Curriculum Vitae

Nicholas S. Samaras

Senior Member, IEEE

Address: TEI of Thessaly, Larissa, 41110, Greece
Office: +30-2410.684.399, ***FAX:*** +30.2410.684.573
Email: *nsamaras@teilar.gr*
URL: http://www.cs.teilar.gr/personen/nsamaras

Education:

UNIVERSITY OF PITTSBURGH, *Pittsburgh, Pennsylvania, USA*
Ph.D., Electrical and Computer Engineering, 1999, Systems and Controls.

THE CITY COLLEGE OF THE CITY UNIVERSITY OF NEW YORK, *New York, New York, USA*
MS, Electrical and Computer Engineering, 1987.

THE CITY COLLEGE OF THE CITY UNIVERSITY OF NEW YORK, *New York, New York, USA*
BS, Electrical and Computer Engineering, 1986.

Teaching Experience:

T.E.I. of Thessaly, Larissa, Greece
Professor: Department of Computer Science and Engineering
School of Technological Applications
March 2002 to present

SAN JORGE UNIVERSITY, Zaragoza, Spain
Visiting Professor
Faculty of Science and Engineering
Fall 2017 and Spring 2015

STAFFORDSHIRE UNIVERSITY and T.E.I. of Thessaly, Larissa, Greece
Professor and Graduate Program Director
MSc Computer Science.
September 2005 to 2014

SOUTHERN DENMARK SYDDANSK UNIVERSITY, Odensen, Denmark
Visiting Professor
Faculty of Engineering
Spring 2009

UNIVERSITY OF THESSALY, Volos, Greece
Affiliated Professor, ΠΔ.407/80.

- School of Agricultural Sciences
  Department of Crop Production and Agricultural Environment
  September 2003 to 2011
- School of Engineering
  Department of Mechanical and Industrial Engineering
  February 2006 to 2008

UNIVERSITY OF PITTSBURGH, Pittsburgh, Pennsylvania, USA
Adjunct Faculty
Department of Telecommunications
September 2000 to August 2002

UNIVERSITY OF PITTSBURGH, Pittsburgh, Pennsylvania, USA
Adjunct Faculty
Department of Electrical and Computer Engineering
September 2000 to August 2002

Industry Experience:

DANIELI AUTOMATION, Pittsburgh, Pennsylvania, USA
Senior Application Engineer and Automation Leader
January 1996 - April 2002

- Directed the implementation of a versatile form-factor independent information processing system. Integrated Reflective Memory high speed network, Profibus DB and Industrial Ethernet protocols to link VME and CompactPCI based systems.
- Optimized connectivity, which led to higher speed information processing.
- Responsible for the specification, selection and development of VMEbus based high-performance networked automation system.
- Lead the development and programming team to the design and implementation of a high-speed real-time multiprocessor and programmable logic controller (PLC).
- Performed simulations to analyze the performance of various computer controlled algorithms.
- Know-how of modeling and automation of industrial processes and metal cooling algorithms and associated equipment and devices.

AEG WESTINGHOUSE, CEGELEC, ALSTOM, Pittsburgh, Pennsylvania, USA
Systems Engineer
October 1990 - December 1995

- Developed, designed and programmed computer controlled run out table (ROT) laminar flow strip cooling system. Designed and programmed the communication protocols between the supervisory and the real time computers. Successfully completed on-site commissioning and final acceptance testing. Several such systems have been implemented worldwide.
- Designed, programmed, tested and commissioned automatic gauge control system (AGC) for five-stand hot strip mill in China.
- Consulted and supervised a group of engineers in enhancing run out table temperature control and tracking algorithms.
- Designed edger hydraulic gap control system with head and tail end linear and parabolic tapering control for hot strip mill in India. Established and implemented in-house simulation and testing procedures, as well as trained client's engineers for the final on-site start-up.
- Optimized C and PLC programming of distributed networked system, which led to higher performance of five-stand tandem cold mill in Yorkville, Ohio. As a result, over 99 % of the products exceed gauge performance requirements.
- Implemented gauge control system for five-stand cold mill in China. Coded X-ray interfaces, strip-segment tracking, tension regulators and sequencing, in C and PLC programming respectively.

TIPPINS INCORPORATED, Pittsburgh, Pennsylvania, USA
Design Engineer
October 1987 - September 1990

- Provided programming support to the development of VMEbus based 32-bit microcomputer system for industrial control applications. Responsibilities included creating new easily configurable modules; verifying and debugging functions and interfaces; and implementing testing routines.
- Participated in design and programming of low tension regulator, force feed forward and sequencing for three stand tandem rail mill in Canada. Responsible for debugging, start-up, optimization, and customer training.
- Start-up, tuning, and optimization of digital DC drives for continuous slab caster in Fairfield, Alabama.
- Lead team of South Korean engineers to successful commissioning and operation of digital DC drives for plate mill in South Korea.

***Awards*:**

- **PRIZE PAPER AWARD** Institute of Electrical and Electronics Engineers (IEEE) Industry Application Society, 1998 Prize Paper Award. Title: "Water-Cooled End-point Boundary Temperature Control of Hot Strip via Dynamic Programming."
- **CERTIFICATE OF APPRECIATION** Institute of Electrical and Electronics Engineers (IEEE) Communications Society, awarded for contributing to the growth of the communications industry and the Society, December 2008.
- **CERTIFICATES OF APPRECIATION** Institute of Electrical and Electronics Engineers (IEEE) Industry Application Society, awarded for the presentation and participation in IEEE IAS conferences and for serving in the Metal Industry Committee 1998 – 2004.

Patents:

- US Patent Office Approval of patent application no. 684.240/10/06/2000 "Optimized temperature trajectory tracking of Runout Table (ROT) cooling process"

***Major Publications in High Quality International Journals*:**

- "Development and Evaluation of an Adaptive Neuro Fuzzy Inference System for the Calculation of Soil Water Recharge in a Watershed", European Scientific Journal, November 2015, Special Edition, ISSN: 1857-7881 (print) e-ISSN 1857-7431
- Modeling of Hydrological and Environmental Processes through OPENMI and WEB Services", European Scientific Journal, November 2015, Special Edition, ISSN: 1857-7881 (print) e-ISSN 1857-7431
- "On intrusion detection in opportunistic networks &#8221", International Journal of Innovation and Regional Development, Inderscience Publishers, Switzerland, Vol. 6, No. 3, pp. 222-242, 2015
- "A SCCC turbo decoder for DVB-T", Cyber Journals: Multidisciplinary Journals in Science and Technology, Journal of Selected Areas in Telecommunications (JSAT), pp. 13-20, January 2012 (published online).
- "Novel results on 3G reconfigurable outer block interleaving based on FER", Springer Academic Publishers Wireless Personal Communications Journal (published online), DOI 10.1007/s11277-009-9859-0.
- "A New Strategy for Optimal Control of Continuous Tandem Cold Metal Rolling," IEEE Transactions on Industry Applications, vol. 46, No. 2, pp. 703-711, March/April 2010.
- "Service adaptable 3G turbo decoder for indoor/low range outdoor environment", International Journal of Communications, Network and System Sciences, Vol. 2, No. 8, pp. 704 – 713, November 2009, DOI 10.4236/ijcns.2009.28081.
- "Optimal trajectory tracking of dynamic multistage ROT cooling process with stochastic disturbances," IEEE Transactions on Industry Applications, vol. 42, No. 3, pp. 844-850, May/June 2006.
- "Optimized trajectory tracking control with disturbance attenuation of dynamic multistage metal-cooling processes," IEEE Transactions on Industry Applications, vol. 40, No. 4, pp. 926-931, July/August 2004.
- "Optimized trajectory tracking control of multistage dynamic metal-cooling processes," IEEE Transactions on Industry Applications, vol. 37, No. 3, pp. 920-927, May/June 2001.
- "Novel control structure for runout table coiling temperature control," AISE Steel Technology, Vol. 78, No. 6, pp. 55-59, June 2001.

- "Water-cooled end-point boundary temperature control of hot strip via dynamic programming," IEEE Transactions on Industry Applications, vol. 34, No. 6, pp. 1335-1341, November/December 1998.
- "Two-point boundary temperature control of hot strip via water cooling," ISA Transactions, vol.36, No. 1, pp. 11-20, 1997.

Book Chapters

- "Healthcare oriented smart house for elderly or disabled people: A case study," Wireless Technologies for Ambient Assisted Living and Health Care: Systems and Applications," IGI Global Publishers, September 2010.
- "Metals Industry," Wiley Encyclopedia of Electrical and Electronics Engineering, J. G. Webster, Edt., vol.12. John Wiley & Sons, Inc., pp. 577-592, 1999.

***Major Presentations in World Respected International Conferences*:**

- "On Direct Diffusion Routing for Wireless Sensor Networks", Proceedings of the Advances in Wireless and Optical Communication RTUWO 2016, Session N1, pp. 106-112, ISBN: 978-1-5090-1535-1, Riga, Latvia, November 3-4, 2016.
- "Using Basic MANET Routing Algorithms for Data Dissemination in Vehicular Ad Hoc Networks (VANETs)", Proceedings of the 24th Telecommunication Forum TELFOR 2016, Section 2.19, pp. 140-144, 978-1-5090-4085-8, Serbia, Belgrade, November 22-23, 2016.
- "Collaborative environmental modeling: a roadmap for integrated water resources management", cest2015_00124, Session 22, Proceedings of the 14th International Conference on Environmental Science and Technology, 3-5 September 2015, Rhodes, Greece.
- "Modeling of Hydrological and Environmental Processes through OPENMI and WEB Services", 3rd Global Academic Meeting, Session 7, ppr. 5, New York, September 17-19, 2015.
- "Development and Evaluation of an Adaptive Neuro Fuzzy Inference System for the Calculation of Soil Water Recharge in a Watershed", 3rd Global Academic Meeting, Session 3, ppr. 3, New York, September 17-19, 2015.
- "An Integrated Modeling Architecture for the Monitoring of Lake Karla Watershed", Fifth International Conference on Environmental Management, Engineering, Planning and Economics, (CEMEPE 2015) and SECOTOX Conference, June 14th-18th, 2015 Mykonos Island, Greece.
- "The Coupling of the Hydrological Models UTHBAL, UTHRL, MODFLOW and the Environmental Model PCLake under a Collaborative Modeling Framework for Water Resources Management of the Lake Karla Watershed", Fifth International Conference on Environmental Management, Engineering, Planning and Economics, (CEMEPE 2015) and SECOTOX Conference, June 14th-18th, 2015 Mykonos Island, Greece.
- "On Intrusion Detection in Opportunistic Networks," in Panhellenic Conference on Informatics, pp. 67-74, ACM Proceedings, Thessaloniki, Greece, September 2013.
- "An Integrated Modeling Framework for Routing of Hazardous Materials," in 21st IEEE International Conference on Collaboration Technologies and Infrastructures, 226-231, June 25 - 27, 2012, Toulouse, France.
- "Integrated Modelling of Hydrological Processes through OpenMI and Web Services," proceedings of the 5th International Conference on Information and Communication Technologies in Agriculture, Food and Environment", HAICTA -2011, pp. 409-420.
- "An improved 3GPP reconfigurable turbo decoder for flat Rayleigh fading channels", in International Conference on Telecommunications and Multimedia 2010 (TEMU 2010), ISBN: 978-960.88785-9-4, Session 1, No. 11, pp. 104-11, Chania, Greece, 14-16 July 2010.
- "UMTS Dynamic Outer Interleaver Reconfiguration for Indoor Environment Using SOVA Turbo Decoder," in Proceedings of IEEE 5th International Conference on Wireless and Mobile

Communications (ICWMC '09), Cannes, France, pp. 205-210, 23-29 August 2009, DOI 10.1109/ICWMC.2009.42, ISBN 978-0-7695-3750-4.

- "Novel Results on Adaptive UMTS Outer Block Interleaving Using SOVA Turbo Decoder", in Proceedings of IEEE 6th International Symposium on Wireless Communication Systems 2009 (ISWCS'09), Siena, Italy, pp. 363-367, 7-10 Sept. 2009, ISBN 978-1-4244-3584-5.
- "ENVIROMOTE: A new solar-harvesting platform prototype for wireless sensor networks / work in progress report," The 18th Annual IEEE Symposium on Personal Indoor and Mobile Radio Communications (IEEE PIMRC), pp. 1-5, ISBN:978-1-4244-1144-3, Athens, Greece, September 2007.
- "A novel approach for optimal control of continuous tandem cold metal rolling," Proceedings of the 2007 IEEE Industry Applications Society Conference, IEEE Catalog Number: 07C1137909C, ISBN: 1-4244-1260-9, ISSN: 0197-2618, New Orleans, LA, USA, September 2007.
- "Intelligent Irrigation Scheduling System Employing Wireless Sensor Networks Technology", Proceedings of the International Conference on Information Systems in Sustainable Agriculture Agro environment and Food Technology, Set: 960-8029-42-2, ISBN:960-8029-43-0, Vol. 1, Session 1, pp. 1-8, September 2006, Volos, Greece.
- "On Optimization of Multicast Routing Communication Networks", Proceedings of the 2006 International Conference on Telecommunications and Multimedia, ISBN: 960-88785-2-7, vol. 2, Session 3, pp. 112-119, July 2006, Crete, Greece.
- "Wireless Sensor Network-Based Decision Support and Control System for Precision Agriculture," Proceedings of the 3rd International Symposium on Intelligent Information Technology in Agriculture (ISIITA), Part Two, GIS, GPS, RS and Precision Farming, pp. 159-164, October 2005, Beijing, China.
- "Optimal and efficient solutions in the presence of time-correlated disturbances for trajectory tracking control of dynamic multistage ROT cooling process," Proceedings of the 2004 IEEE Industry Applications Society Conference, vol.1, Session 5, pp. 208-215, Seattle, WA, USA, October 2004.
- "Optimized trajectory tracking control of dynamic multistage metal-cooling processes with nonlinear disturbances," Proceedings of the 2002 IEEE Industry Applications Society Conference, vol.1, Session 4, pp. 150-156, Pittsburgh, PA, USA, October 2002.
- "A simple rolling mill model with linear quadratic optimal controller," Proceedings of the 2002 IEEE Industry Applications Society Conference, vol.1, Session 4, pp. 142-149, Pittsburgh, PA, USA, October 2002.
- "Optimized trajectory tracking control of multistage dynamic processes," Proceedings of the 2000 IEEE Industry Applications Society Conference, vol.4, pp. 2654-2661, Rome, Italy, October 2000.
- "A novel control structure for coiling temperature control of runout table," Proceedings of the 2000 AISE Annual Convention, Rolling and Finishing – Flat Products Session, pp.1-10, Chicago, USA, September 2000.
- "Water-cooled end-point boundary temperature control of hot strip via dynamic programming," Proceedings of the 2000 IEEE Industry Applications Society Conference, vol.4, pp. 2654-2661, New Orleans, USA, October 1997.

Research Projects:

- Archimedes III research project funded by the Greek Ministry of Education and the E.U. under the '*Archimedes III*' research initiative, "Development of an Integrated Monitoring, Simulating and Managing System of Aquatic Resources with Environmental and Socio-economical Dynamics- Case study: The watershed of Lake Karla," 2012 to 2015

- ECOQUALIFY III, research project, "Implementation of a Quality Assurance System for Training in Organic Food Retail," Lifelong Learning Program – Leonardo Da Vinci – Transfer of Innovation, 2010-1-GR1-LEO05-03967
- Broadband networks and services in Thessaly, research project initiative funded by the Authority of Information Society and the E.U., 2006 to 2009.
- Greece-Czech Republic Cooperation in Science and Technology, funded by the General Secretary of Research and Technology, "Communication Networks in Distributed Systems", 2006 to 2008
- Archimedes II research project funded by the Greek Ministry of Education and the E.U. under the '*Archimedes II*' research initiative, "Research and Development of a Wireless Sensor Network for Precision Agriculture Applications" 2005 to 2006
- Archimedes I research project funded by the Greek Ministry of Education and the E.U. under the '*Archimedes I*' research initiative, "Improvement of the digital design process and production - prototype and final product manufacturing using Computer Numerical Machines (CNC)" 2004 to 2005.
- Strengthening International Relations Offices, under the authority of European Training Foundation, Tempus Joint European Project UM_JEP 23029-2002.

Other Major Professional Activities:

- **Associate Editor** of the European Scientific Journal, September 2015 to present.
- **Member Steering Committee** of the IEEE WETICE from April 2010 to present.
- **Chair of Paper Review Committee** of the IEEE – Industry Applications Society, 2002 to 2009.
- **Program Chair and Session Chair** at the 37th IEEE - IAS conference, Pittsburgh, PA, USA, October 2002.
- **Program Committee and Session Chair** at numerous international conferences
- **Paper Reviewer** for several conferences and Journals

Management Responsibilities:

- **Award Leader,** MSc, Computer Science, **STAFFORDSHIRE UNIVERSITY and T.E.I. of Thessaly,** Larissa, Greece, 2005 to 2014.
- **Department Head**, Department of Computer Science and Engineering, **TEI of Thessaly**, September 2003 to August 2008.
- **Director of The Division of Network Engineering,** Department of Computer Science and Engineering, **TEI of Thessaly**, September 2008 to present
- **Chair,** Internal Appraisal Committee, for the Department of Computer Science and Engineering, February 2014 to present.
- **Deputy Director,** Networks and Telecommunications Section, Department of Information Technology and Telecommunications, TEI of Larissa, September 2002 to August 2003.
- **In charge** for the specification, design and development of two integrated networks and telecommunication labs for the Department of Computer Science and Engineering.
- **Chair of numerous committees**.

***Programming, Simulation and Real Time Operating Systems*:**

- MATLAB high-performance Numeric computation and visualization language, C, Visual Basic, PLC programming, Windows VB Script Language, HTML, PLM, PASCAL, 68K Assembly, COMNET III, OMNET++,CISCO Configmaker, Vxworks real-time operating systems, OS-9 Microware real-time operating systems, Altera Max Plus II.

***Affiliations*:**

- Institute of Electrical and Electronics Engineers (IEEE).
- Association of Iron and Steel Engineers (AISE).