bearing*”, 3<sup>rd</sup> National (Greek) Conference of Automation and Robotics 2000.
- [C2] **G. Nikolakopoulos**, “*Fuzzy Control of an Active Magnetic Bearing*”, Power Transmission (Metadosi Isxios in Greek) Sixth Year, December 2000, No 62.
- [C1] **G. N. Nikolakopoulos**, A. Tzes, “*A Web-Based Integrated Framework for Adaptive Control of Industrial Processes*”, In Proceedings of National Instruments Hellas 2000 Conference, Athens, Greece.

### 3.3.4 Special Sessions, Tutorials, Workshops

- [T12] C. A. Miguel, P. Sopasakis, **G. Nikolakopoulos**, G. Georgoulas and A. Bemporad, “*Data-Driven integrated process control in Industry 4.0*”, 25<sup>th</sup> Mediterranean Conference on Control and Automation, 3-6 July, 2017, Valletta, Malta.
- [T11] **G. Nikolakopoulos** and G. Georgoulas, “*Fault Detection and diagnosis, failure prognosis and fault mitigation methods in industrial applications*”, in proceedings of the 20<sup>th</sup> World Congress of the International Federation of Automatic Control (IFAC), Toulouse, France, 9-14, July, 2017.

- [T10] **G. Nikolakopoulos**, and D. Farina, “*Multidisciplinarity in Robotic Exoskeleton Technology*”, European Robotics Forum, Edinburgh, Scotland, UK, March 22-24, 2017.
- [T9] A. Ollero, E. Ziwkerad and **G. Nikolakopoulos**, “*Aerial Robotics Inspection: from prototypes to industrial applications*”, European Robotics Forum, Edinburgh, Scotland, UK, March 22-24, 2017.
- [T8] **G. Nikolakopoulos**, “Towards the Aerial Robotic Worker - AEROWORKS”, special session in the International Conference on Intelligent Robots and Systems (IROS 2016), October 9-14, Daejeon, Korea, 2016.
- [T7] K. Alexis, M. Chli, L. Carrillo, G. Nikolakopoulos, P. Oettershagen, P. Oh and C. Papachristos, “*Robust Autonomy for Aerial Robotics*” at the 12th International Symposium on Visual Computing, at Las Vegas, Nevada in December 12-14, 2016.
- [T6] M. Fumagalli, **G. Nikolakopoulos** and S. Stramigioli, “*On Aerial Manipulators: Design and Control*”, 24<sup>th</sup> Mediterranean Conference on Control and Automation, June 21-24, Athens, Greece, 2016.
- [T5] G. Georgoulas, M. Bembouid and **G. Nikolakopoulos**, “*Fault Detection, Fault Diagnosis and Fault Tolerant Control in Real World electromechanical Applications*” 24<sup>th</sup> Mediterranean Conference on Control and Automation, June 21-24, Athens, Greece, 2016
- [T4] **G. Nikolakopoulos**, T. Gustafsson and P.E. Martinsson, “*Special Session on Robotics in Mining*”, at the 4<sup>th</sup> IFAC Conference on Mining, Mineral and Metal Processing, 25-27 August, Oulu, Finland 2015.
- [T3] **G. Nikolakopoulos** and G. Georgoulas, “*Special Session on Fault Diagnosis Methods in Electric Drives*”, IEEE International Conference on Industrial Technology (ICIT 2015), Seville, Spain, March 17-19, 2015.
- [T2] K. Alexis, **G. Nikolakopoulos** and A. Tzes, “*Constrained Finite Time Optimal Controllers for Helicopters subject to Wind-Gusts Disturbances*”, in the 17<sup>th</sup> Mediterranean Conference on Control and Automation, June 24-26, Thessaloniki, Greece, 2009.
- [T1] E. Kolyvas, **G. Nikolakopoulos**, A. Panousopoulou, A. Tzes, and J. Lygeros, “*Architectures for Networked Automation: Analysis, Design and Implementation*”, in IEEE International Conference on Robotics and Automation (ICRA’06), Orlando, Florida, May 15-19, 2006.

### 3.3.5 Invited Talks

- [I6] **G. Nikolakopoulos**, “*Pneumatic Muscle Actuators: Modeling, Control and Applications*”, Room A109, Luleå University of Technology, 5<sup>th</sup> of June, 2013.
- [I5] **G. Nikolakopoulos**, “How we think and act about scientific publication” workshop, Luleå University of Technology, Room C305, 19<sup>th</sup> of March, 2013.
- [I4] **G. Nikolakopoulos**, “Quadrotors and Robotics”, Vision for Business meeting INTERREG IVA, Kulturen Hus, Luleå, Sweden, 20 Feb, 2013.

- [I3] G. Nikolakopoulos, 'Overview of Ongoing Projects and Future Research Directions in the Control Systems Group@LTU', KTH Royal Institute of Technology, Stockholm, Sweden, 27 Jan, 2012.
- [I2] G. Nikolakopoulos, 'Attitude Stabilization of a Quadrotor over Wireless Mesh Networks', Intelligent Systems Lab, School of Information Science, Computer and Electrical Engineering, Halmstad University, Sweden, 8 Jan, 2011.
- [I1] G. Nikolakopoulos, 'Switched Output Feedback Control for Networked Systems', ETH Zurich, Physikstr. 3, ETL K25, 26 Oct, 2006

### 3.3.5 Presentations

- [P12] G. Nikolakopoulos and E. Fresk, "AEROWORKS: Aerial Robotic Worker", European Robotics Forum, Edinburgh, Scotland, UK, March 22-24, 2017.
- [P11] G. Nikolakopoulos, D. Kominiak, and T. Gustafsson, "Towards Real Life Autonomous UGVs for Search and Rescue", European Robotic Forum 2016, Ljubljana, Slovenia.
- [P10] E. Fresk, K. Ödmark and G. Nikolakopoulos, "UWB as an enabling technology for Robotics in Mining", European Robotic Forum 2016, Ljubljana, Slovenia.
- [P9] M. Fumagalli, G. Nikolakopoulos, "AEROWORKS: Towards Collaborative Aerial Inspection and Maintenance", European Robotic Forum 2016, Ljubljana, Slovenia.
- [P8] G. Nikolakopoulos, G. Andrikopoulos and S. Manesis, "Pneumatic Artificial Muscles in Biomimetic and Medical Engineering: A quick Overview", presentation at the 2013 Workshop on Motor Control, Luleå University of Technology, Luleå, Sweden.
- [P7] G. Nikolakopoulos, U. Andersson, P.E. Martinsson and T. Gustafsson, "Mine Patrolling Rovers", poster at the 2012 Automation Days, Globe Arena, Stockholm, Sweden.
- [P6] A. Tzes & G. Nikolakopoulos, "Industrial Control", Western Greece technology Platform Conference, Turning Research to Innovation Conference, 17 October, 2008.
- [P5] B. Spais, G. Nikolakopoulos, "Robotics and Industrial Control Systems" Regional Innovation Pole of Western Greece Workshop, Conference Center, University of Patras, 22-25 September, 2008.
- [P4] G. Nikolakopoulos. "Time Delays and Their Effects in Networked Controlled Systems" in the DIANOHEMA project Workshop, March 7, 2008.

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- [P3] A. Tzes and G. Nikolakopoulos, «Teaching the Science of Robotics in the Secondary Educational System– Experiences from other Educational institutes and Adaptation to the Greek Reality», in the workshop Teaching Systems Automation in the Technical Chamber of Greece, TEE, 19-21 March, 2004.
- [P2] A. Tzes. G. Nikolakopoulos, «Modern Technological Systems for Treating Patients on Emergency Events», Achaia Surgery Days Workshop, 2003.
- [P1] G. Nikolakopoulos & R.E.King, "Fuzzy Thrusters for a Suspended Flywheel", IEEE Control Systems Society – GR, workshop on Industrial Automation and Industrial computer science, November, 2002, Xalkida, Greece.

### 3.3.6 Popular Science



[P10] "Drones Maps Mines to explore unsafe caverns and seek out minerals", Article in New Scientist, April 2017, <https://www.newscientist.com/article/2127123-drone-maps-mines-to-explore-unsafe-caverns-and-seek-out-minerals>

[P9] "Drones to inspect mines", Article in Nyteknik, April, 2017, <http://www.nyteknik.se/fordon/dronare-ska-inspektera-gruvor-6842019>

[PS8] "Fladdermusrobot kan göra stora insatser", <http://www.svt.se/nyheter/vetenskap/fladdermusrobot-kan-gora-stora-insatser>, Swedish National News on Research, SVT research, Feb. 2017.

[P7] "Robots will provide better safety", <http://www.ltu.se/research/subjects/control/Nyheter-Aktuellt/Robotar-ska-ge-bättre-flygsakerhet-1.144206>

[P6] "Visionen: Inga Mäniskor i gruvan", Ny Teknik, 9th September 2015, No. 37 (Link to the article) <http://www.nyteknik.se/tekniknyheter/article3932985.ece>

[P5] "Forskarmix med fokus på Rörelse", LTU Review, No. 3, 2014. (Link to the article)

[P4] New Labor with Flying Robots, LTU News (Online Link)

[P3] 4.8 milion for collaborative projects, LTU News (Online Link)

[P2] Newly formed robotic club enter competition, LTU News (Online Link)

[P1] Intelligent Pellets in new project, LTU News (*Online Link*)

### 3. Granted Funding

I have participated in the writing (full or partial) of the following successful (funded) research proposals in the European Union, the Swedish and the Greek ministry of Research. The presented budget concerns only the amount of the Grant for the Institute/Company that I had my affiliation.

| Project Name  | Institute/Company             | Budget        | My Role  |
|---|-------------------------------|---------------|--|
| SIMS<br>H2020-Greening the Economy                    | European Commission - 2017    | 1000000 Euros | Proposal Writer,<br>WP5- Robotics<br>Coordinator |
| Complnnova<br>H2020 – FETopen                         | European Commission - 2015    | 540000 Euros  | Significant writing<br>Contribution, PI          |
| AEROWORKS H2020 – ICT<br>Robotics                     | European Commission - 2014    | 5,6M Euros    | (Coordinator)<br>Full Proposal<br>Writer         |
| DISIRE<br>H2020 – SPIRE Integrated<br>Process Control | European Commission =<br>2014 | 6M Euros      | (Coordinator)<br>Full Proposal<br>Writer         |

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|---|---------------------------------|----------|---|
| New understanding of Motor Control and Falls by Novel Postural Sway Analysis, Robotics and Mathematical Modeling<br>Vetenskapsrådet<br>(Swedish Research Council) | Swedish Research Council - 2014 | 4,9M SEK | PI, Significant Proposal Writer                   |
| Humanoid Robot for Studying Balancing Control   | Carl Kempe                      | 1M SEK   | Proposal Writer                                   |
| Support for coordination of large proposals   | LTU Grants Office               | 100K SEK | Coordinator                                       |
| Localization for Autonomous UAV systems in Underground Mining   | VINNOVA                         | 500K SEK | PI, Significant Proposal Writer                   |
| Industrial Post Doc from PIIA (Process Industrial IT and Automation)  | VINNOVA-PIIA                    | 1M SEK   | PI, Proposal Writer                               |
| Motor Control and Biomechanics Labs   | LTU Labfond-2015                | 1,2M SEK | Significant Proposal Writer<br>(Coordinator)      |
| Pneumatic Muscle Dancer Stage II  | LTU-2014                        | 250K SEK | Full Proposal Writer                              |
| An Integrated E-Health System for Supporting a Web based Motion Analysis  | LTU – 2014                      | 200K SEK | (Coordinator)<br>Full Proposal Writer             |
| Pneumatic Muscle Dancer Stage I and II  | LTU-2014                        | 300K SEK | (Coordinator)<br>Full Proposal Writer             |
| R5-COP  | ARTEMIS EU - 2014               | 282.740€ | PI, Significant Proposal Writer in Field Robotics |
| 3D Localization Cameras for Field Robotics Lab  | Kempe – 2013                    | 1M SEK   | Full Proposal Writer                              |
| 3D Localization Cameras for Field Robotics Lab  | Labfond - 2013                  | 1.1M SEK | Full Proposal Writer                              |
| Support for Coordinating Large EU proposals   | LTU Grants Office - 2012        | 300K SEK | Full Proposal Writer                              |
| Mine Patrolling Rovers  | HLRC - 2012                     | 200KSEK  | Coordinator                                       |

|   |   |          |                                 |
|---|---|----------|---------------------------------|
|   |   |          | Full Proposal Writer            |
| EQoRef  | SCOPE-2012  | 2MSEK    | PI, Significant Proposal Writer |
| FLEXA   | R&D ZENON S.A   | 364.800€ | PI, Significant Proposal Writer |
| NANOMA  | R&D ZENON S.A.  | 650.580€ | PI, Significant Proposal Writer |
| SYMBIOSIS-EU  | R&D ZENON S.A.  | 378.310€ | PI, Significant Proposal Writer |
| PROMOVEO  | R&D ZENON S.A.  | 186.000€ | PI, Significant Proposal Writer |
| CONFIDENCE  | R&D ZENON S.A.  | 272.470€ | PI, Significant Proposal Writer |
| ESA - MANET<br>Intercommunication for Robotic Applications for Lunar Exploration (MIRACLE)  | Department of Electrical and Computer Engineering<br>University of Patras, Greece | 40.000€  | PI, Significant Proposal Writer |
| PENED 2003– «Design and Development of an Integrated Wireless Adaptive Remote Control System with emphasis in the Optimization of the Provided Quality of Services» | Department of Electrical and Computer Engineering<br>University of Patras, Greece | 27.350€  | PI, Full Proposal Writer        |
| Kathodigos, General Secretariat of Research and Technology, 2010  | Department of Electrical and Computer Engineering<br>University of Patras, Greece | 61.500€  | PI, Significant Proposal Writer |
| Robotic Systems for Rescue Missions - Latsis Foundation 2011  | Department of Electrical and Computer Engineering<br>University of Patras, Greece | 12.000€  | PI, Significant Proposal Writer |
| Integrated Robotic Vehicle for Planetary Surface Exploration - 2011   | Department of Electrical and Computer Engineering<br>University of Patras, Greece | 160.000€ | PI, Significant Proposal Writer |

#### 4. National and International Prizes

1. Ministry of Merchant Marine Award (1998,1999,2000,2001)
2. Top 5% in graduating class (1998,99,2000)
3. Technical Chamber of Greece Award (2000)
4. **IST Best paper award**, at the ECC 2003 conference, for the paper that best promotes the scopes and the aim of the Information Society Technologies, see C14
5. Journal [J1] ranked in the 25 Most Downloaded paper (Rank 1) in the Journal Mathematics and Computers in Simulation during January-May 2003
6. Journal [J1] ranked in the 25 Most Downloaded paper (Rank 2) in the Journal Mathematics and Computers in Simulation during January-December 2003
7. Best presentation award at the ICIT'04 conference, for the C22 publication
8. Journal [J9] ranked in the 25 Most Downloaded paper (Rank 10) in the Journal Control Engineering Practice, September 2008
9. 2<sup>nd</sup> Position in the 1<sup>st</sup> Greek World Robot Olympiad WRO (Category-Universities) (<http://www.wrohellas.gr/>), 1 May 2009, Technopolis, Gazi, Athens, Greece
10. Journal [J14] ranked in the most read articles in the Journal of Control Engineering Practice (CEP), December 2012.
11. Journal [J14] ranked in the Top 25 Hottest Articles in Journal of Control Engineering Practice during July to September 2011.
12. Journal [J14] ranked in the Top 25 Hottest Articles in Journal of Control Engineering Practice during October to December 2011.
13. Journal [J14] ranked in the Top 25 Hottest Articles in Journal of Control Engineering Practice during January to March 2012.
14. Journal [J14] ranked in the Top 25 Hottest Articles (Rank 12) in Journal of Control Engineering Practice during April to June 2012.
15. Journal [J14] ranked in the Top 25 Hottest Articles (Rank 9) in Journal of Control Engineering Practice during October to December 2012.
16. **Nominated as best Supervisor for the year 2012 at Luleå University of Technology.**
17. Conference article [C79] received the “Highly Commended Award” from the Assemble Automation Journal, Published by Emerald. The prize includes an invitation and guarantee of publication in the Assembly Automation Journal, as also a year’s free online access to Emerald’s advanced automation portfolio.
18. **Journal [J14] ranked No. 10 in the 2012 list of Top 25 Hottest Articles in the Journal of Control Engineering Practice, Elsevier.**
19. Conference article [C82] has been selected in the top 10 articles in the IEEE conference on Control, Decision and Information Technologies, Tunisia, 2013 and has been selected to be included in the International Journal of Systems Dynamics Applications, IGI Global.
20. Journal [J14] ranked in the Top 25 Hottest Articles (Rank 20) in the Journal of Control Engineering Practice during January to March 2013.
21. Journal [J14] ranked in the Top 25 Hottest Articles (Rank 25) in the Journal of Control Engineering Practice during April to June 2013.

22. Conference article [C86] has been selected in the top articles of the 10<sup>th</sup> International Conference on Informatics in Control, Automation and Robotics, Reykjavik, Iceland, 29-31, July, 2013 and has been selected to be included in a Springer's Book Series on Electrical Engineering.

23. Journal [J14] ranked in the Top 25 Hottest Articles (Rank 20) in the Journal of Control Engineering Practice during July to September 2013.

**24. Nominated for Wallenberg Academy Fellows 2014 from Luleå University of Technology (LTU) (One of the 2 Academic nominees from LTU and out of the 16 in total engineering nominations in Sweden).**

25. Journal [J30] ranked in the Top 25 Hottest Articles (Rank 7) in the Journal of Control Engineering Practice during October to December 2013.

**26. Journal [J14] ranked No. 15 in the 2013 list of Top 25 Hottest Articles in the Journal of Control Engineering Practice, Elsevier.**

**27. Journal [18] has been awarded the 2014 Premium Award for Best Paper in IET Control Theory and Applications, Elsevier. This is a Premium Award to recognize the best research papers published during the last two years in the Journal.**

28. Journal [J14] ranked in the Top 25 Hottest Articles (Rank 20) in the Journal of Control Engineering Practice during April to June 2013.

**29. In 2015 I have granted a FETopen Project in H200 entitled Complnova in the robotic inspection of Aircrafts**

30. Journal [J14] ranked in the Top 25 Hottest Articles (Rank 14) in the Journal of Control Engineering Practice during July to September 2015.

31. Journal [J14] ranked in the Top 25 Hottest Articles (Rank 25) in the Journal of Control Engineering Practice during April to June 2015.

32. Journal [J14] ranked in the Top 25 Hottest Articles (Rank 14) in the Journal of Control Engineering Practice during January to March 2015.

33. Our article "[Switching Model Predictive attitude control for a quadrotor helicopter subject to atmospheric disturbances](#)" [J14] has been listed as No. 3 in the Most Cited Control Engineering Practice (CEP) articles from 2011. The full list of articles can be found at this [link](#).

**34. Our Our article "Survey on Computer Vision for UAVs: Current Developments and Trends" has been listed as No.2 in the 10 Most Downloaded Articles of Springer in the area of Robotics and Control in 2017. Article Link: <https://link.springer.com/article/10.1007/s10846-017-0483-z>**

**35. Our work on Autonomous Aerial Inspection of Wind Turbines has been selected to be featured in the top engineering achievements in 2017 from the Swedish Royal Academy of Engineers (IVA - <https://www.iva.se/>). The full announcement is located in the video below and we are featured at 56.05 min in the film.**

## 5. Other Scientific Qualifications

## 5.1 Active participation in National and International Conferences

1. Member of the International Program Committee (IPC
2. ) for the IASTED International Conference, Modeling, Identification and Control (MIC 2008), Innsbruck, Austria, February 11-13, 2008
3. Member of the International Program Committee (IPC) for the IASTED International Conference, Modeling, Identification and Control (MIC 2009), Innsbruck, Austria, February 16-18, 2009
4. Member of the International Program Committee (IPC) for the IASTED International Conference, Modeling, Identification and Control (MIC 2009), Innsbruck, Austria, February 15-17, 2010
5. Member of the International Program Committee (IPC) for the IASTED International Conference, Modeling, Identification and Control (MIC 2011), Innsbruck, Austria, February 14-16, 2011
6. Member of the International Program Committee (IPC) for the 17th Mediterranean Conference on Control and Automation (MED'09), Thessaloniki, Greece, June 24-26, 2009.
7. Associate Editor - IEEE American Control Conference (ACC'09), St. Louis, Missouri, USA, June 10-12, 2009.
8. Member of the International Program Committee (IPC) – Sensors and Sensor Network Track, for the 6th IEEE Conference on Automation Science and Engineering (CASE2010), Toronto, Canada, August 21-24, 2010.
9. Member of the International Program Committee (IPC) for the “Computational Intelligence and Modern Heuristics in Automation Track” at the 15th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'2010) at Bilbao, Spain, 13-17 September 2010.
10. Member of the International Program Committee (IPC) for the IASTED International Conference, Modeling, Identification and Control (MIC 2011), Innsbruck, Austria, February 14-16, 2011.
11. Member of the International Program Committee (IPC) for the IASTED International Conference, Modeling, Simulation and Identification (MSI 2011), Pittsburgh, USA, November 7-9, 2011.
12. Member of the International Program Committee (IPC) for the 2<sup>nd</sup> International Conference on Electric Information and Control Engineering (ICEICE 2012), April 6-8, Lushan, China, 2012.
13. Member of the Technical Program Committee (TPC) for the 3<sup>rd</sup> International Conference on Electrical and Control Engineering, Three Gorges, May 24-26, Hubei, China, 2013.
14. Member of the International Program Committee for the 31<sup>st</sup> IASTED Asian Conference on Modeling, Identification and Control (AsiaMIC 2012), Phuket, Thailand, April 2-4, 2012.
15. Associate Editor - IEEE American Control Conference (ACC'2012), June 27-29, Montreal, Canada, 2012.
16. Member of the International Program Committee for the 14<sup>th</sup> IASTED Conference on Control and Applications (CA 2012), June 18-20, Crete, Greece, 2012.
17. Associate Editor - IEEE American Control Conference (ACC'2013), June 17-19, Washington DC, USA, 2013.
18. Member of the International Program Committee for the 2013 International Conference on Control, Decision and Information Technologies (CoDIT'13), April 11-13, Hammamet, Tunisia.
19. Member of the International Program Committee for the 32<sup>nd</sup> IASTED International Conference on Modeling, Identification and Control (MIC 2013), February 11-13, Innsbruck, Austria, 2013.

20. Member of the International Program Committee for the Modeling, Identification and Control (AsiaMIC 2013), Phuket, Thailand, April 10-12, 2013.
21. Member of the International Program Committee (IPC) for the 21th Mediterranean Conference on Control and Automation (MED'13), Chania, Greece, June 25-28, 2013.
22. Member of the International Program Committee (IPC) for the 15<sup>th</sup> IASTED International Conference on Control Applications, August 26-28, Honolulu, USA, 2013.
23. Member of the International Program Committee (IPC) for the IASTED Conference on Modeling, Identification and Control (MIC 2014), February 17-19, Innsbruck, Austria, 2014.
24. Associate Editor - IEEE American Control Conference (ACC'2014), June 4-6, Portland, Oregon, USA, 2014.
25. Member of the International Program Committee (IPC) for the 11th International Conference on Informatics in Control, Automation and Robotics - ICINCO 2014, Vienna, Austria, 2-4 September 2014.
26. Member of the International Program Committee for the 8<sup>th</sup> Hellenic Conference on Artificial Intelligence – SETN2014, Ioannina, May 15-17, 2014.
27. Member of the International Program Committee (IPC) for the 2<sup>nd</sup> International Conference on Control Decision and Information Technologies (CoDIT'14), November 3-5 Metz, France, 2014.
28. Member of the IPC for the IASTED International Conference on Modelling, Identification and Control (MIC 2015), Innsbruck, Austria, February 16-18, 2015.
29. Member of the IPC for the 12<sup>th</sup> International Conference on Informatics and Control, Automation and Robotics, ICINCO 2015, Colmar, Alsace, France, 21-23 July, 2015.
30. Associate Editor - IEEE American Control Conference (ACC'15), Chicago, USA, July 1-3, 2015.
31. Member of the IPC for the 4<sup>th</sup> IFAC Conference on Mining, Mineral and Metal Processing, 25-27 August, Oulu, Finland 2015.
32. Member of the IPC for the 4<sup>th</sup> International Conference on Control, Instrumentation and Automation (ICCIA2015), Azad University, Qazvin, Iran, January 27-28, 2016.
33. Member of the IPC for the 13<sup>th</sup> International Conference on Informatics in Control, Automation and Robotics, 29-31 July, Lisbon, Portugal, 2015.
34. Associate Editor - IEEE American Control Conference (ACC'16), Boston, MA, USA, July 6-8, 2016.
35. Member of the IPC for the 35<sup>th</sup> IASTED International Conference on Modelling, Identification and Control (MIC 2015), Innsbruck, Austria, February 15-17, 2016.
36. Member of the IPC for the 36<sup>th</sup> IASTED International Conference on Modelling, Identification and Control (MIC 2015), Innsbruck, Austria, February 20-22, 2017.
37. Associate Editor - IEEE American Control Conference (ACC'16), Boston, MA, USA, July 6-8, 2016.
38. Associate Editor - IEEE American Control Conference (ACC'17), Seattle, Washington, USA, July 6-8, 2016.
39. Program Vice Chair, IEEE MED 2016, Athens, Greece.
40. Member of the IPC for the 25<sup>th</sup> Mediterranean Conference on Control and Automation, 3-6 July, Valletta, Malta, 2017.

41. Associate Editor for the 13<sup>th</sup> Conference on Automation Science and Engineering, IEEE, RAS. August 20-23, Xian, China, 2017.
42. Member of the IPC for 13<sup>th</sup> IEEE International Conference on Automation Science and Engineering 2017 – CASE 2017
43. Member of the IPC for 13<sup>th</sup> IEEE International Conference on Automation Science and Engineering 2018 – CASE 2018
44. Associate Editor - IEEE American Control Conference (ACC'18)
45. Member of the IPC for the 26<sup>th</sup> Mediterranean Conference on Control and Automation, Croatia
46. Member of the IPC for the 27<sup>th</sup> International Conference on Robotics in Alpe-Adria-Danube Region, RAAD 2018.
47. Member of the IPC for the RSS Pioneers 2018, June 25, 2018, Pittsburgh, PA, USA.

## 5.2 Sessions Chair / Co-Chair

1. Track Chair for the 11<sup>th</sup> IEEE International Symposium on Diagnostics for Electric Machines, Power Electronics and Drives, which will be held in Tinos, Greece, 29-1 September 2017. The topic of the Session is “Tools for diagnostics I: Signal analysis based techniques”
2. Special Session Chair for the IASTED conference on Modeling, Identification and Control, February 20-22, 2017, Innsbruck, Austria.
3. Session Chair of “Fault Detection, Fault Diagnosis and Fault Tolerant Control in Real-World Electrometrical Applications, at the 42<sup>nd</sup> Annual Conference on IEEE Industrial Electronics Society, October 24-27, 2016, Florence, Italy
4. Session Chair of “On Aerial Manipulators: Design and Control”, at the 42<sup>nd</sup> Annual Conference on IEEE Industrial Electronics Society, October 24-27, 2016, Florence, Italy
5. Session Chair of “Robotics I” at the European Control Conference (ECC'16), Aalborg, Denmark, 2016.
6. Track Chair for the “Robotics in Mining” regular session at the IFAC Workshop on Mining, Mineral and Metal Processing, August 25-27, Oulu, Finland, 2015.
7. Track co-chair for the “Emerging Control Applications II” regular session at the 53<sup>rd</sup> IEEE Conference on Decision and Control, Los Angeles, California, USA, December 15-17, 2014.
8. *Track co-chair* for the “Quadrotor Control” regular Session at the 2014 IEEE Mutli-conference on Systems and Control, Antibes, France, October 8-10, 2014.
9. *Track co-chair* for “Control Systems & Applications” regular Session at the IEEE International Conference on Electronics, Circuits and Systems (ICECS), Beirut, Lebanon, December 11-14, 2011.
10. *Track co-chair* for “Robotics and Mechatronics” at the IEEE International Conference on Industrial Technology (ICIT), Kos, Greece, 19-21, March, 2012.
11. Co-Chair of the Parallel Session “Mechatronic Systems II”, in the European Control Conference (ECC), July 17-19, Zurich, Switzerland, 2013.
12. Co-Chair of the Parallel Session “Nonlinear Control of UAVs”, in the European Control Conference (ECC), July 17-19, Zurich, Switzerland, 2013.
13. Chair of the Regular Session “Manufacturing Systems”, in the 21<sup>th</sup> IEEE Mediterranean Conference on Control and Automation, June 27, 2013, Crete, Greece.



14. Chair of the Regular Session “Fault Detection I”, in the 21th IEEE Mefiterranean Conference on Control and Automation, June 27, 2013, Crete, Greece.
15. Chair of the Parallel Session “*Intelligent Control Systems and Optimization B*”, in the 9th International Conference on Informatics in Control, Automation and Robotics – ICINCO 2012, Rome, Italy, 28-31, July, 2012.
16. Chair of the Session “*Modelling and Control*” in the 2012 IEEE International Conference on Industrial Technology, Athens, Greece.
17. Co-Chair of the session “*Networked Control Systems II*” in the American Control Conference 2007
18. Chair of the Parallel Session 3a – “*Robotics and Automation*” in the 7th International Conference on Informatics in Control, Automation and Robotics – ICINCO 2010, Funchal Madeira, Portugal, 15-18 June, 2010.
19. Chair of the, Parallel Session “*Autonomous Vehicle Control*”, in the 7th IFAC Symposium on Intelligent Autonomous Vehicles, Lecce, Italy, September 6-8, 2010.
20. Chair of the session “*Space and Air Robotics*” in the 2nd Hellenic Conference in Robotics, HEROC’11, Patra, Greece, 9-10, December 2010.
21. General Co-Chair of the conference IEEE-ASME International Conference on Mechatronic and Embedded Systems and Applications, 2-4 of July, Oulu, Finland, 2018.
22. Co-Chair of the session “Adaptive Control II”, European Control Conference, Limassol, Cyprus, June 12-15, 2018.

### 5.3 Academy Membership

1. Member of the Aerial Robotics Topic Group of euRobotics
2. Member of the Institute of Electrical and Electronic Engineers (IEEE) No: 80604587
3. Member of the IASTED Technical Committee on Control for the years 2006-2009

### 5.4 Editorial/Advisory Board of International Journals/Associate Editor

1. Editor, Journal of Intelligent and Robotic Systems, Springer  
<http://www.springer.com/engineering/robotics/journal/10846>
2. Editorial Member Automatic Systems and Control MDPI  
<http://www.mdpi.com/journal/asc>
3. Editorial Member in Diagnostyka Journal  
<http://diagnostyka.net.pl/index1.php?page=84>

### 5.5 Peer-Review Assignments for Journals and Conferences

- Journals (Multiple times Review Assignments)
1. IEEE Industrial Electronics Magazine

2. IEEE Control Systems Magazine
3. Automatica
4. IEEE Transactions on Automatic Control
5. IEEE Transactions on Control Systems Technology
6. IEEE Transactions on Industrial Electronics
7. IEEE Transactions on Industrial Informatics
8. IEEE Transactions on Mechatronics
9. IEEE Transactions on Robotics
10. IEEE Transactions on Aerospace and Electronic Systems
11. IEEE Transactions on Cybernetics
12. IEEE Systems Journal
13. IET Control Theory and Applications
14. Journal of Vibration and Control, Elsevier
15. Asian Journal of Control, Springer
16. International Journal of Control
17. Mediterranean Journal of Computers and Networks
18. Reviewer for the IEEE Industrial Electronics Society
19. Journal of Circuits, Systems and Computers, World Sky Net
20. Mechatronics Journal, Elsevier
21. Information Sciences, Elsevier
22. Mechanical Systems and Signal Processing, Elsevier
23. Journal of the Franklin Institute, Elsevier
24. Journal of Aerospace Science and Technology, Elsevier
25. Journal of Aerospace Engineering, Proceedings of the Mechanical Engineers
26. Journal of Intelligent and Robotic Systems
27. International Journal of Electrical Power and Energy Systems, Elsevier
28. International Journal of Electric Power Systems Research, Elsevier
29. International Journal of Geographical Systems
30. Journal of Mechanical Engineering Science
31. Journal of Process Control, Elsevier

➤ Conferences

1. Control and Decision Conference 2008, CDC2008
2. European Control Conference 2003, ECC2003
3. European Control Conference 2007, ECC2007
4. International Conference on Control & Automation 2006
5. Modeling Identification and Control(MIC2007) – IASTED
6. Modeling Identification and Control(MIC2008) – IASTED
7. Intelligent Systems and Control(ISC2007) – IASTED
8. Applied Simulation and Modeling (ASM2007) – IASTED
9. Control and Application (CA2008) – IASTED
10. International Conference on Industrial Technology (ICIT2008) – IEEE
11. 32nd Annual Conference of the IEEE Industrial Electronics Society (IECON'06)
12. 33rd Annual Conference of the IEEE Industrial Electronics Society (IECON'07)
13. IEEE Multi-conference on Systems and Control 2007 (MSC2007)
14. 17th IFAC World Congress
15. 5th International Conference on Industrial Informatics (INDIN 2007)
16. 2007 IEEE International Symposium on Industrial Electronics (ISIE2007)

17. IEEE International Conference on Industrial Technology (ICIT'08)
18. IEEE International Conference on Industrial Technology (ICIT'09)
19. American Control Conference (ACC'09)
20. European Control Conference (ECC'09)
21. Second International Conference on Robot Communication and Coordination (ROBOCOMM'09)
22. Control and Decision Conference 2009, CDC2009
23. Modeling Identification and Control 2009, MIC2009
24. IEEE Conference on Automation Science and Engineering 2009, CASE2009
25. Mediterranean Conference on Control and Automation (MED'09)
26. American Control Conference (ACC'10)
27. Mediterranean Conference on Control and Automation (MED'10)
28. Control and Decision Conference 2009, CDC2010
29. IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'2010)
30. IEEE Global Communication Conference Exhibition & Industry Forum (GLOBECOM'2010)
31. IEEE 3rd International Symposium on Resilient Control Systems (ISRCS'2010)
32. 19th Mediterranean Conference on Control and Automation, Corfu, Greece, 2011
33. 50th IEEE Conference on Decision and Control and European Control Conference, Orlando, USA, 2011.
34. 16th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'2011), Toulouse, France, 2011.
35. 5th IEEE International Conference on Cybernetics and Intelligent Systems and The 5th IEEE International Conference on Robotics, Automation and Mechatronics, Qingdao, China, 2011
36. IEEE American Control Conference, Montreal, Canada, 2012
37. IEEE Mediterranean Control Conference, Barcelona, Spain, 2012
38. IEEE International Conference on Robotics and Automation, Karlsruhe, Germany, 2013
39. European Control Conference, Zurich, Swiss, 2013

## 5.6 Supervision

Master and PhD students have a significant role in all my activities. Through the proper and fruitful cooperation with them, mutual academic evolvement can be achieved, gaining of expertise and contacting world class research. I am trying not to have a centralized way of supervising the Master and PhD students, allowing to develop their own approach and strategy in solving specific research problems. I am trying to follow the work of all the students equally and in an everyday basis, discussing all the problems that they have, not only in the academia, but also in their personal and social life. I try to stand next to them first as a friend and then as a supervisor that they respect and follow, without classical strict approaches and intense hierarchies.

The best proof for my practical experience in Supervision and Examination is coming from the people that have collaborated with me in the past during their Master Thesis or their PhD Thesis. I am very proud for all of the work that they have achieved and for all that they have managed.

| Post Doc and PhD Students Supervision |
|---------------------------------------|
| <i>Ongoing</i>                        |

| Type of Degree                     | Name                     | Title of PhD  | Main Supervisor                                       | Co-Supervisor |
|------------------------------------|--------------------------|---|---|---------------|
| Post Doc                           | George Andrikopoulos     | Biorobotics   | YES   |               |
| Post Doc                           | George Georgoulas        | Machine Learning  | YES   |               |
| Post Doc                           | Miguel Castano           | Networked Process Control   | YES   |               |
| PhD                                | Angelica Brusell         | Advanced Control Algorithms for climbing robots in harsh environments                                 | YES   |               |
| PhD                                | Emil Fresk               | Cooperative Aerial Vehicles (Licentiate 12 <sup>th</sup> of November 2015)                            | YES   |               |
| PhD                                | Christophoros Kanelakkis | Cooperative Environmental Perception and Aerial Manipulation for UAVs                                 | YES   |               |
| PhD                                | Elias Small              | Cooperative Vision for UAVs   | YES   |               |
| PhD                                | Sina Sharif Mansouri     | Cooperative and Decentralized Control Schemes for ground and aerial vehicles                          | YES   |               |
| PhD                                | Hedyeh Jafari            | Modeling the Risk of Faling and development of a lower part robotic humanoid for replicating the fear |   | YES           |
| PhD                                | Ourania Tsilomitrou      | Networked Controlled Systems  |   | YES           |
| PhD                                | Valia Karastergiou       | Exoskeletons Design   |   | YES           |
| PhD                                | Konstantinos Gountas     | Cooperative control of UAVs with manipulators   |   | YES           |
| <i>Completed Post Doc and PhDs</i> |                          |   |   |               |
| Type of Degree                     | Name                     | Title of PhD and defense date   | Main Supervisor                                       | Co-Supervisor |
| Post Doc                           | Roland Hostettler        | Process Control (6 months)  | YES   |               |
| PhD                                | Mohammed Obaid Mustafa   | Fault Detection in Induction Motors<br>17/3/2015  | YES<br>from 2/1/2014<br>Licentiate on<br>4/12/2012    |               |
| PhD                                | Thaker Nayl              | Control of Articulated Vehicles<br>12/6/2015  | YES<br>from 11/09/2014<br>Licentiate on<br>17/06/2014 |               |
| PhD                                | Tarek Edrees             | Structural Control and System Identificaiton<br>26/3/2015   |   | YES           |
| PhD                                | George Andrikopoulos     | Modeling and Control of Pneumatic Artificial Muscles<br>12/7/2015                                     | YES<br>From 1/9/2012                                  |               |

|                                |                       |   |                        |                      |
|--------------------------------|-----------------------|---|------------------------|----------------------|
| PhD                            | Kostas Alexis         | Constrained Cooperative Control of Quadrotor Helicopters<br>2012        |                        | YES                  |
| PhD                            | Marialena Vagia       | Robust Control of MEMs<br>2011  |                        | YES                  |
| PhD                            | Dionisis Kandris      | Dionisis Kandris<br>2013  |                        | YES                  |
| Post Doc                       | Tarek Edrees          | Structural Building Control and Identificaiton                          | YES                    |                      |
| <b>On going Master Thesis</b>  |                       |   |                        |                      |
| <b>Type of Degree</b>          | <b>Name</b>           | <b>Title of Project</b>   | <b>Main Supervisor</b> | <b>Co-Supervisor</b> |
| LTU MSc                        | Anna Costalonga       | Modeling and Control of a novel PMA enabled robotic arm                 | YES                    |                      |
| LTU MSc                        | Jerker Bergström      | UAV path planning and collision avoidance in unknown environments       | YES                    |                      |
| LTU MSc                        | Andreas Papadimitriou | Developing of a wall climbing robot                                     | YES                    |                      |
| <b>Completed Master Thesis</b> |                       |   |                        |                      |
| <b>Type of Degree</b>          | <b>Name</b>           | <b>Title of Project</b>   | <b>Main Supervisor</b> | <b>Co-Supervisor</b> |
| LTU MSc                        | Markus Rådman         | Developing of a ROS enabled real scale UGV                              | YES                    |                      |
| LTU MSc                        | Matteo Terreran       | Machine Learning and Computer Vision for Aerial manipulation            | YES                    |                      |
| EPFL MSc                       | David Wuthier         | Desing and Control of an aerial manipulation scheme                     | YES                    |                      |
| LTU MSc                        | Adrian Lindqvist      | Modeling and Experimental Evaluation of a Tilt Rotor Aircraft           | YES                    |                      |
| LTU MSc                        | Rickard Nyberg        | Development of a Wild Thumper Plaform                                   | YES                    |                      |
| LTU MSc                        | Emil Fresk            | Modeling, Control and Experimentation of a Variable Pitch Quadrotor     | YES                    |                      |
| LTU MSc                        | Ivan Mozon Catallan   | Developing a ROS Enabled Full Autonomous Quadrotor                      | YES                    |                      |
| LTU MSc                        | Nolan Corazza         | Design and Development of a Robotic Arm for a Sewer Inspection Robot    | YES                    |                      |
| LTU MSc                        | Rickard Nyberg        | Development of a Wild Thumper   | YES                    |                      |
| ATU Bachelor                   | Konstantinos Liakonis | Adaptive Solar Tracking System with application to Photovoltaic Systems | YES                    |                      |

|              |                     |   |     |         |
|--------------|---------------------|---|-----|---------|
| ATU Bachelor | Anastasia Mpilia    | Smart building Management System I                        | YES |         |
| ATU Bachelor | George Mpris        | Smart Building Management System II                       | YES |         |
| UPAT MSc     | Valia Iliopoulou    | Ilizarov Platform based on Pneumatic Muscle Actuators     | NO  | A. Tzes |
| UPAT MSc     | Panagiota Tsarouchi | Intelligent Control of a Sterling Engine                  | NO  | A. Tzes |
| UPAT MSc     | Dimitrios Zermas    | Network Restoration by Cooperative fleet of Mobile Robots | NO  | A. Tzes |
| UPAT MSc     | Photis Photou       | Experimental Optimal Control of a Tanker                  | NO  | A. Tzes |

## 5.7 Courses

The following table provides a quick overview of the courses that I have taught or have developed, including the typical enrollment, the required/non-required status and the level of the course provided. Following this table, a description of these courses and more details on the focus and the content are being provided.

| Title   | Number | Average Enrollment | Type      | Graduate/Undergraduate | Responsible for Course Development |
|---|--------|--------------------|-----------|------------------------|------------------------------------|
| Robotics  | R7010E | 50-80              | Selective | Undergraduate/Graduate | YES                                |
| Industrial Automation                                       | R7008E | 20-30              | Selective | Undergraduate/Graduate | YES                                |
| Scientific Article Reviewing in the Area of Control Systems | -      | 5-10               | Selective | Graduate               | YES                                |
| Mekatronics   | E7012E | 40-50              | Selective | Undergraduate          | YES                                |
| Non Linear and Optimal Systems                              | R7004E | 15-20              | Selective | Undergraduate/Graduate | NO                                 |
| Automatic Control Systems                                   | 22Y506 | 150-180            | Required  | Undergraduate          | NO                                 |
| Robust Control Systems                                      | 22Δ906 | 40-50              | Selective | Undergraduate/Graduate | NO                                 |
| Automatic Control Systems                                   | 22Y606 | 150-180            | Required  | Undergraduate          | NO                                 |