

CURRICULUM VITAE

Dr. Ing. Prof. KIMON P. VALAVANIS

Fellow, American Association for the Advancement of Science (AAAS)

Fellow, U.K. Institute of Measurement and Control (IMC)

HEAD / COORDINATOR, HERON SAFETY & SECURITY ROBOTICS – ATHENA RESEARCH CENTER

DISTINGUISHED UNIVERSITY PROFESSOR EMERITUS, UNIVERSITY OF DENVER, DENVER, CO 80208, USA

FOUNDING DIRECTOR EMERITUS, UNIVERSITY OF DENVER UNMANNED SYSTEMS RESEARCH INSTITUTE (DU²SRI)

EDITOR-IN-CHIEF, JOURNAL OF INTELLIGENT AND ROBOTIC SYSTEMS (JINT), SPRINGER

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✦ **President & Founder, International Conference on Unmanned Aircraft Systems (ICUAS) Association, Inc., <http://www.icuas.com> / E-mail: kvalavanis@gmail.com, kvalavanis@icuas.com**

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CAREER OBJECTIVES: Seek challenging positions in Engineering that require educational, research and development (R&D), leadership, entrepreneurial, organizational, and managerial skills. Lead/enhance University Colleges, Institutes, R&D Centers, and develop interdisciplinary programs emphasizing research cooperation/collaboration between academe, government, and industry, facilitating technology transfer from laboratories to the market. Lead the 21st century University providing graduates with breadth/depth of knowledge, entrepreneurial skills, and ability to create/develop cutting edge technologies and new products. To demonstrate how the industry-University collaboration results in invention and innovation and new product development. To seek challenging research and upper management positions in nationally and internationally recognized industry or federal R&D institutes/centers. To establish high-tech startup companies to develop and market novel and cost-effective solutions for unmanned systems applications, robotics, and automation.

Curriculum Vitae Outline

PART I:	Professional Bio (Summary)
PART II:	Professional and Administrative Experience
PART III:	Research Publications and Experience
PART IV:	Funding Record
PART V:	Academic and Teaching Experience
PART VI:	Professional Activities

Kímon P. Valavanís, Vitae

PART I

PROFESSIONAL BIOGRAPHY - SUMMARY

Dr. **Kimón P. Valavanis** is currently *Head / Coordinator, HERON Safety & Security Robotics – ATHENA Research Center*, <https://heron-robotics-coe.eu>, Athens, Greece.

He received the Diploma in Electrical and Electronic Engineering (Diplôme Ingénieur, 5 years of study) from the National Technical University of Athens (<http://www.ntua.gr>), Greece, in 1981. He was a member of the Technical Chamber of Greece for more than 30 years, and a vested, registered PE until 2008. He received the M.Sc. degree in Electrical Engineering and the PhD degree in Computer and Systems Engineering from Rensselaer Polytechnic Institute (RPI) (<http://www.renselaer.edu>) in 1984 and 1987 (defended on October 28, 1986, official graduation in May 1987), respectively.

Dr. Valavanis held the Analog Devices Career Development Chair for Assistant Professors, Department of Electrical and Computer Engineering (ECE), Northeastern University (<http://www.northeastern.edu>) from 1987 to 1990, where he also was Director of the Robotics Laboratory. From 1991 to 1999 he was with The Center for Advanced Computer Studies (CACs), University of Louisiana at Lafayette (<http://www.cacs.louisiana.edu>), where he served as Associate Professor (1991-1995) and since 1995, as Professor of Computer Engineering. He also was Associate Director for Research at the A-CIM Center (1993-1999) and Director of the Robotics and Automation Laboratory. During 1993-1999, he held the A-CIM/[TC]²/Regents Professorship in Manufacturing.

From 1999-2003, Dr. Valavanis was Professor in the School of Production Engineering and Management (PEM), Technical University of Crete (TUC) (<http://www.tuc.gr>), Greece, where he also established and served as Founding Director of the Intelligent Systems and Robotics Laboratory (ISRL). He was the first Director of the PEM Graduate/PhD Program and served as Chair of the TUC Industrial Advisory Board (IAB) and Technical Council; one of his major responsibilities was coordinating and approving new campus building development.

From August 2003-August 2008 he was Professor in the Department of Computer Science and Engineering (CSE), University of South Florida (<http://www.cse.usf.edu>), where he also served as Deputy Director of the Center for Robot-Assisted Search and Rescue (CRASAR) until the summer of 2005. In Fall of 2005, he established the Unmanned Systems Laboratory (USL) in the College of Engineering, in which he served as Founding Director. In addition, he served as Managing Director of the National Institute for Applied Computational Intelligence (NIACI) and he was Faculty Associate at the Center for Urban Transportation Research (CUTR). From 2004-3/2006, he also served as Managing Director of the American Foundation for Greek Language and Culture, AFGLC (<http://www.afglc.org>).

Dr. Valavanis joined the University of Denver (DU) on September 1, 2008, and he became *Emeritus* on June 30, 2026. He served as Professor and Chair of the Electrical and Computer Engineering Department for nine years (three terms), until May 31, 2017. In June of 2013 he was named John Evans Professor, which is the highest award at DU. He also served as Interim/Acting Chair of the Computer Science Department for two years (7/2009 to 6/2011). He was the Founding Director of the DU Unmanned Systems Laboratory (DU²SL), which he established in 2009. In November of 2012, he officially created the DU Unmanned Systems Research Institute (DU²SRI), in which he served as Founding Director until June 30, 2020.

From June 1, 2017, to December 31, 2021, he served as Director, Research and Innovation of the Daniel Felix Ritchie School of Engineering and Computer Science, with the aim to promote research, increase research volume and funding, facilitate technology transfer and start-up companies from faculty, create and build alliances with other Universities and the private sector, as well as implement the new five-year RSECS Strategic Plan (2017-22).

Dr. Valavanis has been Guest Professor in the Faculty of Electrical Engineering and Computing, Department of Telecommunications, University of Zagreb (<http://www.fer.hr>), Croatia. He also was invited through the *European Union PhD Research Program in Italy* to teach Robotics and Unmanned Systems at the Dipartimento di Ingegneria Informatica, Gestionale e dell' Automazione, Università Politecnica delle Marche, Ancona, Italy (2004). Furthermore, he was invited through the PhD – Excellence program in Italy to teach an accelerated course in UAV navigation and control at the Politecnico di Torino, Dipartimento di Ingegneria Meccanica e Aerospaziale, DIMEAS, in September 2016. He offered the same course at the South China University of Technology in November 2016. In May 2017, he was invited to offer a series of seminars on navigation and control of UAVs and their integration into the national airspace, on autonomy and on collaborative multi-robot teams at Technion University, Israel. In December of 2017, he was approved by the Academic Senate and the Board of Governors of the Politecnico di Torino, through the Visiting Professors Project 2017, to visit, again, DIMEAS and offer a series of seminars under the PhD program requirements, dedicated seminars in highly specialized topics, and collaborate on projects of common interest to the partner Universities, under the guidelines of the European Research Council (ERC), European Commission, Horizon 2020 Scientific Programme, Part 1 – Excellent Science. In Spring of 2022, he was appointed *Professeur Invite*, Université de Lorraine / Polytech Nancy, Centre de Recherche en Automatique de Nancy (CRAN) where he offered an accelerated short course at the PhD level on modeling, navigation, and control of UAVs. He also collaborates with Università degli Studi di Palermo where he offers accelerated courses at the PhD level. He has offered similar courses at the Universidade Federal do Espírito Santo (UFES), Vittoria, Brazil, and during the 2018 Latin American and Brazilian Robotics Competition in João Pessoa, Brazil. He collaborates with colleagues at TUC, NTUA, University of Patras, University of Zagreb, Politecnico di Torino, Università Politecnica delle Marche, Université de Lorraine / Polytech Nancy, Georgia Tech, University of Notre Dame, and he is a member of the Advisory Board of EU funded projects.

As Chair of the ECE Department at DU he initiated, led, and coordinated efforts to create a new undergraduate focus program in **Mechatronic Systems Engineering (MSE)** leading to a specialized BS-MSE degree, and a new PhD program in MSE. DU is one of handful Universities in the U.S. that offers BS-MSE, M.Sc. and PhD degrees in MSE. The new BS-MSE program was mentioned as a ‘major strength’ during the 2010 ABET visit and in the final, ABET report received in August 2011. The second ABET visit in September 2016 resulted in even stronger reports for both the Electrical Engineering (EE) and the Computer Engineering (CpE) programs, with emphasis on the thematic sequences of courses, hands-on experience, laboratory infrastructure, and the new facilities. Further, he led and coordinated efforts to create concentration at the undergraduate and graduate level in Electric Power and Energy Systems, focusing on Renewable Energy and SmartGrid. In his capacity as Chair (Interim Chair) of ECE (CS), he led and coordinated efforts to establish ‘*by default*’ minors for Computer Science students in Computer Engineering and for Computer Engineering students in Computer Science. He strengthened relations among the two Departments and collaboration among faculty, recommending joint/courtesy appointments – this was also mentioned as a major strength in the 2010 ABET visit and, afterwards, in the final report. As Chair of the ECE he also focused on improving research and on increasing funding by providing faculty with the needed leadership, encouragement, and support infrastructure to facilitate their efforts. Funding increased from about \$500K total in late 2008 to a total of \$12.5M by September 2016. During his Tenure as ECE Chair, annual funding in ECE among ‘active research faculty’ was about \$200K per year per active research faculty.

During his tenure as Director of Research and Innovation, he helped create a submission infrastructure for proposals, streamlined the submission process, created proposal templates according to specific agency requirements, and started connecting faculty to potential sponsors (federal, state, private, industry). During the 2017-18 year he proposed and developed for the Lockheed Martin Company (LMCO) a series of (stackable) Special Graduate Certificates in Space Systems Engineering that have led to an officially approved by DU, and accepted by LMCO, MS and/or PhD degree on the subject. This new graduate program started in the Fall Quarter of 2019.

Thus far, Dr. Valavanis has graduated more 43 PhD students and more than 100 M.Sc. students. He has attracted and has helped to attract close to \$30M in research funds from Federal and State agencies, industry, and the private sector. While in Europe, he was funded by the Greek Secretariat of Research and Technology, the European Union, industry, and from the Croatian Ministry of Science and Technology (joint projects).

Dr. Valavanis' research interests focus on the areas of Unmanned Systems, Distributed Intelligence Systems, Robotics and Automation. He has published more than 450 book-chapters, technical journal and transaction papers, referred conference papers, invited papers and technical reports. He has authored, co-authored and edited the following books, in chronological order: Intelligent Robotic Systems: Theory, Design and Applications (with Dr. G. N. Saridis), Kluwer Academic Publishers, 1992; Control Problems in Robotics and Automation (co-editors with B. Siciliano), *Lecture Notes in Control and Information Sciences*, Vol. 230, Springer-Verlag, 1998; Intelligent Manufacturing Systems: Programming and Control (with J. Balic, N. Tsoirveloudis and S. Ioannidis), University of Maribor Publications, 2003; Advances in Unmanned Aerial Vehicles: State of the Art and the Road to Autonomy (editor and co-author of nine Chapters), Springer, 2007; Unmanned Aircraft Systems - International Symposium on Unmanned Aerial Vehicles, UAV'08, (co-editors with P. Oh and L. A. Piegl), Springer 2009; On Integrating Unmanned Aircraft Systems into the National Airspace System: Issues, Challenges, Operational Restrictions, Certification, and Recommendations (with K. Dalamagkidis and L. A. Piegl), Springer 2009, with a 2nd Edition published in 2012; Intelligent Control Applications to Engineering Systems (editor) Springer, 2009; Unmanned Aircraft Systems – 2nd International Symposium on Unmanned Aerial Vehicles, UAV'09 (co-editors with R. Beard, P. Oh, A. Ollero, L. Piegl, H. D. Shim), Springer, 2010; Unmanned Aerial Vehicles (editor), Springer, 2011; Linear and Nonlinear Control of Small Scale Unmanned Rotorcraft (I. A. Raptis, K. P. Valavanis), Springer, 2012, which has also been translated into Chinese; Recent Developments in Unmanned Systems (editor), Springer, 2012; Unmanned Aircraft Systems: Challenges and state of the art (editor), Springer, 2013; Handbook of Unmanned Aerial Vehicles (UAVs) (editors, K. P. Valavanis, G. J. Vachtsevanos), Springer, 2015, which is the only handbook published worldwide – a five-Volume Handbook that includes all aspects of UAVs, also translated into Chinese – a 2nd Edition is now in progress, to be published by Springer; Three recent, highly specialized books, published by Springer and CRC Press are: Foundations of Circulation Control Based Small-Scale Unmanned Aircraft: A Comprehensive Methodology from Concept to Design and Experimental Testing (K. Kanistras, K. P. Valavanis, M. J. Rutherford), Springer 2018, Nonlinear Control of Fixed-Wing UAVs with Time-Varying and Unstructured Uncertainties (M. Michailidis, K. P. Valavanis, M. J. Rutherford), Springer 2020, and Robust Formation Control for Multiple Unmanned Aerial Vehicles (H. Liu, D. Liu, Y. Wan, K. P. Valavanis, F. L. Lewis), ISBN 9781032149400, CRC Press, 2023. In addition, he is the co-author (with G. Atsalakis and K. Zopounidis) of the book Stock Market Forecasting Techniques (in Greek), Klidarithmos, 2008. He also holds several patents in unmanned aerial vehicles.

Dr. Valavanis has organized two International Advanced Robotics Programme (IARP) meetings in Lisbon, Portugal, and Lafayette LA, U.S., which were funded by the National Science Foundation (NSF). He also organized and taught Tutorials and Workshops at the IEEE Conference on Decision and Control, American Control Conference, International Conference on Robotics and Automation, Conference on

Telecommunications (ConTel), the Mediterranean Conference on Control and Automation and the International Conference on Unmanned Aircraft Systems. He served as Associate Editor of the IEEE Transactions in Robotics and Automation from 2/1996-2/1999, as the Robotics and Automation Society “Discrete Event Dynamic Systems Technical Committee” co-Chair for two years, and as an Associate Editor of the IEEE Robotics and Automation Society Magazine from 1994 to 1995. He was Editor-in-chief of the same Magazine for ten years (1996-2005). He was Book Review Editor of the Journal of Intelligent and Robotic Systems (JINT) until 2006, and since then, he serves as the Editor-in-Chief of JINT. He also serves on the Editorial Advisory Board of the International Series on Microprocessor Based and Intelligent Systems Engineering Series published by Springer. He served as a member of the IEEE Robotics and Automation Society Awards Committee for three years and as co-chair/chair of the Aerial Robotics and Unmanned Aerial Vehicles Technical Committee (2008 – December 2025).

Dr. Valavanis received invitations in 2026, 2023-2024, 2020-2021 by the *Hellenic Authority for Higher Education* (HAHE, current name) and during 2011-2013 by the *Hellenic Quality Assurance Agency* (HQAA) for Higher Education of the Hellenic Republic to evaluate Greek Universities (ABET Evaluation), and by the *European Union* to be a project evaluator in 2026-2024 (*European Research Council (ERC) – Panel PE7, Call ERC-2020-COG, Reviewer and Evaluator of **Horizon 2020 Framework Programme***) and an evaluator of IP and STREP projects as part of the *7th European Union (EU) Framework Programme for Research and Technology Development (FP7) – Information and Communication Technologies (ICT-2009.2.1 Cognitive Systems and Robotics)*, and he also served as a member of the Hearing Committee panel in Luxemburg. He is an appointed *Scientific Project Reviewer* in projects financed by the *Ministry of Science, Education and Sports of the Republic of Croatia* and in research projects evaluated by the *Italian Evaluation of Research Quality exercise (VQR 2004-2010)*.

Dr. Valavanis has been on the organizing committee of many conferences, serving as General, Program, Registration, Local Arrangements Chair, including: Registration Chair of the 36th IEEE CDC; Local Arrangements Chair of the 34th IEEE CDC; General Chair (with F. Lewis) of the 11th Mediterranean Conference on Control and Automation, June 2003; Program Chair of the 2004 IEEE ICRA; General Chair (with P. Antsaklis) of the 15th Mediterranean Conference on Control and Automation, June 2007; General Chair (with W. Gruver) of the IEEE SMC International Conference on Distributed Human-Machine Systems, March 2008; General Chair of the 2011 IEEE Multi-Conference on Systems and Control, September, 2011; General Chair (with P. Antsaklis) of the 21st Mediterranean Conference on Control and Automation, June 2013; General Chair of the 24th Mediterranean Conference on Control and Automation, June 2016; General Chair of the 30th Mediterranean Conference on Control and Automation, June 2022. He has also served as General Chair of the ICUAS, which he created in 2008, and as Honorary Chair of several conferences. In 1998, he was elected as Vice President – Administration of the Mediterranean Control Association (MCA).

Dr. Valavanis was a Distinguished Speaker in the IEEE Robotics and Automation Society (- 2003), a Life Senior Member of IEEE, a Fellow of the American Association for the Advancement of Science, a Fellow of the U.K. Institute of Measurement and Control, and a Technical Expert of the NATO Science and Technology Organization (STO). He was recently selected, again, to serve as NATO Technical Evaluator for the AVT-353 Workshop on ‘*Artificial Intelligence in the Cockpit for UAVs*’ that took place in Torino, Italy, in 2022. In August of 2021, he was also appointed to the NATO STO Technical Team of SAS-ET-EX on “Integration of Unmanned Systems into Operational Units” for the duration of the Program of Work. He is also a Fulbright Scholar (*Senior Lecturing & Research Award*). In May of 2019, during the 25-year anniversary meeting for the Robotics and Automation Magazine, he was awarded by IEEE and the Robotics and Automation Society for his 10 years of service as Editor-in-Chief.

PART II

EDUCATION

- **Rensselaer Polytechnic Institute (RPI), Troy, NY**
 - ✚ **PhD** in Computer and Systems Engineering; defended on 28 October 1986, official graduation in May 1987.
 - ✚ **M.Sc.** in Electrical Engineering, August 1984.
- **National Technical University of Athens (NTUA), Greece**
 - ✚ **Diploma in Electrical Engineering (*Diplôme Ingénieur, 5 years of study*)**; minor in Electronic Engineering and Electric Power Systems, 1981.
- **Registered Electrical/Mechanical Engineer (PE)**, Technical Chamber of Greece (March 1982).
- **Languages:** English, French, Greek (native).

RESEARCH INTERESTS

Autonomous Systems

- Reconfigurable autonomous systems: modeling and control of physically evolving engineering systems operating in dynamic, uncertain environments.
- Theoretical foundations of autonomy, intelligence, and robust intelligence.
- Combined model-based and data-driven modeling and control of complex systems.
- Trusted, assured, and long-term autonomy.
- Real-time implementable learning-based control of autonomous systems – introducing ‘anytime learning’
- Metrics for autonomy and intelligence.
- Entropy as horizontal and vertical metric to measure and quantify uncertainty and precision of task execution in hierarchical, multi-level systems.

Unmanned Systems

- Designing, modeling, and controlling 2-in-1 (UAV-UGV), 4-in-1 (UAV-UGV-Sea Surface-AUV) unmanned systems.
- Studying multi-level control architectures to measure and evaluate quantitatively intelligence and autonomy of complex engineering systems (i.e., multi-robot teams).
- Developing human-machine interfaces for high-confidence systems with enhanced autonomy attributes and enhanced automation capabilities.
- Koopman-based framework for modeling and control of nonlinear systems
- Robust controller design for families of nonlinear systems with unstructured, time-varying uncertainties; applications to *NextGen* unmanned aircraft with time-varying aerodynamic parameters. [This is a unique, mathematically rigorous methodology that deals with systems with unknown / partially unknown nominal plant, considering that such systems may be represented by an admissible family of real plants, and may switch from model to model within the admissible family of plants. Robust controller design must satisfy stability and performance requirements for the whole family of plants.]
- Modeling, control, and performance evaluation of resilient robotic platform systems with assured autonomy attributes.
- Designing ‘autonomous’ multi-robot teams.
- Coordination and control of multi-robot teams.
- Developing comprehensive navigation control architecture for UAVs, considering strict timing requirements.

- Sensor-based, robust and fault tolerant navigation control architecture and open-source software tools for unmanned rotorcraft control and performance evaluation.
- Designing and building prototypes of next generation safe and reliable Class I unmanned aircraft systems.
- (Unmanned) Aircraft performance enhancement using combined morphing and circulation control wings.
- Design and modeling of reconfigurable UAVs.
- Investigating and implementing circulation control based fixed wing (CCW) for increased lift payload capabilities during cruise flight, with direct applications in unmanned aircraft.
- Designing, building, and testing of autonomous and power/energy self-sufficient UGVs also serving as landing platforms for quadrotors and helicopters.
- Unmanned Aircraft Systems (UAS) integration into the National Airspace System (NAS): safety levels, risk analysis, reliability assessment, classification, and certification procedures.
- Nonlinear control of UAVs.
- See-and-avoid / sense-detect-and-avoid RADAR based systems for UAVs.
- Information/sensor fusion, sensor-based control of UAS, Autonomous Underwater Vehicles (AUVs), Unmanned Ground Vehicles (UGVs).
- Emergency landing navigation controllers for unmanned rotorcraft: autonomous autorotation / running landing, vision-based guided running landing.
- Guidance, navigation, control, and collision avoidance of unmanned systems.
- Parameter identification, estimation, modeling, control of small-scale unmanned rotorcraft.
- Integrated Control & Diagnostics; Hardware/Software -in-the-loop verification and validation.
- Swarm Formation Control and coordination of UGVs, UAS and UGV-UAS teams.
- UGV-based take off/landing platforms for unmanned helicopter launch and recovery on the move.
- FPGA-based, X-MOS technology-based autopilot/microcontroller designs, suitable for across unmanned platform designs.
- Integrating and prototyping multi-mission/special purpose unmanned helicopters.
- Energy / power optimization for unmanned systems.

Distributed Intelligence Systems

- Mathematical modeling, control and coordination, integrated control and diagnostics, computational complexity, decision making, performance evaluation of distributed / robotic systems and random topology and complexity production systems.
- Control, coordination, and performance evaluation of network controlled distributed systems.
- Petri Net / Hybrid Petri Net / Modular Petri Net Theory and Applications.
- Generalized System Theory.

Applications

- Networks and Telecommunication Systems; Wireless Sensor Networks.
- Discrete Event Dynamic Systems, FMS, CIM Systems, Power Systems.
- C⁴I system performance evaluation.
- Manufacturing agility metrics and performance evaluation.
- Distributed networked virtual reality and multimedia applications for multi-user environments (functional-, interconnection-, agent- based models, QoS evaluation).
- Machine Vision (color image enhancement, noise removal, segmentation, classification).
- Unmanned vehicle-based traffic monitoring and emergency response.
- Modeling, analysis, and prediction of traffic patterns based on statistical profiles derived from UAS-based real-time video data.
- Sensor based navigation of skid steering mobile robots.
- Cooperation and coordination of robots treated as mobile, autonomous agents.

- Virtual environment-based modeling, control and simulation of robotic manipulators, mobile robots, UAS, AUV, UGV, and CIM systems.

Renewable Energy Systems - Applications

- Smart Grid; integration, monitoring, integrated control and diagnostics, trustworthiness, security.

HONORS & AWARDS

- ✚ **June 30, 2026:** *Distinguished University Professor Emeritus*, University of Denver, Denver, CO 80208, USA
- ✚ **2025:** Stanford/Elsevier Top 2% of Scientists in Single Year & Career
- ✚ **May 2019:** Awarded by the IEEE Robotics and Automation Society for his 10 years of service as Editor-in-Chief of the Robotics and Automation Magazine (ICRA 2019, 25-year anniversary since the creation of the magazine)
- ✚ **June 2018 – Best Paper Award:** H. Liu, X. Dong, F. L. Lewis, Y. Wan, K. Valavanis, *Robust Formation Control for Multiple Quadrotors Subject to Nonlinear Dynamics and Disturbances*, 14th IEEE International Conference on Control and Automation, June 12-15, Anchorage, Alaska. John Evans Professor, the highest award within DU.
- ✚ **Since 06/2013:** Elected Fellow in November/December of 2016.
- ✚ **Fellow, U.K. Institute of Measurement & Control:** Elected Fellow in November of 2009.
- ✚ **Fellow, AAAS:** *Senior Lecturing & Research Award* (2001), Faculty of Electrical Engineering and Computing, Department of Telecommunications, University of Zagreb, Croatia.
- ✚ **Fulbright Scholar:** *Distinguished Lecturer*, IEEE Robotics and Automation Society. *Life Member, Upsilon Pi Epsilon (YIIE) - the International Honor Society for the Computing Sciences.*
- ✚ **07/1998 – 2003:** *A-CIM/[TC]²/BORSF Regents Professor in Manufacturing*, University of Louisiana at Lafayette (UL at Lafayette), USA.
- ✚ **Since 11/1995:** *Analog Devices Career Development Chair for Assistant Professors*, Dept. of Electrical and Computer Engineering, Northeastern University, Boston.
- ✚ **1994 – 08/2000:**
- ✚ **1987-1990:**

Biography Listings

- Marquis *Who's Who in the Media and Communications*, 1st Edition, New Providence, NJ 07974.
- Marquis *Who's Who in the World*, 12th Edition, New Providence, NJ 07974.
- Marquis *Who's Who in America*, 48th Edition, New Providence, NJ 07974.
- *Dictionary of International Biography*, 23rd Edition, International Biographical Centre, Cambridge CB2, 3QP, England.
- Marquis *Who's Who in Science and Engineering*, 2nd Edition, Reed Reference Publishing, Wilmette, Illinois 60091.
- *Men of Achievement*, 16th Edition, International Biographical Centre, Cambridge CB2, 3QP, England.

PATENTS & PATENTED TECHNOLOGY

Team of inventors in alphabetical order: A. Benini, S. Conyers, R. Godzdanker, K. Kanistras, G. Martins, A. Moses, M. J. Rutherford, P. C. Saka, K. P. Valavanis, N. Vitzilaios (Valavanis is involved in all filed patents).

1. **Patent No. US Patent 10,730,607 B2, Issued on August 4, 2020**, University of Denver, “Circulation

- Control System for Aerial Vehicles*”, K. Kanistras, P. C. Saka, M. J. Rutherford, K. P. Valavanis.
2. **Patent No. US Patent 10,145,950**, University of Denver “*Frequency Shift Keyed Continuous Wave Radar*”, M. J. Rutherford and K. P. Valavanis.
 3. **Patent No. US 9,971,021 B2, Issued on May 15, 2018**: University of Denver (DU) Invention 217: “*Radar-Based Detection and Identification for Miniature Air Vehicles*”, U.S. Serial No. 61/478,681, converted to PCT Application PCT/US2012/035022, also WO, PCT/US2012035022.
 4. **Patent No. US D818,046 S, Issued on May 15, 2018**: University of Denver (DU) Invention, DU Log No. 250: *Visual Landing Target*, U.S. Provisional Application No.62/422,524, filed on November 15, 2016.
 5. **Patent No. US 9,387,940**: University of Denver (DU) Invention 215: “*Intelligent Self-Leveling and Nodal Docking System*”, EFS ID: 8798032, Application Number: 61411635, International Application Number: N/A, Confirmation Number: 1639. Refiled as: “*Intelligent Self-Leveling Docking System*”, WO PCT/US11/60056 and US 13/991,063.
 6. **In Greece**: “*Design of Autonomous Navigation System for UAVs*”; Patent number 1004873, International Classification G01C 21/34, G08G 5/04. Approved: April 2005. [Complete system with a PCB board, controller, interfaces, microprocessors, converters, sensors, for plug- in, -out missions.]

PROFESSIONAL EXPERIENCE

GUEST/ADJUNCT/SABBATICAL/VISITING PROFESSOR POSITIONS

- Sabbatical, 2024:** (January 1–June 30) Visited Cranfield University, Politecnico di Torino, Università degli Studi di Palermo, Technical University of Crete, National Technical University of Athens offering short courses and seminars.
- Spring 2022** *Visiting Professor*, Politecnico di Torino, Dipartimento di Elettronica e Telecomunicazioni, and Universite de Lorraine / Polytech Nancy, Centre de Recherche en Automatique de Nancy (CRAN)
- Spring-Summer 2018:** *Visiting Professors Project 2017* - Approved by the Academic Senate and Board of Governors of the Politecnico di Torino, to visit Dipartimento di Ingegneria Meccanica e Aerospaziale and offer a series of seminars under the PhD program requirements, dedicated seminars in highly specialized topics, and collaborate on projects of common interest to the partner Universities, under the guidelines of the *European Research Council, European Commission, Horizon 2020 Scientific Programme, Part 1 – Excellent Science*.
- May 2017:** *Invited* to offer a series of seminars on navigation and control of UAVs and their integration into the national airspace, on autonomy and on collaborative multi-robot teams at Technion University, Israel.
- November 2016:** *Invited* to teach accelerated course on “UAV Navigation and Control” at the South China University of Technology (SCUT), Key Laboratory of Autonomous Systems and Network Control, Ministry of Education.
- September 2016:** *Invited* to teach accelerated course on “UAV Navigation and Control” at the Politecnico di Torino (PoliTo), Dipartimento di Ingegneria Meccanica e Aerospaziale; PhD – Excellence program in Italy.
- 05-06/2004:** *Visiting Professor; European Union PhD Research Program in Italy; Dipartimento*

di Ingegneria Informatica, Gestionale e dell' Automazione, Universita Politecnica delle Marche, Ancona, Italy.

Sabbatical, 03: *Visiting Professor, Computer Science and Engineering, Center for Robot Assisted Search and Rescue, University of South Florida, Tampa, FL.*

Since 12/1997: *Guest Professor, Faculty of Electrical Engineering and Computing, Department of Telecommunications, University of Zagreb, Croatia.*

FACULTY & ADMINISTRATIVE POSITIONS

2021-06/2026: *John Evans Professor, Electrical and Computer Engineering, University of Denver*

06/01/2017-2021: *Director, Research, and Innovation, RSECS, University of Denver.*

9/2008-5/31/2017: *Professor and Chair, Department of Electrical and Computer Engineering, University of Denver.*

- Chancellor's Search Committee to hire Vice Chancellor for Advancement
- Dean's Strategic Planning Committee
- Dean's New SECS Building Committee
- Founding Director, *DU Unmanned Systems Research Institute (DU²SRI)*
- Founding Director, *DU Unmanned Systems Laboratory (DU²SL)*
- Graduate Program Coordinator
- Member, DU Internationalization Committee / International Council
- Member, DU Research, SPARC Committee
- Member, DU Technology Incubator Committee

Since 9/2011: *Courtesy Professor, Department of Computer Science, and University of Denver*

7/2009-6/2011: *Professor and Interim Chair, Department of Computer Science, University of Denver.*

8/2003-8/2008: *Professor, Computer Science and Engineering, University of South Florida.*

- Director, *Unmanned Systems Laboratory*, 2006 – August 2008.
- Faculty Associate, Center for Urban Transportation Research (CUTR).
- Faculty Associate, Clean Energy Research Center (CERC).
- Managing Director, National Institute for Applied Computational Intelligence (NIACI), 2006-May 2008.
- Deputy Director, *Center for Robot Assisted Search and Rescue (CRASAR)*, August 2003 - summer 2005.

1999-2003: *Professor, Director, Laboratory of Intelligent Systems and Robotics, Department of Production Engineering & Management, Technical University of Crete, Chania, Greece.*

- Director, *Graduate Studies*, Department of Production Engineering & Management, Technical University of Crete.
- Chair, University Technical Council, Technical University of Crete.

07/1995 – 1999: *Professor and Graduate Faculty of Computer Engineering, Center for Advanced Computer Studies (CACS), University of Louisiana at Lafayette.*

1995 – 1998: *Associate Director for Research, Apparel-Computer Integrated Manufacturing Center, University of Louisiana at Lafayette.*

1993 – 10/1995: *Associate Director for Research in Robotics and Automation, Apparel Computer Integrated Manufacturing Center, University of Louisiana at Lafayette.*

1991 – 1995: *Associate Professor and Graduate Faculty of Computer Engineering, Center for Advanced Computer Studies (CACS), University of Louisiana at Lafayette.*

1986 – 1990: *Assistant Professor and Director, Robotics Laboratory, Department of Electrical and Computer Engineering, Northeastern University.*

- 1987 – 1990:** *National Technological University (NTU) Instructor* (through the Northeastern University TV network), Boulder, Colorado.
- 1982 – 1985:** *Research Associate and Teaching Assistant* at the Robotics and Automation Laboratory, Department of Electrical, Computer, and Systems Engineering, Rensselaer Polytechnic Institute, Troy NY.
- 1975 – 1981:** *Instructor, Learning Centers*, Athens, Greece.

EXECUTIVE BOARD & MEMBER POSITIONS

- **2012:** *President and Founder*, ICUAS Association, Inc. (non-profit); <http://www.icuas.com>. This is the Association responsible for organizing, coordinating and running the annual conference in Unmanned Aircraft Systems. The conference is now well recognized with technical co-sponsorship of the IEEE Control Systems Society (CSS), Robotics and Automation Society (RAS) and Mediterranean Control Association (MCA).
- **2012:** *Member (elected)* - American Hellenic Educational Progressive Association (AHEPA) Board of Directors, Chapter 145 in Denver, CO.
- **2010:** *Member*, AHEPA, Chapter 145, Denver CO.
- **2010:** *Founder and CEO*, KS&P Technologies, LLC; <http://www.ksp-technologies.com>.
- **2004 – 3/2006:** *Managing Director*, “American Foundation for Greek Language and Culture”, AFGLC, Tampa Office; <http://www.afglc.org>.

TECHNICAL AND CONSULTING EXPERIENCE

- **8/2012:** Founder and President of the International Conference on Unmanned Aircraft Systems (ICUAS) Association, Inc., (<http://www.icuas.com>), a non-profit organization established to promote knowledge, education and research in the area of unmanned systems and to organize and sponsor the annual ICUAS meeting (<http://www.uasconferences.com>).
- **5/2010:** Founder, President and CEO of *KS&P Technologies, LLC*, www.ksp-technologies.com, High-Tech startup company focusing developing cutting edge technologies in robotics and automation.
- **9/2007-12/2008:** Co-Founder, Managing Member and Chief Technology Officer of *Archytas Unmanned Systems, LLC* (<http://www.archytasus.com>) – Company is now closed.
- **03/2003 – 03/2006:** Founder of a research consortium (from SBIR) to design and develop integrated controllers for autonomous navigation of unmanned vehicles. Responsible for technical agenda, technology transfer, intellectual rights, business plan. (Initial funding received from EU/Greek Secretariat for Research and Technology -GSRT).
- **1999 – 2003:** Consultant for EADS - 3SIGMA S. A. (former STN ATLAS-3SIGMA S. A.) Responsible for R&D division set up, management and activities coordination, new project initiatives and funding. Leader, company–TUC projects management. Duties included enhancing autonomous UAV performance, new VTOL design specifications and development, UAV jet engine design for enhanced performance. (European Aeronautics, Defense and Space Company – EADS).
 - Participant with EADS - 3SIGMA S. A. in the WEAG (Western Europe Armament Group) meetings for establishing civilian UAV specifications.
 - Participant with EADS - 3SIGMA S. A. and speaker in the EURO UVS (Unmanned Vehicle Systems).
- **1997-2001:** Consultant, Ericsson - Nikola Tesla, Croatia, (through the University of Zagreb). Networked virtual reality environments, simulation, and QoS specifications.
- **1987-1989:** Consultant and co-founder, GNOSITEK INC., Boston, MA: Consulting in design of robotic and automation systems; Development of total solution robotic systems for specific applications (package handling, distribution, palletizing); Robot market analysis; New product development and marketing.

- **1981- Present:** Consultant of Private Companies, Athens, Greece: Consulting in manufacturing systems, automation, robotics, technology transfer, production planning and management, start-up companies, and economic development.

UNIVERSITY AND DEPARTMENT ADMINISTRATIVE EXPERIENCE

UNIVERSITY OF DENVER (SEPTEMBER 1, 2008 -06/2026.)

- *Member*, DU Graduate Council – RSECS Representative
- *Member*, DU Committee to hire the Vice Chancellor for Advancement (2014-15)
- *Member*, DU International Council / Internationalization committee (. – 2014)
- *Member*, DU Sponsored Programs and Academic Research Committee (SPARC)
- *Member*, University committee to establish policies for admitting graduate students who have completed three-year undergraduate degrees - as per the *Bologna Agreement* (. – 2012)
- *Member*, DU Technology Incubator Committee (. – 2015)

ELECTRICAL AND COMPUTER ENGINEERING DEPARTMENT

- 9/1/2008 – 05/31/2017 - *Chair*
 - ✚ Revisited the undergraduate common curriculum and modified courses to emphasize mechatronic systems (integration of mechanical, electrical and computer engineering) and include even at the freshman/sophomore level SolidWorks, CAD/CAM, Mathcad, LabView, MATLAB based designs.
 - ✚ Completed successfully ABET in October of 2010. Positive observations/comments on the strengths of the (enhanced) undergraduate common curriculum, the Mechatronic Systems Engineering (MSE) concentration (new) and the collaboration between CS and CpE.
 - ✚ Created a new undergraduate program in MSE; it is a concentration leading to a BSEE-MSE degree.
 - ✚ Established a new PhD program in Mechatronic Systems Engineering (MSE), which started on September 1, 2010. (Note: DU is the only University in the U.S. that offers BS-MSE, M.Sc., and PhD degrees in MSE!)
 - ✚ Established a new PhD in ECE, effective September 1, 2010.
 - ✚ Completed enhancements in undergraduate curricula to include courses in Business Law, Engineering Entrepreneurship, Technology Transfer, Patents & IP Rights, and Ethics throughout the curriculum.
 - ✚ Created a new focus area in Electric Power and Energy Systems at the undergraduate and graduate levels focusing on renewable energy systems, sustainability, SmartGrid optimization and security.
 - ✚ Evaluated all PhD degree programs and recommended changes to the Qualifying Exams to reflect breadth/ depth of knowledge in core, two area-specific and research specialization areas.
 - ✚ Created and established the undergraduate Control Systems Laboratory (for educational purposes, coupled with teaching analog, digital and adaptive control), and the Unmanned Systems Laboratory (for research purposes).
 - ✚ Improved computational facilities within ECE.
 - ✚ Initiated closer collaboration with the Industrial Advisory Board (IAB) members and industry.
 - ✚ Coordinating multidisciplinary/interdisciplinary research initiatives between universities.
 - ✚ Research funding increased from \$500K total in 2008 to \$6.0M in 2013. Number of submitted proposals also increased accordingly.
 - ✚ Graduate student numbers increased by 45% in 2009, then stabilized.
 - ✚ **DU²SRI**: Director; responsible for the overall operation of the Institute. Supervisor or co-supervisor of 10 graduate students.

COMPUTER SCIENCE DEPARTMENT

- 7/1/2009 – 6/2011 *Interim Chair*. Focused on:
 - Evaluating CS Department status, reviewing budget, degrees, programs and research focus areas.
 - Close collaboration with the CS Industrial Advisory Board (IAB) to enhance undergraduate and graduate curricula to reflect and account for recent changes and advancements in the field.
 - Establishing common thematic sequences between CS and Computer Engineering (CpE).
 - Promoting multidisciplinary/interdisciplinary research initiatives to attract funding.
 - Recruitment of good quality students.

OTHER ACTIVITIES WITHIN THE UNIVERSITY OF DENVER (*Since Jan. 2014*)

- Taking initiative with (and invited by) Prof. Richard Caldwell, Director, DU Institute for Public Policy, and The National Center for Innovation in the Economy and Public Policy Studies, to offer and co-teach courses on:
 - *Inventing the Future: Policy Challenges of Technology, Work, Privacy, Economic Development, Automation and Employment in the 21st-Century*
 - *Don't Panic—Fight Back! Strategies for Securing the Homeland and Defeating Terror, Cybercrime and Fiscal Collapse in the Age of Dysfunctional Government*
 - *Innovation Nation: Policy Challenges of Advanced Technology, Privacy, Robotics and Employment in the 21st-Century*

UNIVERSITY OF SOUTH FLORIDA (SEPTEMBER 2003 – AUGUST 2008)

College of Engineering

- 08/2004-2008: Member, University Research Misconduct Committee (College of Engineering, COE, representative).
- 08/2004-2007: Member, University Research Council – Representative, COE.

Department of Computer Science and Engineering

- Director, Unmanned Systems Laboratory, 2006 – 08/2008.
- Managing Director, National Institute for Applied Computational Intelligence.
- Deputy Director, CRASAR (and chief financial officer summer 2003 - summer 2005).
 - Responsible for project management, research agenda development, human resources management, raising sustainable funding, budget allocation and related issues, acting as the liaison person to industry, Local, State and Federal authorities. Number of employees – on average – 20 PhD candidate students, 5 undergraduate students, 10 affiliated faculty members, two Visiting Faculty / Researchers, 2 Research Scientists.
- Chair, Infrastructure Committee, 2007 – 2008.
- Chair, Faculty Evaluation Committee, 2005-2007.
- Chair, Awards Committee, 2004-2005.
- Member, Faculty Search Committee, 2004-2005.
- Member, CSE Infrastructure Committee, 2003-2004, 2005-2007.
- Member, CSE Graduate Studies Committee, 2003-2004.
- Member, Tenure and Promotion (T&P) Committee, 2003-2008.

TECHNICAL UNIVERSITY OF CRETE (1999-AUGUST 2003)

- Chair, University Technical Council (the council that coordinates, approves, and monitors campus-building improvements, new buildings, university property investments, etc., in cooperation with the City authorities, Ministry of Education, and reports to the University Senate).
- Director, Department Graduate Studies (responsible for the modernization and improvement of graduate studies in view of the new rules and regulations imposed by the European Union).

Developed and introduced an enhanced graduate curriculum that became effective in the 2002-2003 Academic Year.

- Member, Curriculum Development Committee.
- Chair and Member, Tenure and Promotion (T&P) Committee.
- Member of Greek Universities T&P committees (external evaluator).
- Member of hiring recommendations and evaluation committee.

UNIVERSITY OF LOUISIANA AT LAFAYETTE (1990-1998)

- Member CACS Governing Board, 1997-1998.
- Chair, CACS Research Committee, 1997-98.
- Member, Faculty Senate, 1995 - 1998.
- A-CIM Associate Director for Research (1995-1998). Responsible for funding, projects management and coordination, liaison between University, Industry Federal and State Government (10 affiliated faculty members, 5 Research / Visiting Scientists, 20 graduate students, 1 technician, staff of 5).
- Member, University Academic Research Council, 1996 -1997 – committee that recommended new potential research opportunities as well as key directions for overall University enhancement.
- Chair, Faculty Search Committee, 1995 -1997.
- Member, CACS Executive Committee, 1995 - 1997.
- Chair, CACS PhD Qualifying Exams Committee, 1992 -1996.

PROFESSIONAL SOCIETIES ADMINISTRATIVE EXPERIENCE

2008 Created the *International Symposium on Unmanned Aerial Vehicles*, an annual conference with industrial, private sector, federal and state government, and university participation. The meeting has been renamed *International Conference on Unmanned Aircraft Systems* (ICUAS), <http://www.uasconferences.com>, now co-sponsored by the IEEE Control Systems Society (CSS), Robotics and Automation Society (RAS) and the Mediterranean Control Association (MCA). ICUAS is financially sponsored by the ICUAS Association, Inc.

Since 08/2006 **Journal of Intelligent and Robotic Systems, Springer**
Editor-in-Chief: Enhanced the journal scope to include Unmanned Systems; re-organized Journal following IEEE Transactions and Automatica format; established editorial board, introduced editorials, educational papers, and special issues; increased number of issues to 16 per year, published in four volumes;

2006-12/2008 **IEEE Systems, Man and Cybernetics (SMC) Society**
Editor-in-Chief, IEEE SMC eNewsletter: responsible for editing, material collection, and layout, production and dissemination. Working with the SMC Board of Governors and Executive / Technical Committees.

2006-present **IEEE Robotics and Automation Society (RAS)**
Co-Chair/Chair (2009) of the Aerial Robotics and Unmanned Aerial Vehicles Technical Committee.

2005-2009 *Member*, IEEE Robotics and Automation Society Awards Committee.

1996-12/2005 *Member*, Financial Activities Board.

Member, Publications Committee.

Editor-in-chief, IEEE RAS Magazine (two consecutive 5-year terms; stepped down, December 31, 2005).

2003 *Member, committee to create the new IEEE Transactions on Automation Sciences and Engineering (T-ASE).*

Since 1998 **Mediterranean Control Association (MCA)**
Vice President, Administration
Member, MCA Board and MCA conference steering committee

NATIONAL – INTERNATIONAL PANELS & COMMITTEES

- **2026, 2025, 2024:** Invited by the *Hellenic Authority for Higher Education (HAHE)* of the Hellenic Republic to evaluate and certify the Kapodistrian University of Athens, ABET Accreditation – member of the committee of experts.
- **September 2025:** Panelist, NSF DCSD CAREER Panel
- **October 2023:** Panelist, NSF FRR Panel
- **2022:** (October 2022) Panelist, NSF FRR Panel
- **2022:** (April 2022) Technical Evaluator / Expert, NATO Science and Technology Organization, Applied Vehicle Technology (AVT) Meeting 353, Artificial Intelligence in the Cockpit for UAVs.
- **2021:** (August 2021) Appointed by the US NATO STO National Coordinator of the Technical Team of SAS-ET-EX on “Integration of Unmanned Systems into Operational Units” for the duration of the Program of Work.
- **2021:** (February 2021) Invited by the *Hellenic Authority for Higher Education (HAHE)* of the Hellenic Republic to evaluate the integrated 5-year program of the School of Electrical and Computer Engineering, National Technical University of Athens (NTUA), ABET Accreditation – Chair, committee of experts.
- **2021:** (February 2021) Invited by the *Hellenic Authority for Higher Education (HAHE)* of the Hellenic Republic to evaluate the integrated 5-year program of the School of Electrical and Computer Engineering, Aristotelian University of Thessaloniki (AUTH), ABET Accreditation – Chair, committee of experts.
- **2020:** (December 2020) Invited by the *Hellenic Authority for Higher Education (HAHE)* of the Hellenic Republic to certify the Program of the National Technical University of Athens (NTUA), ABET Certification – member, committee of experts.
- **2020:** (November 2020) Panelist, NSF FRR Carrier Panel
- **2019:** (April 2019) Panelist, NSF EPSCoR Track II
- **2018:** (November 2018) Participated in the NSF Cyber Physical Systems (CPS) PI conference meeting and Workshop on Autonomous Systems, Alexandria, VA
- **2017:** (November 2017) Participated in the NSF Cyber Physical Systems (CPS) PI conference meeting and Workshop on Autonomous Systems, Alexandria, VA
- **2017:** (June 2017) Panelist, National Science Foundation, CISE/CNS Panel
- **2017:** (May 2017) Technical Evaluator / Expert, NATO Science and Technology Organization, Applied Vehicle Technology (AVT) Meeting, Meeting on Approval of RPAS Operations
- **2017:** (March 2017) Panelist, National Science Foundation, Division of Information and Intelligent Systems (IIS); Autonomy Panel
- **2016:** (October 2016) Panelist, National Science Foundation, Directorate for Computer & Information Science & Engineering; Career Proposals for Cyber Physical Systems (CPS) Program
- **2015:** (November 2015) Participated in the NSF – Cyber Physical Systems (CPS) PI conference/meeting in Arlington, VA

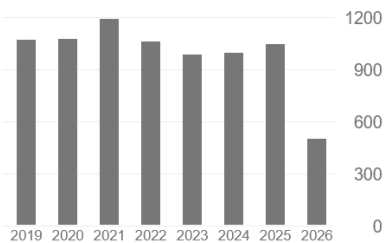
- **2014:** Panelist, National Science Foundation, Directorate for Computer & Information Science & Engineering (CISE); CRii Proposals for Cyber Physical Systems (CPS) Program
- **2013:** Invited by the *Hellenic Quality Assurance Agency* (H.Q.A.A.) for Higher Education of the Hellenic Republic to evaluate the Department of Electrical & Computer Engineering, University of Patras, Patras, Greece, on October 28-November 1, 2013. [ABET Evaluation]
- **2013:** Invited by the *Hellenic Quality Assurance Agency* (H.Q.A.A.) for Higher Education of the Hellenic Republic to evaluate the Department of Electrical & Computer Engineering, National Technical University of Athens, Athens, Greece, on October 21-25, 2013. [ABET Evaluation]
- **2012:** Invited by the *Hellenic Quality Assurance Agency* (H.Q.A.A.) for Higher Education of the Hellenic Republic to evaluate the Department of Electrical & Electronic Engineering, Aristotle University, Thessaloniki, Greece, on March 19-23, 2012. [ABET Evaluation]
- **2011:** Invited by the *Hellenic Quality Assurance Agency* (H.Q.A.A.) for Higher Education of the Hellenic Republic to evaluate the Department of Electrical Engineering of the Technological Institute of Crete, Greece, on October 17-22, 2011. [ABET Evaluation]
- **2011:** *European Union:* Evaluator of IP and STREP projects in Brussels in March of 2011
- **2010:** *European Union:* Evaluator of IP and STREP projects, *7th European Union (EU) Framework Programme for research and technology development (FP7) – Information and Communication Technologies (ICT-2009.2.1 Cognitive Systems and Robotics)*, Brussels. Member of the Hearing Committee panel, Luxembourg
- **2010:** NSF evaluator and panelist, Expedition in Computing Program, April 5-7, 2010
- **2009:** *European Union:* Evaluator of IP projects, *7th European Union (EU) Framework Programme for research and technology development (FP7) – Information and Communication Technologies (ICT-2009.2.1 Cognitive Systems and Robotics)*, Brussels
- **Since 2006:** Appointed as *Scientific Project Reviewer* in the research evaluation process, financed by the *Ministry of Science, Education and Sports of the Republic of Croatia*
- **2001-2002:** (*In Greece*) *National Committee* for the evaluation of Greek University Engineering Programs. *Member*, evaluation committee of Greek Secretariat of Research and Technology (GSRT).
- **1999:** NSF evaluator and panelist (SBIR/STTR) on Sensing and Control, Division of Design and Manufacturing, Directorate of Engineering
- **1994-1997:** *Member* (through the University of Louisiana A-CIM Center) of the *Defense Logistics Agency* of the Department of Defense (DLA / DOD) *Apparel Research Network (ARN)*
- **1994-1997:** *Committee Member*, *DLA / DOD, ARN Pre-production and Production Focus Group*. Objective: Develop a national road map for research projects relevant to the DLA ARN mission
- **1992:** NSF panel in Instrumentation for Research in Computer, Information Science and Engineering, Division of Cross Disciplinary Activities in the CISE Directorate, Washington D.C.

PART III

RESEARCH PUBLICATIONS

As of 16/07/2026 – Google Scholar Citations

Cited by	VIEW ALL	
	All	Since 2021
Citations	17325	5772
h-index	57	34
i10-index	230	103



BOOKS AND EDITED BOOKS

1. H. Liu, D. Liu, Y. Wan, K. P. Valavanis, F. L. Lewis, Robust Formation Control for Multiple Unmanned Aerial Vehicles, ISBN 9781032149400, CRC Press 2023 (Available December 2022).
2. M. Michailidis, K. P. Valavanis, M. J. Rutherford, Nonlinear Control of Fixed-Wing UAVs with Time-Varying and Unstructured Uncertainties, Springer 2020.
3. K. Kanistras, K. P. Valavanis, M. J. Rutherford, Foundations of Circulation Control Based Small-Scale Unmanned Aircraft: A Comprehensive Methodology from Concept to Design and Experimental Testing, Springer, 2018.
4. K. P. Valavanis, G. J. Vachtsevanos (Editors and authors of multiple Chapters), Handbook of Unmanned Aerial Vehicles (UAVs), Five Volumes, ISBN 978-90-481-9706-4, Springer, 2015. (**Now translated into Chinese**)
5. K. P. Valavanis (Editor), Unmanned Aircraft Systems: The Current State of the Art, Springer, 2013.
6. K. P. Valavanis (Editor), Recent Developments in Unmanned Aircraft Systems, Springer, 2012.
7. K. Dalamagkidis, K. P. Valavanis, L. A. Piegl, On Integrating Unmanned Aircraft Systems into the National Airspace System: Issues, Challenges, Operational Restrictions, Certification, and Recommendations, *International Series on Intelligent Systems, Control and Automation: Science and Engineering*, Volume 54, Springer, 2nd Edition, 2012.
8. K. P. Valavanis (Editor), Unmanned Aerial Vehicles, Springer, 2011.
9. I. A. Raptis, K. P. Valavanis, Linear and Nonlinear Control of Small-Scale Unmanned Helicopters, *International Series on Intelligent Systems, Control and Automation: Science and Engineering*, Volume 45, Springer 2011. (**Also translated and published in Chinese**).
10. K. P. Valavanis, R. Beard, P. Oh, A. Ollero, L. Piegl, H. D. Shim, Editors, Unmanned Aircraft Systems – 2nd International Symposium on Unmanned Aerial Vehicles, UAV'09, Springer, 2010.
11. K. P. Valavanis (Editor), Applications of Intelligent Control to Engineering Systems, *International Series on Intelligent Systems, Control and Automation: Science and Engineering*, Volume 39, Springer, 2009.
12. K. P. Valavanis, P. Oh, L. A. Piegl, Editors, Unmanned Aircraft Systems - International Symposium on Unmanned Aerial Vehicles, UAV'08, Springer, 2009.
13. K. Dalamagkidis, K. P. Valavanis, L. A. Piegl, On Integrating Unmanned Aircraft Systems in to the

National Airspace System: Issues, Challenges, Operational Restrictions, Certification, and Recommendations, *International Series on Intelligent Systems, Control and Automation: Science and Engineering*, Volume 36, Springer, 2009.

14. G. Atsalakis, K. Valavanis, K. Zopounidis, Stock Market Forecasting Techniques (in Greek), Klidarithmos (ISBN 978-960-461-121-8), 2008.
15. K. P. Valavanis (Editor), Advances in Unmanned Aerial Vehicles: State of the Art and the Road to Autonomy, *International Series on Intelligent Systems, Control and Automation: Science and Engineering*, Volume 33, Springer, 2007.
16. J. Balic, K. P. Valavanis, N. C. Tsourveloudis, E. Ioannidis, Intelligent Manufacturing Systems: Programming and Control, University of Maribor Publications, 2003.
17. B. Siciliano, K. P. Valavanis (Editors), Control Problems in Robotics and Automation, Lecture Notes in Control and Information Sciences, Vol. 230, Springer-Verlag, 1998.
18. K. P. Valavanis, G. N. Saridis, Intelligent Robotic Systems: Theory, Design and Applications, Kluwer Academic Publishers, 1992.

PhD Thesis: K. P. Valavanis, A Mathematical Formulation for the Analytical Design of Intelligent Machines, RPI, 1986.

M.Sc. Thesis: K. P. Valavanis, On the Real-time Control of a VAX-11/750 Computer Controlled PUMA-600 Robot Arm, RPI, 1984.

Diploma Thesis: K. P. Valavanis, Protection of Electric Power Transmission Lines with Digital Relays: An Algorithm for Short Circuit Detection, Identification and Isolation, National Technical University of Athens, 1981. (In Greek)

EDITED CONFERENCE PROCEEDINGS (SELECTIVE)

1. K. P. Valavanis, Digital Proceedings of the 2026 International Conference on Unmanned Aircraft Systems, Corfu, Greece (IEEE Xplore).
2. K. P. Valavanis, Digital Proceedings of the 2025 International Conference on Unmanned Aircraft Systems, Charlotte, NC, USA (IEEE Xplore).
3. K. P. Valavanis, Digital Proceedings of the 2024 International Conference on Unmanned Aircraft Systems, Chania, Crete, Greece (IEEE Xplore).
4. K. P. Valavanis, Digital Proceedings of the 2023 International Conference on Unmanned Aircraft Systems, Lazarski University, Warsaw, Poland (IEEE Xplore).
5. K. P. Valavanis, Digital Proceedings of the 2022 International Conference on Unmanned Aircraft Systems, Dubrovnik, Croatia (IEEE Xplore).
6. K. P. Valavanis, Digital Proceedings of the 2021 International Conference on Unmanned Aircraft Systems, Athens, Greece (IEEE Xplore).
7. K. P. Valavanis, Digital Proceedings of the 2020 International Conference on Unmanned Aircraft Systems, Athens, Greece (IEEE Xplore).
8. K. P. Valavanis, Digital Proceedings of the 2019 International Conference on Unmanned Aircraft Systems, June 2019, Atlanta, GA (appeared on IEEE Xplore).
9. K. P. Valavanis, Digital Proceedings of the 2018 International Conference on Unmanned Aircraft Systems, June 2018, Dallas, TX (appeared on IEEE Xplore).
10. K. P. Valavanis, Digital Proceedings of the 2017 International Conference on Unmanned Aircraft Systems, June 2017, Miami, FL (appeared on IEEE Xplore).
11. P. Antsaklis, K. P. Valavanis, D. Theilliol, A. Tzes, Proceedings of the 24th Mediterranean Conference on Control and Automation, (USB and Book of Abstracts), June 2016 (appeared on IEEE Xplore).
12. K. P. Valavanis, Digital Proceedings of the 2016 International Conference on Unmanned Aircraft Systems, June 2016, Arlington VA (appeared on IEEE Xplore).
13. K. P. Valavanis, Digital Proceedings of the 2015 International Conference on Unmanned Aircraft

- Systems, June 2015, Denver, CO (appeared on IEEE Xplore).
14. K. P. Valavanis, Digital Proceedings of the 2014 International Conference on Unmanned Aircraft Systems, June 2014, Orlando, FL (appeared on IEEE Xplore).
 15. K. P. Valavanis, Digital Proceedings of the 2013 International Conference on Unmanned Aircraft Systems, May/June 2013, Atlanta, GA (appeared on IEEE Xplore).
 16. P. Antsaklis, K. P. Valavanis, N. Tsourveloudis, Proceedings of the 21st Mediterranean Conference on Control and Automation, (CD-ROM and Book of Abstracts), June 2013.
 17. K. P. Valavanis, Proceedings of the 2013 International Conference on Unmanned Aircraft Systems (CD-ROM and Book of Abstracts), May 2013.
 18. K. P. Valavanis, P. J. Antsaklis, Z. Kovacic, K. J. Kyriakopoulos, Proceedings of the 15th Mediterranean Conference on Control and Automation, (CD-ROM and Book of Abstracts), June 2007.
 19. K. P. Valavanis, F. Lewis, S. Bogdan, K. J. Kyriakopoulos, Proceedings of the 11th Mediterranean Conference on Control and Automation, (CD-ROM and Book of Abstracts), June 2003.
 20. K. P. Valavanis, D. Gracanin, M. Matijasevic, R. Kolluru, Proceedings of the 1st International Advanced Robotics Programme Workshop on Autonomous Underwater Vehicles for Shallow Water and Coastal Environments, University of Louisiana at Lafayette, April 1998.
 21. K. P. Valavanis, F. L. Lewis, K. S. Barber, C. Abdallah, Proceedings of the 10th IEEE International Symposium on Intelligent Controls, Monterey, CA, IEEE Control Systems Society Press, August 1995.
 22. K. P. Valavanis, G. N. Saridis, A. Pascoal, P. Lima, F. L. Pereira, Proceedings of the International Program Development in Undersea Robotics, and Intelligent Control (URIC): A Joint U.S./Portugal Workshop, University of Louisiana at Lafayette, May 1995.
 23. K. P. Valavanis, G. N. Saridis, F. Lewis, G. Stavrakakis, N. Koussoulas, K. Kyriakopoulos (Editors), Proceedings of the 2nd IEEE Mediterranean Symposium on New Directions in Control and Automation, Chania, Crete, June 1994.
 24. M. A. Bayoumi, L. Davis, K. P. Valavanis (Editors), Proceedings of the Workshop on Computer Architectures for Machine Perception (CAMP'93), IEEE Computer Society Press, December 1993.
 25. A. C. Sanderson, A. A. Desrochers, K. Valavanis (Editors), Proceedings Fourth IEEE International Symposium on Intelligent Controls, IEEE Computer Society Press, September 1989.

BOOK CHAPTERS

1. K. Kanistras, P. C. Saka, M. J. Rutherford, and K. P. Valavanis, *A Circulation Control System for Enhanced Aircraft Performance*, in Encyclopedia of Robotics, M. H. Ang Jr., O. Khatib and B. Siciliano, Eds., Springer, https://doi.org/10.1007/978-3-642-41610-1_68-1.
2. J. Alvarenga, N. I. Vitzilaios, M. J. Rutherford, K. P. Valavanis, *Modeling and Frequency-domain Parameter Identification of a Small-scale Flybarless Unmanned Helicopter*, Encyclopedia of Aerospace Engineering, DOI: 10.1002/9780470686652.eae1155, John Wiley & Sons, Ltd, 2016.
3. K. P. Valavanis, G. J. Vachtsevanos, *Handbook Introduction*, in K. P. Valavanis, G. J. Vachtsevanos (Editors), Handbook of Unmanned Aerial Vehicles, Springer, 2015.
4. K. P. Valavanis, G. J. Vachtsevanos, *The Future of Unmanned Aviation*, in K. P. Valavanis, G. J. Vachtsevanos (Editors), Handbook of Unmanned Aerial Vehicles, Springer, July 2014.
5. G. J. Vachtsevanos, K. P. Valavanis, *Military and Civilian UAVs*, in K. P. Valavanis, G. J. Vachtsevanos (Editors), Handbook of Unmanned Aerial Vehicles, Springer, July 2014.
6. A. Moses, M. J. Rutherford, K. P. Valavanis, *A Scalable RADAR-based Sense-and-Avoid System for Unmanned Aircraft*, in K. P. Valavanis, G. J. Vachtsevanos (Editors), Handbook of Unmanned Aerial Vehicles, Springer, July 2014.
7. K. Kanistras, G. Martins, M. J. Rutherford, K. P. Valavanis, *A Survey of Unmanned Aerial Vehicles (UAVs) for Traffic Monitoring*, in K. P. Valavanis, G. J. Vachtsevanos (Editors), Handbook of Unmanned Aerial Vehicles, Springer, July 2014.
8. G. Limnaios, N. C. Tsourveloudis, K. P. Valavanis, book Chapter, *Introduction in Sense and Avoid in*

- UAS: Research and Applications, P. Angelov, Editor, J. Wiley, 2012.
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 222. P. Bonissone, K. P. Valavanis, "*A Comparative Study of Different Approaches to Qualitative Physics Theories*", Proceedings of the 2nd Conference on Artificial Intelligence Applications, pp: 236-243, Miami, FL, USA, December 1985.
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RESEARCH & DEVELOPMENT EXPERIENCE – PROJECT MANAGEMENT

Since 09/2008 (University of Denver):

- Robust controller design for nonlinear systems with unstructured, time-varying uncertainties.
- Design, modeling, control, and prototyping of circulation control based unmanned aircraft.
- Characterization of near-ground, near-ceiling, near-wall phenomena of multi-rotors; derivation of accurate models and control.
- SmartGrid modeling, monitoring, coordination, security and load optimization.
- Designing and developing self-leveled mobile platforms autonomous landing and take-off of unmanned rotorcraft.
- Designing and building next generation Class I unmanned rotorcraft, quadrotors, and fixed-wing aircraft with integrated control and diagnostic capabilities.
- Designing, modeling and developing circulation control wings (following theoretical, computational and experimental techniques) to increase lift and payload during cruise flights in unmanned aircraft.
- Focusing on 3-D formation control and cooperative UAVs-UGVs.
- Focusing on network-controlled systems and communication-control of robot teams.
- Nonlinear control of UAVs.
- Designing a landing platform (patented) for unmanned rotorcraft, also being an autonomous UGV.
- Designing sense-detect-and-avoid RADAR-based systems for small UAVs, including rotorcraft (patented).
- Design and build the next generation of multi-purpose unmanned ground vehicles and light-weight unmanned helicopters.
- Designing and developing universal navigation controllers based on XMOS technology, emphasizing parallelism of operations.
- Designing complex multivariable controllers and nonlinear (backstepping) controllers for unmanned rotorcraft (with guaranteed stability).
- Designing and implementing a nonlinear model predictive controller with a recurrent neural network for on-line/real-time accommodation of helicopter failures leading to a vertical autonomous autorotation landing. Extensions to manned helicopters.
- Multiple unmanned helicopter autonomous navigation and collision avoidance in the presence of failures, including see and avoid systems.
- Developing the 6th generation of miniature autonomous navigation controllers for aerial and ground vehicles.
- Designing a universal landing platform for light-weight helicopters, also serving as a refuel/recharge station.
- Built a helicopter system for pipeline inspection.
- Transferred research equipment to DU, and established the DU Unmanned Systems Laboratory, *DU²SL*.

2003 - 2008: USF

- Safety, airworthiness, risk analysis and certification procedures for unmanned aerial vehicles;
- Derivation and prototyping of an emergency landing system (in addition to back up systems) for unmanned aerial vehicles: minimizing impact and collateral damage;
- Unmanned vehicle swarms, formation control of UGVs (2-D environment);
- Formation control of UGV - UAV teams (3-D environment);
- Traffic monitoring and management using unmanned helicopters;
- Mathematical modeling, prediction, and evaluation of traffic patterns based on real-time, dynamic, visual data acquired from unmanned helicopters;
- Teams of heterogeneous aerial, ground vehicles:

- Modeling / control (local, supervisory); design, testing, implementation of controllers
- Coordination and diagnostics (monitoring and failure accommodation)
- Sensor fusion, design and testing of vision systems with IR / NIR cameras
- Hardware and software architectures
- Sensor networks / ad-hoc networks
- Design of a “custom-made” VTOL-mobile robot system with landing platform;
- Design of vision systems for miniature unmanned aerial vehicles with strict payload limitations;
- Design / building / testing unmanned ground vehicles using off the shelf components: integrating sensor suites, vision and servo controllers for fully autonomous navigation;
- Communication – control of swarms of ground robots: cooperation and collaboration in the presence of communication failures;
- Simulation and visualization environments for robot controller testing and multiple vehicle coordination;
- Parameter identification and estimation for derivation of accurate models of miniature unmanned VTOL vehicles;
- Intelligent sensors;
- Design of autonomous computer-controllers for UAV and VTOL vehicles;
- Energy efficient robot systems;
- Fault tolerance and integrated control and diagnostics for unmanned vehicles;
- Petri Nets and their applications to hybrid systems, production systems and electric power systems.

1999 – 2003: Technical University of Crete (All funded projects)

- Modeling, real-time, sensor-based control and autonomous navigation with collision avoidance of unmanned aerial vehicles (UAV). Enhancement of flying and operational capabilities.
- Built a custom made mobile robot.
- VTOL design specifications and control architecture.
- Flight simulator environment with multiple UAV / VTOL capabilities and interface with controllers.
- Autonomous, fuzzy-logic based navigation including collision avoidance of Underwater Vehicles.
- Developing a modular hardware and software control architecture for UAV “plug-in” missions.
- Designing a cost-effective small jet engine for UAVs.
- Coordinated sensor-based control and navigation of a fleet of skid-steering mobile robots in indoor and outdoor dynamic environments including moving obstacles.
- Modeling, analysis and synthesis of generic manufacturing cells (assembly, disassembly and production line) for production systems (CIM, FMS) control and performance evaluation based on maximization of throughput and minimization of work-in-process (WIP). A fuzzy logic perspective.
- Petri Net based system modeling and control. Applications in CIM systems, FMS, Electric Power Systems (reliability study, failures, diagnostics).
- Reliability and Performance Evaluation of Electric Power Systems.

1997- 2001: Research project collaboration with the Department of Telecommunications, University of Zagreb, and Ericsson – Nikola Tesla, Croatia.

- Agent-based modeling of distributed intelligence systems: mobile / intelligent agents for computer communication networks.
- Development of a formal model of a Networked Virtual Reality service. VR and multimedia based simulation and performance evaluation of distributed systems.
- Theoretical studies and experimental verification of flexible call and service processing models. Definition of application/user level Quality of Service (QoS) requirements and measurements.

1991-1999: Research Projects, University of Louisiana at Lafayette: Robotics and Automation Laboratory (RAL) and Virtual Reality and Multimedia Laboratory (VRML)

I. Distributed and Hierarchical Systems Modeling, Analysis, Synthesis and Performance Evaluation; System Error Identification and Recovery; Planning and Scheduling of Discrete Event Dynamic Systems

- Algorithms and grammars for integrated control and diagnostics of dynamic systems (automated manufacturing systems, DEDS, robotic assemblies), including fault or error or failure detection, identification, handling, accommodation and recovery. Petri Net models for integrated control and diagnostics of dynamic systems.
- Modeling and scheduling of planning systems based on multi agent coordination, collaboration and group theory. Integration with error recovery mechanisms.
- Petri Net based modeling, simulation and control of asynchronous concurrent systems, more specifically discrete event dynamic systems (DEDS), which include Flexible Manufacturing Systems (FMS), computer systems, communication protocols, etc.
- Developed several classes of Petri Nets (like Hierarchical Time-Extended Petri Nets, H-EPNs, Parameterized Petri Nets, PPNs) for the hierarchical decomposition and composition of complex systems. Automated Petri Net based techniques for synthesis of complex dynamic systems.

II. Multi-system Coordination and Control

- Supervisory Control: Design of a three level software and hardware architecture (supervisory controller) for real-time control of an integrated work cell consisting of several robot arms, sensors, conveyors and mobile platforms.
- Simultaneous motion control of multiple robot systems: Utilizing coordinated control methods to coordinate the motion of robot arms (PUMA, AdeptOne and AdeptThree) in an overlapping workspace environment, avoiding collisions.

III. Robotics, Mobile Robotics, Underwater Vehicles and Computer Vision

- Robot parameter identification and derivation of simplified dynamic models for real-time control of PUMA and AdeptOne / AdeptThree robots
- Identification of AdeptOne / AdeptThree joint and link parameters using least squares curve fitting algorithms to derive simplified dynamic models for real-time sensor-based control. Testing and Implementation of PID Controllers.
- Integration of add-on modules (suction unit controllers, reconfigurable grippers, real-time bi-directional adjustable speed conveyor belt controllers) with the original AdeptOne and AdeptThree robot controllers.
- Designed special purpose fixed size and reconfigurable grippers to handle (pick and place) limp material without any deformation and/or distortion. Building and testing of prototypes.
- Designed efficient fuzzy logic based controllers for suction generation, regulation and coordination of fixed size and reconfigurable robotic grippers.
- Vision-based robot control system for handling moving objects on a variable speed conveyor belt. Utilizing the Adept Vision systems to derive parameters and features of objects to assist in training and recognition.
- Derived algorithms based on artificial potential field theory (potential panel methods) for mobile robot navigation in 2-D and 3-D environments in the presence of obstacles.
- Derived algorithms using Electrostatic Potential Fields for mobile robot navigation in 2-D dynamic environments (with arbitrarily moving obstacles).
- Derived and implemented a combined Electrostatic Potential Field / Two layer Fuzzy Logic Inference Engine Controller for mobile robot navigation in 2-D dynamic environments (with arbitrarily moving obstacles).
- Mobile robot navigation in 2-D dynamic environments (with arbitrarily moving obstacles) using Neural Networks.

- Sonar sensor based mobile robot navigation and environment mapping.
- Developed algorithms using multiple Total Color Difference (TCD) measures and thresholds for object identification. This measure considers both luminance and chrominance variations for object recognition.
- Developed a color visual monitoring system for image segmentation and classification based on color texture. Applications include wetlands monitoring and underwater robotics.
- Derived techniques and methods to solve problems related to object recognition and obstacle avoidance in domains like wetlands, shallow water fisheries, and deep-water polluted environments.
- Derived new sensor-based, modular hybrid control architecture (using QNX, STD-32 STAR) to replace the original Phantom S2 ROV controller. Converting the ROV to an AUV. Tested fuzzy logic-based control techniques for ROV/AUV navigation.
- Mobile and autonomous agent based modeling of robotic fleets: cooperation and coordination issues.

IV. Interactive Graphical Simulation (Virtual Reality and Multimedia) Applications

- Utilized and developed interactive graphical simulation tools for visualization of various systems to facilitate analysis and design.
- Integrated Virtual Reality, Robotics and Multimedia technologies for research projects in Telerobotics, Telepresence, Teleoperation, and Virtual Manufacturing.
- Virtual reality-based navigation of underwater vehicles.
- Distributed networked virtual reality and multimedia applications for multi user environments: Case studies in mobile robotics and underwater vehicles.

Other Completed Research Projects (1991 – 94)

- Established the Robotics and Automation Laboratory (RAL) within CACS.
- Developed the research agenda in robotics and automation at the A-CIM Center.
- Developed algorithms for planning and scheduling in automated manufacturing systems.
- Built an integrated CIM and Apparel - CIM work cell environment.
- Automated color defect recognition and identification in fabric material.
- Analysis, synthesis, diagnostics and control of automated manufacturing systems using hierarchical, timed extended Petri nets (H-EPNs) and Parameterized Petri nets (PPNs).
- Established the Intelligent Robotic Systems Laboratory (IRSL) at CACS.
- Designed a hybrid range - intensity sensor with error detection and recovery capabilities for introspective vision.
- Designed architecture for multisensory robotic systems.
- Sensor based control and coordination of redundant appendages based on composite (time and energy) performance measures.
- Modeled and simulated intelligent material handling systems.
- Noise removal techniques from color images (median filters, median vector filters, median type filters, and other nonlinear filters).
- Hierarchical planning and scheduling in robotic systems, assemblies and flexible manufacturing systems with parameterized Petri nets (PPNs).
- Manipulator payload sensitivity analysis and design of robust robotic controllers using the 4 - parameter controller approach. Stability analysis of manipulators with PD/PID controllers.

1986 – 1990: COMPLETED RESEARCH PROJECTS WHILE AT NORTHEASTERN UNIVERSITY

- Modeled the organization level of intelligent robotic systems using Expert System techniques. Developed an Expert System in Turbo Pascal.
- Modeled and simulated the performance of Flexible Manufacturing Systems using the Theory of

extended Petri nets. Developed a simulation software package in Turbo Prolog.

- Interfaced an IVS-100, Analog Devices Vision System with a 3600 Symbolics Lisp Machine, to develop a high-level 3-D vision system.
- Interfaced a PUMA-260 robot arm MARK-II Series, with a MICRO VAX-II computer for real-time closed loop manipulator control.
- Completed Research Projects January 1982 - December 1985
- Completed the doctoral research in hierarchically intelligent control systems. Developed a mathematical formulation for the analytical design of autonomous intelligent machines operating in uncertain environments (Ph.D. Thesis).
- Supervised a team project related to the study of the dynamics of a PUMA-600 arm to define the dominant terms governing the performance of each individual joint.
- Static friction/coupling effects were considered, and different control algorithms tested in real-time.
- Compared the performance of different approaches to Qualitative Physics Theories.
- Developed a computer controlled robotic system for real-time control of general-purpose manipulators, by interfacing a Unimation PUMA-600 robot arm to a VAX-11/750 computer, via a modified arm controller. Implemented and tested various control algorithms in real-time.
- Developed the software for an Expert System on the IBM-3033 (MTS) computer for troubleshooting the Unimation PUMA-600 robot arm.
- Operated Computer Aided Control System Design packages. Designed controls for several multivariable control systems.

PART IV

FUNDING RECORD

SINCE 09/2008 UP TO 2020 (DU)

Funded

1. *Internal PROF Proposal to develop 3rd Generation of a Sense, Detect and Avoid RADAR-based System*; M. J. Rutherford (PI), K. P. Valavanis (Co-PI); Amount: \$20,000.00 for one year, July 1, 2018 – June 30, 2019.
2. *CMMI-1728454, Modeling and Control of NextGen Circulation Control Based Unmanned Aerial Vehicles*, National Science Foundation, 09/01/2017-08/31/2020, Amount: \$425,000.00 (PI/PD).
3. *CPS: TTP Option: Synergy: Collaborative Research: Dependable Multi-Robot Cooperative Tasking in Uncertain and Dynamic Environments*, National Science Foundation, January 1, 2015 – December 31, 2018: Total Award Amount: DU: \$499,994.00; Notre Dame: \$900,000.00. (PI/PD)
4. *MRI Collaborative: An Integrated, Intelligent, Autonomous Unmanned Mobile Sensor*, National Science Foundation, August 1, 2012 – August 31, 2015: Total Award Amount: DU: \$1,645,350, CSULA: \$500,000; Matching Funds: \$706,000. (PI/PD)
5. *A Framework for Developing a Campus-Wide SmartGrid*, Interdisciplinary Research Initiative, University of Denver; Amount \$60,000 (12 months), (PI/PD).
6. *A Miniature Smart Sense-and-avoid RADAR Sensor System*, PROFESSOR Research Initiative, University of Denver; Amount \$29,512 (12 months) (Co-PI).
7. *Embedded Mission Management Research Project*, Raytheon Company; Amount: \$65,000; Period 7 months (from effective date: 2011-05-15) (PI).
8. *DU SmartGrid Research and Development Project*, Funded by the University of Denver; Amount: \$50,000; Period: 3 months (effective date: 2011-06-01) (PI).
9. *MRI Development: Heterogeneous, Autonomic Wireless Control Networks for Scalable Cyber-Physical Systems*, NSF; Amount: \$2,211,778; Period: 8/1/09-7/31/12 (Co-PI).
10. *Collaborative Research: I/UCRC for Safety, Security and Rescue*, NSF; Award Amount: \$500,890 (\$275K from NSF, \$55K per year for 5 years, 1 year at a time, \$225,890 in cost sharing); Period Covered: 5 Years, effective August 1 2009. (Co-PI).
11. *Collaborative Research: I/UCRC: Safety Security Rescue Research Center (SSR-RC)*, National Science Foundation (NSF), *Transfer Grant Amount: \$129,365.00*. Period: 9/1/8008-7/31/2010.

06/2003 – 08/2008 (USF)

1. “National Institute for Systems Testing and Productivity of the National Institute for applied Computational Intelligence”, Department of the Navy, SPAWAR, Contract N00039-06-C-0062, \$1,6M; 2006 – December 11, 2007 (Valavanis – lead PI). Projects funded:
 - a. “An Integrated Autonomous Unmanned Aerial Vehicle – Unmanned Ground Vehicle System Applicable to Military and Civilian Domains”
 - b. “Swarm-Based Formation Control of Multiple, Networked and Heterogeneous Unmanned Ground - Aerial Vehicles”
 - c. “Communication System and Network Design for Unmanned Systems: A Feasibility Study for Autonomous Underwater Vehicles”
2. “Collaborative Autonomous Unmanned Aerial – Ground Vehicle Systems for Field Operations”, Army Research Office Contract W911NF-06-1-0069; Phase I Funds: \$385,212.00 for 12 months (PI: Valavanis). Subsequent phases to follow in 2008.
3. “Real-time Video Data Collection Using Small Unmanned Helicopters for Traffic Monitoring, Analysis, Evaluation, Management and Network Planning”, \$100,000.00 for 8 months,

- Hillsborough County, Traffic Department, FL (Co-PI).
4. *"High power, inexpensive vision system for miniature helicopters for traffic monitoring and emergency response"*, submitted to the FL High Tech Corridor Program. \$99,500.00 for 12 months (PI: Valavanis).
 5. *"An Automated VTOL-Based Traffic Management, Monitoring and Emergency Response System"*, funded by DOT through CUTR, \$189,976.00 for 12 months (PI: Valavanis, Co-PIs: Hagen, Murphy).
 6. *"Heterogeneous Unmanned Aerial-Ground Vehicle Collaboration and Coordination: Distributed Autonomy, Decision Making and Fault Tolerance"*, ONR Grant N00014-04-1-0487, \$442,500.00, May 2004-July 2005 (PI: Valavanis Co-PI: Murphy).
 7. *"A Visual Environment for Design, Development, Testing and Evaluation of Aerial Vehicle Integrated Control and Diagnostics"*, funded by ONR/CSS, \$85,000.00 for 7 months (PI: Murphy, Co-PI: Valavanis).
 8. *"Naval Automation and Information Management Technology; Research Focus: Distributed Sensor Fusion, UAV-UGV Navigation and Control"*, ONR Grant N00014-03-01-786, \$1,050,000.00, May 2003-July 2004 (PI: Murphy, Co-PIs: Valavanis, and Labrador).

1999-2003: Technical University of Crete

1. *"Stability of Unmanned Vehicle Flights: Control Techniques and Choice of Optimal Characteristics"*, funded by the Greek Secretariat for Research and Technology through the EU Funds Forum 2000-2006; total amount 100,000.00 euros.
2. *"Complete study for automating the olive oil kernel production – A sensor based fuzzy logic perspective"*, \$180,000.00 for 18 months (early 2004).
3. *"Development of an Integrated Hardware System for Autonomous Navigation of Unmanned Vehicles"*, submitted with EADS-3SIGMA S. A. (SBIR). 01 PRAXE-132, amount: \$55,000.00 for 18 months (funded in 2003).
4. *"Modeling, Analysis, Synthesis and Performance Evaluation of Random Topology Production Systems with Petri Nets"*, submitted in collaboration with the University of Maribor, Slovenia. Amount \$13,000.00 for one year (funded in 2003).
5. *"Awareness and Dissemination Activities for Advanced Control in Europe"* (ADACIE), IST-01-7-2B, Programme: IST, total amount: 196,600.00 €; TUC portion 24,000.00 €. (PI/PD: Prof. Pedro Albertos, Polytechnic University of Valencia, one of the Co-PIs, Prof. Kimon Valavanis).
6. *"Development of an Integrated Airborne Fire Detection System"*, funded by the Greek Secretariat for research and Technology through the EU Funds Forum 2000-2006. Members: EADS-3 SIGMA, Technical University of Crete (TUC), National Technical University of Athens (NTUA). 18 months, \$160,000.00. (PI/PD)
7. *"Development of a VTOL Unmanned Aerial Vehicle"* – Phase I, funded by the Greek Secretariat for research and Technology through the EU Funds Forum 2000-2006. Members: EADS-ATLAS-3 SIGMA, Technical University of Crete (TUC). 6 months, \$40,000.00. (PI/PD)
8. *"Development of a Turbo-Jet Engine for an Unmanned Aerial Platform"* – Phase I funded by the Greek Secretariat for research and Technology through the EU Funds Forum 2000-2006. Members: EADS-3 SIGMA, Technical University of Crete, 6 months, \$40,000.00. (PI/PD)
9. *"Hierarchical Intelligent Control of Production Systems: A Fuzzy Logic Perspective"*, funded by the Greek Secretariat for research and Technology through the EU Bilateral Agreements Program Greece – Slovenia 2000-2002. Members: Technical University of Crete (TUC) and University of Maribor, 18 months \$15,000.00 each member.
10. *"Development of an Intelligent Autonomous Navigation System for Unmanned Aerial Vehicles"*, funded by the Greek Secretariat for research and Technology through the EU Funds Forum 1994 - 1999, No. 99BE118. Members: STN ATLAS-3 SIGMA, Technical University of Crete (TUC),

- National Technical University of Athens (NTUA). 18 months \$210,000.00. (PI/PD)
11. “*Robust Methodologies for the Integration of a Fleet of Commercially Available Mobile Robots: Application to the Inspection and Security of Office Buildings*”, funded by the Greek Secretariat for research and Technology through the EU Funds Forum 1994 – 1999. Members: TUC, NTUA and U of Patras (UP). 18 months \$120,000.00. (TUC PI/PD)

1997-2001: Collaboration with: Department of Telecommunications, University of Zagreb, Croatia

12. “*Call and Service Processing for Advanced Network Architectures*”, funded by the Croatian Ministry of Science and Technology, Project No. 036030. Phase I: 5/1997 - 8/2000, Phase II: 9/2000-12/2001.
13. “*Networked Virtual Reality*”, funded by Ericsson Nikola Tesla, Project No. R00101. Duration: 11/1999-10/2001

Other Funded Research Collaboration Projects with Greek Universities (role as Research Scientist) while being a faculty in the US (before 1999)

14. “*Improvement and Better Utilization of Transmission Lines of Electric Power Systems*”, funded by the Greek Secretariat for research and Technology through the EU Funds Forum 1994 – 1999 (1996 – 1998 – ΠΕΝΕΔ 1996). NTUA Division of Electric Power Systems.
15. “*Neuro - Fuzzy Robust Control of Intelligent Autonomous Robotic Systems*”, funded by the Greek Secretariat for research and Technology through the EU Funds Forum 1994 – 1999 (1996-98 - ΠΕΝΕΔ – 1996). NTUA, Division of CS.
16. “*Diagnosis and Identification of Failures in Industrial Systems with Hierarchical Extended Petri Nets*”, funded by the Greek Secretariat for research and Technology through the EU Funds Forum 1994 – 1999 (1996-98, ΠΕΝΕΔ – 1996). University of Patras, Dept. of ECE.

1991-1999: Funded projects while at the University of Louisiana at Lafayette

17. “*Intelligent Machines for the Job Floor*”, Board of Regents Support Fund (BORSF), Industrial Ties Research Subprogram (ITRS), \$475,000 (\$125K from the state, \$350K as matching funds) for three years, 1999-2002 (Co-PI).
18. “*Modeling, Design and Prototyping of a Multi-degree of Freedom Robotic Gripper System for Limp Material Manipulation*”, National Science Foundation (NSF DMII-9701533); amount \$189,720.00 for two years (1997-1999).
19. “*International Advanced Robotics Programme (IARP) Workshop on AUVs for Shallow Waters and Coastal Environments*”, National Science Foundation (BES-9712565); amount \$49,976 for one year (1997-1998).
20. “*Design and Development of Automated Storage and Retrieval System*”, Stuller Settings, Inc.; amount: \$180,000.00 for one year (1998).
21. “*Reconfigurable Robotic Grippers for Handling Limp Material: an Attempt to Automate the U.S. Apparel Industry*”, Louisiana Education Quality Support Fund (LEQSF), Industrial Ties Component; amount: \$230,000.00 for three years (1996-1999).
22. “*Demand Activated Manufacturing Architecture (DAMA) Center Research Project*”, Department of Energy, ORNL; amount \$619,714.54 for 2 years (1996-1998).
23. “*Object Identification, Classification and Avoidance in 3-D Underwater Automated Surveillance*”, National Science Foundation, (BES 95-06771); amount: \$270,717.00 for three years (1995-1998).
24. “*International Program Development in Undersea Robotics and Intelligent Controls: A Joint U.S./Portugal Effort*”, National Science Foundation (NSF, BES 94-15748); amount \$52,675 for

- one year (1994-95).
25. “*Establishment of an Apparel Research Network (ARN)*”, Defense Personnel Support Center (DPSC-FPCA-1, BAA 93-01) DLA/DOD; initial amount \$350,000.
 26. “*Establishment of the Multimedia and Virtual Reality Laboratory*”, Louisiana Education Quality Support Fund Enhancement Component; amount \$150,000.00 for 1 year.
 27. “*Design of a Flat Plate Gripper for Apparel*”, Textiles and Clothing Technology Corporation, [TC]²; \$75,000.00 for 6 months (1994).
 28. “*A Dynamic Resource Allocation System*”, Defense Logistics Agency of the DOD, DLA/DOD, DLA 900-91-C-1482, Phase III; amount \$190,272.46 for 1.5 years (1992-94).
 29. “*Modeling of Hierarchical Systems and FMSs with Extended Petri Nets*”, Louisiana Educational Quality Support Fund, (LEQSF) Research and Development Component, LEQSF (1991-1993) RD-A-40; amount: \$53,240 for 2 years (1991-1993).
 30. “*Modeling and Analysis of Hierarchically Intelligent Systems with Self-Organizing and Diagnostic Intelligence Capabilities*”, Louisiana Educational Quality Support Fund, (LEQSF) Research and Development Component, LEQSF (1991-1994) RD-A-43; amount: \$104,769 for 3 years (1991-1994).
 31. “*IRSL: Intelligent Robotic Systems Laboratory*”, Louisiana Educational Quality Support Fund (LEQSF), Enhancement Component, LEQSF (1991-1992)-ENH-106; amount: \$110,000 for one year (1991-1992).
 - 35. “*Louisiana State Appropriated Funding*” for A-CIM; amount \$419,269 per year, every physical year (1993-1999). [**Total 6 years, approximately \$2,900,000.00.**]
 36. *University of Louisiana at Lafayette Research and Scientific Support Fund*, Equipment Grant, amount \$69,500, 1997.
 37. *University of Louisiana at Lafayette Grant: Robotics and Automation Laboratory (RAL)* Equipment, Enhancement Grant, January 1994, amount \$20,000.
 38. *Apparel-CIM Center: RAL* Equipment Grant (R-552), amount \$50,000, 1993.
 39. *Establishment of the Robotics Laboratory at the Center for Advanced Computer Studies*”, UL at Lafayette, Recruitment Grant 1991; amount: \$60,000.00.

1986-1990 while at Northeastern University

40. “*The Establishment of the Robotics and Automation Laboratory at Northeastern University*”, Analog Devices Research Grant, 1987 - 1990; amount \$135,000.00 (PI/PD).
41. *Northeastern University Equipment Grant*, amount \$38,000, 1986.

PART V

TEACHING EXPERIENCE: GRADUATE AND UNDERGRADUATE COURSES TAUGHT

INVITED SHORT COURSES TAUGHT AT

Accelerated short courses (at the PhD level)

- Unmanned Systems
- UAV Navigation and Control
- Mobile Robot Systems: Architectures and Control
 - *Universita degli Studi di Palermo*
 - *Universite de Lorraine / Polytech Nancy*
 - *South China University of Technology, Key Laboratory of Autonomous Systems and Network Control, Ministry of Education*
 - *Dipartimento di Ingegneria Meccanica e Aerospaziale, Politecnico di Torino, Torino*
 - *Dipartimento di Ingegneria Informatica, Gestionale e dell' Automazione, Università Politecnica delle Marche, Ancona, Italy*
- *University of Zagreb (intensive, fast-track graduate courses)*
 - Agents and Agent Based Systems
 - Petri Nets and Distributed Systems
 - Concurrent Systems
 - Digital Control (undergraduate)

IN UNIVERSITIES HOLDING TENURED POSITIONS

University of Denver

- Unmanned Aerial Systems (Taught at Lockheed Martin)
- Advanced Engineering Mathematics
- Controls
- Electromagnetics
- Adaptive and Optimal Control
- Linear Systems
- Robotics
- Digital Communications
- Digital Control
- Computer Networks
- Introduction to Mechatronic Systems

University of South Florida (Since Spring 2003)

- Introduction to Discrete Structures
- Computer System Design
- Advanced Robotics – New graduate course
- Applied Machine Intelligence (graduate) – New course
- Introduction to AI Robotics (graduate)

Technical University of Crete (1999-present)

- Reliability Theory
- Intelligent Control
- Mechatronics and Process Control
- Introduction to Robotics

- Applied Petri Nets (graduate)
- Advanced Robotics (graduate)

University of Louisiana at Lafayette and Northeastern (CACS, CS and ECE)

- Computer and Communication Networks
- Computer Systems Performance Evaluation
- Robotic and Automation Systems
- Robotic Vision and Sensors
- Special Topics in Machine Vision
- Special Topics in Robotics
- Intelligent Systems and Machines
- Artificial/Machine Intelligence
- Classical Control Theory
- Linear Systems Analysis (undergraduate)
- Digital Control Systems
- Stochastic Control Systems
- Computer Integrated Manufacturing Systems
- Digital Signal Processing
- Discrete Mathematics (undergraduate)

LIST OF GRADUATE & GRADUATED STUDENTS

CURRENT PhD Students (DU)

1. Christopher Ramos
2. Tobin Kyllingstad
3. Nino Liu

INTERNATIONAL COLLABORATION - POLITECNICO DI TORINO AND GREEK UNIVERSITIES

PHD COMMITTEE MEMBER – GREEK UNIVERSITIES AND UNIVERSITY OF CYPRUS

1. ***Eleftherios Petavratzis***, *Dissertation Title: Control of Autonomous Mobile Robot Motion Using Linear and Nonlinear Systems*, Laboratory of Nonlinear Systems–Circuits and Complexity, Department of Physics, Aristotelean University of Thessaloniki, Fall 2023.
2. ***Nikolas Souli***, *Dissertation Title: Relative Positioning System Implementation for Unmanned Aerial Vehicles Deployed for Safety and Security Applications*, Department of Electrical and Computer Engineering, University of Cyprus, Fall 2023.
3. ***Ioanna Atsalaki***, *Dissertation Title: Disruptive Technology Forecasting in Tourism by Fuzzy Logic*, School of Production Engineering and Management, Technical University of Crete. Committee Member.
4. ***Michalis Ramp***, *Dissertation Title: Geometric, Coordinate-free, Modeling and Control of Multirotor Unmanned Aerial Vehicles*, School of Mechanical Engineering, National Technical University of Athens. Committee Member.

PHD STUDENTS – GRADUATED – School of Engineering of the Federal University of Espírito Santo, Brasil - EXTERNAL INTERNATIONAL COMMITTEE EXPERT REVIEWER/EVALUATOR

1. **Mauro Sergio Mafra Moreira**, “Null Space-Based Behavioral Control Applied to Multirobot Systems”, December 18, 2025.

PHD STUDENTS – GRADUATED – SCHOOL OF ENGINEERING SCIENCES, Simon Fraser University, Canada - EXTERNAL INTERNATIONAL COMMITTEE EXPERT REVIEWER/EVALUATOR

1. **Abolfazl Eskandapour**, “Deep Learning-Based Decoupled Hybrid Dynamic Modeling and Tube-Based MPC for Robust Control of Aerial Manipulators”, Summer, 2025.

SCUDO (SCUOLA DI DOTTORATO), POLITECNICO DI TORINO – EXTERNAL INTERNATIONAL COMMITTEE EXPERT REVIEWER/EVALUATOR

PHD STUDENTS – GRADUATED – SCUDO (SCUOLA DI DOTTORATO), POLITECNICO DI TORINO – EXTERNAL INTERNATIONAL COMMITTEE EXPERT REVIEWER/EVALUATOR

1. **Marco Rinaldi** – “Novel Technology Perspectives for Urban Air Mobility Applications”, Politecnico di Torino, Dissertation Defense, July 2025.
2. **Luka Nanu** – “Design of an Innovative Urban Air Mobility Vehicle (UAMV)”, Politecnico di Torino, Dissertation Defense, June 2025.
3. **Weibin Gu** – “Towards Trustworthy Data-driven Modeling and Control of Unmanned Aerial Vehicles”, Politecnico di Torino, Dissertation Defense, July 2024.
4. **Fausto Francesco Lizzio** – “Consensus-based Control of Multi-Agent Systems: Distributed Target Tracking and Analysis of Time Delays”, Dissertation Defense, June 2024.
5. **Giada Galati** – “Human-centered Robotics: Challenges in Socially-aware Navigation and Mission Planning”, Politecnico di Torino, Dissertation Defense, May 2024.
6. **Osman Abdalla Sidahmed Osman**, Dissertation Title: Autonomous Navigation for Unmanned Aerial Systems. Visual Perception and Motion Planning.
7. **Federico Barra**, Dissertation Title: Mathematical Modelling of Tilt-Rotor Aircraft Configurations. A comprehensive model for flight control system development and real-time piloted simulation.
8. **Stefano Primatesta**, Dissertation Title: Autonomous Navigation for Mobile Robots in Crowded Environments (Navigazione Autonoma di Robot Mobili in Ambienti Affollati) - International Expert (USA), Doctoral Examination Committee.
9. **Martina Mammarella**, Dissertation Title: A Comprehensive Modeling Framework for Integrated Mission Analysis and Design of a Reusable Electric Space Tug – International Expert (USA), Doctoral Examination Committee.
10. **Laura Novaro Mascarello**, Dissertation Title: Analysis and development of harmless sUAS (small Unmanned Aerial Systems) – Chair, Doctoral Examination Committee.

MSC STUDENTS – GRADUATED – JOINTLY WITH POLITECNICO DI TORINO

1. **Luca Montecchio**, Dissertation Title: Development and Real-Time Implementation of Reinforcement Learning Based Controller for quadrotor UAVs Applications. Supervisors, A. Rizzo, K. P. Valavanis, Simone Martini, Serhat Sonmez
2. **Lorenzo Maule**, Dissertation Title: Advanced Control Techniques for Unmanned Aerial Vehicles. Supervisors, A. Rizzo, K. P. Valavanis, S. Martini.
3. **Giuseppe Aiello**, Dissertation Title: 3D Real-Time Energy Efficient Path Planning for a Fleet of

- Fixed-Wing UAVs. MSc, Dept. of Electronics and Telecommunications, December 2020. Advisors: Profs. Kimon P. Valavanis, Alessandro Rizzo.
4. **Giancarlo Allasia**, *Dissertation Title: Quadrotor UAV 3D Path Planning with Optical-Flow-based Obstacle Avoidance*. MSc, Dept. of Electronics and Telecommunications, December 2020. Advisors: Profs. Kimon P. Valavanis, Alessandro Rizzo.
 5. **Laura Sopegno**, *Dissertation Title: Optimization of a Sample Return Mission from Mars: Mars Ascent Vehicle Design*, MSc in Aerospace Engineering, December 2019. Advisors: Profs. Lorenzo Casalino, Kimon P. Valavanis, Matthew J. Rutherford.
 6. **Pannozzi Pierluigi**, *Dissertation Title: Simulated Monitoring of Smart Communities Using UAVs*, MSc in Aerospace Engineering, Academic Year 2018/2019. Advisors: Profs. Giorgio Guglieri, Fulvia Quagliotti, Matthew J. Rutherford, Kimon P. Valavanis.

UNIVERSITY OF DENVER

GRADUATED STUDENTS WITH A PHD DEGREE AND CURRENT AFFILIATION

1. **Laura Sopegno** (Advisor, K. P. Valavanis). *Dissertation Title: An Advanced Hexacopter for Autonomous Exploration of Mars: Attitude Control and Navigation Strategies*, June 2025.
Current Affiliation: University of Michigan, Ann Arbor – Post Doctoral Fellow.
2. **Serhat Sonmez** (Advisors K. P. Valavanis, M. J. Rutherford). *Dissertation Title: Model-Based Navigation and Control of Multirotor UAVs: A Machine Learning Approach*, Fall 2024.
Current Affiliation: Faculty, Medeniyet University, Istanbul, Turkey.
3. **Simone Martini** (Advisors K. P. Valavanis, M. Stefanovic). *Dissertation Title: Koopman Based Modeling for Nonlinear Control of Multirotor UAVs*, Summer 2024.
Current Affiliation: University of Cincinnati - Post Doctoral Fellow.
4. **Abdullah Zaini Alsheibi** (Advisor, Kimon Valavanis). *Dissertation Title: Unsupervised Learning Algorithm for Noise Suppression and Speech Enhancement Applications*, January 2023.
Current Affiliation: Faculty of Computer and Information Systems, Islamic University of Madinah, Saudi Arabia.
5. **Mohammed A. Alghanim** (Advisors: Kimon Valavanis, Matthew Rutherford). *Dissertation Title: Modeling and Control of the UGV Argo J5 with a Custom-Built Landing Platform*, June 2019.
6. **Stephen Conyers** (Advisors: Matthew Rutherford, Kimon Valavanis). *Dissertation Title: Empirical Evaluation of Ground, Ceiling and Wall Effect for Small-Scale Rotorcraft*, June 2019.
Current Affiliation: Ball Aerospace, Denver / Boulder, CO.
7. **Michail Michailidis** (Advisors: Kimon Valavanis, Matthew Rutherford). *Dissertation Title: Nonlinear Controller Design for UAVs with Time-Varying Aerodynamic Uncertainties*, February 2019.
Current Affiliation: Post-Doctoral Fellow, University of Denver.
8. **Konstantinos Kanistras** (Advisors: Kimon Valavanis, Matthew Rutherford). *Dissertation Title: A Comprehensive Methodology for Design of a Circulation Control Small-Scale Unmanned Aircraft*, February 2016.
Current Affiliation: Assistant Professor, Department of Mechanical and Aeronautical Engineering, University of Alabama, Huntsville, AL.
9. **Omar Zargelin** (Advisor, Kimon Valavanis). *Dissertation Title: Wireless Sensor Localization: Error Modeling and Analysis for Evaluation and Precision*, December 2013.
Current Affiliation: Returned to Libya as Assistant Professor.
10. **Goncalo Martins** (Advisors, Kimon Valavanis, Matt Rutherford). *Dissertation Title: Reducing Communication Delay Variability for a Group of Robots*, October 2013.
Current Affiliation: Teaching Assistant Professor, ECE, University of Denver.
11. **Allistair Moses** (Advisors, Kimon Valavanis, Matt Rutherford). *Dissertation Title: RADAR Based Collision Avoidance for Unmanned Aircraft Systems*, June 2013.

- Current Affiliation:* Mechatronic Systems Engineer (July 2013 –), *femtoScale Inc.*, Denver, CO, Visiting Research Scientist, DU, Dept. of ECE (August 2013 –) and Founder (July 2012 - Present), Rapid Prototype Development Services, Denver, CO.
12. **Stephanie Ortiz** (Advisor, Kimon Valavanis). *Dissertation Title:* Feed Forward Neural Net Utilizing the Monte Carlo Method to Perform and Determine Pattern Recognition. Classified Thesis defended in October of 2012.
Current Affiliation: Senior Software Engineer, Lockheed Martin.
 13. **Roy Godzdank** (Advisor, Kimon Valavanis, Co-Advisor, Matthew J. Rutherford). *Dissertation Title:* An Integrated Platform to Increase the Range/Endurance of Unmanned Helicopters, 2011.
Current Affiliation: Electrical Engineering Contractor, Creation Technology, Denver, CO.
 14. **Ioannis Raptis** (Advisor, Kimon Valavanis, Co-Advisor, Wilfrido Moreno). *Dissertation Title:* Nonlinear and Linear Controller Design for Unmanned Rotorcraft.
Current Affiliation: Assistant Professor, Department of Mechanical Engineering, University of Massachusetts, Lowell.
 15. **Kostas Dalamagkidis** (Advisor, Kimon Valavanis, Co-Advisor, Les Piegl). *Dissertation Title:* Autonomous Vertical Autorotation for Unmanned Rotorcraft.
Current Affiliation: Research Scientist, Institut für Informatik VI, Technische Universität München.
 16. **Michael Kontitsis** (Advisor, Kimon Valavanis, Co-Advisor, Sudeep Sarkar). *Dissertation Title:* Design and Implementation of an Integrated Dynamic Vision System for Autonomous Systems Operating in Uncertain Domains.
Current Affiliation: Principal Aerospace Engineer, Space Systems Group, Orbital ATK.
 17. **Stelios Ioannou** (Co-Advisors, Elias Stefanakos, Kimon Valavanis). *Dissertation Title:* Discrete Linear Constrained Multivariate Optimization for Power Sources of Mobile Systems.
Current Affiliation: Post-Doctoral Fellow, Unmanned Aerial Systems, Cyprus Institute.
 18. **Carlos Castillo** (Co-Advisors, Wilfrido Moreno, Kimon Valavanis). *Dissertation Title:* Fault-Tolerant Adaptive Model Predictive Control Using Joint Estimation Kalman Filters for Small-Scale Helicopters.
Current Affiliation: Assistant Professor, Department of Electrical Engineering, Arkansas Tech University.
 19. **Athanasios Tsalatsanis** (Co-advisors, Ali Yalcin, Kimon Valavanis). *Dissertation Title:* Control of Autonomous Robot Teams in Industrial Applications.
Current Affiliation: Associate Professor, USF Health Program for Comparative Effectiveness Research, Department of Internal Medicine; Associate Director, Health Informatics Master's Program, Morsani College of Medicine, University of South Florida.
 20. **Anuj Puri**. *Dissertation Title:* Statistical Profile Generation of Real-Time UAV-based Traffic Data.
Current Affiliation: Financial Analyst, HSBC (Awards: 2011 CEO Award, 2010 CRO Award, 2009 Business leadership medallion, HSBC North America).
 21. **Namir Aldawoodi** (Co-advisors, Kimon Valavanis, Rafael Perez). *Dissertation Title:* An Approach to Designing an Unmanned Helicopter Autopilot Using Genetic Algorithms and Simulated Annealing.
Current Affiliation:
 22. **Wendy Alvis** (Co-advisors, Wilfrido Moreno, Kimon Valavanis). *Dissertation Title:* Development of an FPGA Based Autopilot Hardware Platform for Research and Development of Autonomous Systems.
Current Affiliation: System Engineer, Honeywell Aerospace, Sarasota, Florida.
 23. **Laura Barnes**. *Dissertation Title:* A Potential Field Based Formation Control Methodology for Robot Swarms.
Current Affiliation: Associate Professor, Department of Systems and Information Engineering,

- University of Virginia.
24. **Richard Garcia.** *Dissertation Title:* Designing an Autonomous Helicopter Testbed: From Conception through Implementation.
Current Affiliation: Senior Research Engineer, Automation and Data Systems Division, Southwest Research Institute, San Antonio, Texas.
 25. **Mauricio Castillo-Effen** (Co-advisors, Wilfrido Moreno, Kimon Valavanis). *Dissertation Title:* Cooperative Localization in Wireless Networked Systems.
Current Affiliation: R&D Engineer, GE Global Research, General Electric Company, Connecticut.
 26. **Maja Matijasevic** (In collaboration with the University of Zagreb). *Dissertation Title:* Distributed Networked Multimedia and Virtual Reality Applications for Multi-User Environments.
Current Affiliation: Professor and Chair, Department of Telecommunications, University of Zagreb, Croatia.
 27. **Timothy M. Hebert.** *Dissertation Title:* Navigation of an Autonomous Vehicle Using a Combined Electrostatic Potential Field / Fuzzy Inference Approach.
Current Affiliation:
 28. **Christophe Veltsos.** *Dissertation Title:* Automated Petri Net Synthesis for the Modeling and Analysis of Complex Dynamic Systems.
Current Affiliation: Professor and Chair, Department of Computer and Information Sciences, Minnesota State University, Mankato.
 29. **Georgios A. Demetriou.** *Dissertation Title:* A State Configured Hierarchical Architecture for the Control of an Autonomous Underwater Vehicle.
Current Affiliation: Associate Professor, Department of Computer Science, Frederick University, Cyprus.
 30. **Ramesh Kolluru.** *Dissertation Title:* Modeling, Design, Prototyping and Performance Evaluation of a Sensor-Based Robotic Gripper System for Automated Limp Material Handling.
Current Affiliation: VP Research, University of Louisiana at Lafayette; AAMA/BORSF Professorship in Manufacturing.
 31. **George Paschos.** *Dissertation Title:* Color and Texture Based Image Analysis: Segmentation and Classification.
Current Affiliation:
 32. **Yanjun Zhang.** *Dissertation Title:* Potential Based Panel Method for Robot Motion Planning.
Current Affiliation: Director of Software Development at Vivante Corporation, San Francisco, CA.
 33. **Angelika I. Kokkinaki.** *Dissertation Title:* A Dynamic Planning System for Automated Manufacturing Environments.
Current Affiliation: Associate Professor, Department of Management and MIS, Intercollege, Nicosia, Cyprus & Faculteit der Economische Wetenschappen Erasmus Universiteit, Rotterdam, Netherlands.
 34. **Denis Gracanin.** *Dissertation Title:* Fundamentals of Parameterized Petri Nets.
Current Affiliation: Associate Professor, Department of Computer Science, Virginia Tech.
 35. **Srinivasan Ramaswamy.** *Dissertation Title:* Hierarchical Time - Extended Petri Nets (H-EPNs) for Integrated Control and Diagnostics of Multi Level Systems.
Current Affiliation: Professor and Chairperson, Department of Computer Science, University of Arkansas at Little Rock, and, Vice President, ABB, Bangalore, India.
 36. **Srinivasa R. Malladi.** *Dissertation Title:* A Sensor-Based Path Planning Algorithm for Control and Coordination of Multi-jointed Robotic Appendages.
Current Affiliation: LSI Logic Corporation (last known). Inventor.
 37. **Jue Zheng.** *Dissertation Title:* Smoothing and Segmentation of Color Images in Computer Vision.
Current Affiliation:

38. **Barry Gold.** *Engineering Degree Dissertation: Aspects of Trajectory Tracking Control of a Robot Arm.*
Current Affiliation:
39. **Stefan Surka.** *Engineering Degree Dissertation: Extracting Linear Image Features Using Directional Neighborhood Operators.*
Current Affiliation: Software Consultant, Technical Development Lead at IT and Software Engineering Industry, Boston, MA.

Advisor/Co-Advisor of Graduated Students with a PhD Degree while at TUC, Greece (1999-2003)

40. **George Atsalakis:** *Dissertation Title: Stock Market Forecasting Techniques—A Neuro-Fuzzy Perspective.*
Current Affiliation: Assistant Professor, Technical University of Crete.
41. **George Tsinarakis:** *Dissertation Title: Supervisory Control and Performance Evaluation of Random Topology Manufacturing Systems with Hybrid Petri Nets.*
Current Affiliation: Lecturer, Technical University of Crete.

SELECTIVE LIST OF GRADUATED M.S. STUDENTS WITH THESIS (ADVISOR / CO-ADVISOR)

University of Denver

1. Sanjana Mohan, 3D Formation Control in Multi-Robot Teams Using Vector Fields and Mimiting Functions, MS Thesis, University of Denver, May 2019.
2. Erik More, Radar Detection, Tracking and Identification for UAV Sense and Avoid Applications, MS Thesis, University of Denver, January 2019.
3. J. Casabona, Force-Canceling Mixer Algorithm for Vehicles with Fully-Articulated Radially-Symmetric Thruster Arrays, MS Thesis, University of Denver, June 2018.
4. M. Agha, System Identification of a Circulation Control UAV, MS Thesis, University of Denver, December 2017.
5. P. C. Saka. *Thesis Title: Design and Development of an Air Supply System for an Unmanned Circulation Control Aerial Vehicle*, MS Thesis, University of Denver, August 2016.
6. C. Rosen. *Thesis Title: Implementation of an Air Supply Unit Control Scheme for the UC²AV (Unmanned Circulation Control Aerial Vehicle)*, MS Thesis, University of Denver, July 2016.
7. S. Conyers, A Mobile, Self-Leveling Landing Platform for Small-Scale UAVs, MS Thesis, University of Denver, June 2014.
8. F. Z. A. Ben Halim. *Thesis Title: Robot Team Formation Control using Communication Throughput Approach*. MS Thesis, University of Denver, August 2013.
9. J. A. Girwar-Nath, An Efficient Navigation-Control Systems for Small Unmanned Aircraft, MS Thesis, University of Denver, June 2013.
10. C. D. Brune. *Thesis Title: Design and Development of an Integrated Mobile Robot System for Use in Simple Formations*. MS Thesis, University of Denver, June 2013.
11. J. M. Falcey, Electricity Markets, SmartGrids and Smart Buildings, MS Thesis, University of Denver, March 2013.

Technical University of Crete

12. M. Kontitsis: *A Machine Vision System for Surveillance from Unmanned Aerial Systems*
13. E. Theodorou: *A Survey of Methods for Robot and Robot Team Localization in Initially Unknown / Known Environments*
14. L. Doitsidis: *Navigation and Control of Skid-steering Autonomous Mobile Robots with Diverse Sensors*
15. G. Tsinarakis: *Modeling, Analysis, Synthesis and Performance Evaluation of Production*

Systems with Several Classes of Petri Nets

16. G. Tsakiroopoulos: *Modeling of Electric Power Systems with Petri Nets*

University of Louisiana at Lafayette

17. Leyla Cahut: *Resolution-Based Environment Mapping Using Sonar Sensors*
18. Srinivas Ketha: *CAD/CAM Based Modeling, Analysis and Simulation of a Reconfigurable Robotic Gripper System*
19. Timothy Hebert: *Sensor - Based Control of a Robotic Gripper*
20. E. C. Sekhar: *Identification of Dynamic Parameters of AdeptOne Robot for Model-based Real-time Control*
21. Michael Talley: *Real-time Control of a Variable Speed Conveyor Belt for an Object Tracking Robotic System*
22. Anita Kishore: *A Graphical User Interface for Systems Modeling Using Colored Petri Nets*
23. G. A. Demetriou: *Simulation Studies of the RAL System with the SILMA Package*
24. Majid Altuwaijri: *Software for Image Processing Algorithms*

Northeastern University

25. Thomas Larsson: *Stability Analysis of the PUMA-560 Robot Arm with PD and PID Controllers under Model Mismatch*
26. Harris Stellakis: *Fuzzy Logic Based Modeling of the Organization Level of Intelligent Robotic Systems*
27. Peter H. Yuan: *Design of an Intelligent Robotic System Organizer Via Expert System Techniques*
28. J. S. Ahuja: *Advanced Petri Net Techniques for the Comprehensive Modeling, Analysis and Simulation of Flexible Manufacturing Systems*
29. Socrates J. Carelo: *An Efficient Planning Technique for Robotic Systems*

PART VI

INTERNATIONAL CONFERENCE CHAIR ACTIVITIES

- *Honorary Chair* (with Dr. P. J. Antsaklis), 32nd Mediterranean Conference in Control and Automation, Chania, Crete, Greece, June 11-14, 2024.
- *General Chair* (with Maria Prandini), 30th Mediterranean Conference on Control and Automation, June 28 – July 1, Vouliagmeni, Athens, Greece.
- *Program Chair*, 28th Mediterranean Conference on Control and Automation, St. Rafael, France.
- *Honorary Chair* (with Dr. P. J. Antsaklis), 26th Mediterranean Conference in Control and Automation, Zadar, Croatia, June 20-22, 2018.
- *ICUAS Association Liaison Chair*, 2018 International Conference on Unmanned Aircraft Systems, Dallas, TX, June 12-15, 2018.
- *Honorary Chair* (with F.-Y. Wang and N.-N. Zheng) 2017 International Conference on Unmanned Aircraft Systems, Miami, FL, June 13-16, 2017.
- Co-Organizer, 1st International Symposium on Blockchain and Knowledge Automation, Denver, CO, USA, April 2-3, 2017.
- *General Chair* (with Dr. Panos Antsaklis), 24th Mediterranean Conference in Control and Automation, Athens, Greece, June 2016.
- *General Chair* (with F. Quagliotti and Y. Zhang), 2015 International Conference on Unmanned Aircraft Systems, Denver, CO June 9-12, 2015.
- *General Chair* (with Y.Q. Chen), 2014 International Conference on Unmanned Aircraft Systems, Orlando, FL, May 27-30, 2014.
- *RED-UAS Association Steering Committee Member*, 2013 Workshop on November 20-22, 2013, Compiègne, France.
- *General Chair* (with Dr. Panos Antsaklis), 21st Mediterranean Conference in Control and Automation, Chania, Crete, Greece, June 2013.
- *General Chair* (with P. Campoy), 2013 International Conference on Unmanned Aircraft Systems, Atlanta, GA, May 28-31, 2013.
- *EU/USA Liaison Chair*, 2012 IEEE Multi Systems Conference, September 2012, Dubrovnik, Croatia.
- *General Co-chair* (with W. D. Gao), IEEE Symposium on Power Electronics and Machines in Wind Applications – PEMWA 2012, Denver, CO, July 2012.
- *General Chair* (with R. Beard), 2012 International Conference on Unmanned Aircraft Systems, Philadelphia, PA, June 2012.
- *General Chair*, 2011 IEEE Multi Systems Conference, September 2011, Denver, CO, USA.
- *Conference Chair*, 16th IASTED International Conference on Robotics and Applications, June 2011, Vancouver, Canada.
- *General Chair*, 2011 International Conference on Unmanned Aircraft Systems, May 2011, Denver, CO, USA.
- *General Chair*, 3rd International Symposium on Unmanned Aerial Vehicles, Dubai, June 21-25 2010.
- *General Chair*, 1st International Symposium on Unmanned Aerial Vehicles, Orlando, FL, June 2008.
- *General Chair*, (with Dr. W. Gruver) 2008 International Conference on Distributed Human Machine Systems, Athens, Greece, March 2008.
- *General Chair*, (with Dr. Panos Antsaklis) 2007 Mediterranean Conference in Control and Automation (MCCA), Athens, Greece, June 2007.
- *Local Arrangements Chair*, 2006 IEEE International Conference in Robotics and Automation (ICRA 2006), Orlando, FL, USA.
- *Program Chair*, 2004 IEEE International Conference in Robotics and Automation (ICRA 2004),

New Orleans, Louisiana.

- *General Chair*, (with Dr. Frank Lewis) 2003 Mediterranean Conference in Control and Automation (MCCA), Rhodes, Greece, June 2003.
- *General Chair*, (with Dr. Zoran Vukic) Mediterranean Conference in Control and Automation (MCCA), Dubrovnik, Croatia, June 2001.
- *U.S. Program Chair*, IEEE Conference on Control Applications (CCA), Trieste, Italy, September 1998.
- *General Chair*, International Advanced Robotics Programme (IARP); International Workshop on Autonomous Underwater Vehicles for Shallow Waters and Coastal Environments, Lafayette, LA, February 1998.
- *General Chair*, IEEE International Workshop on Control Problems in Robotics and Automation: Future Directions, San Diego, CA (CDC venue), December 1997.
- *Registration Chair*, 36th IEEE Conference on Decision and Control (CDC), San Diego, CA, December 1997.
- *Publicity Chair*, IEEE Conference on Computational Intelligence in Robotics and Automation, CIRA'97, Monterey, CA, July 1997.
- *Program Vice-Chair, Robotics*, ICTAI'96, 8th IEEE International Conference on Tools with Artificial Intelligence, Toulouse, France, November 1996.
- *Publicity Chair*, 1996 IEEE International Conference in Robotics and Automation, Minneapolis, MN, April 1996.
- *Local Arrangements Chair*, 34th IEEE Conference on Decision and Control (CDC), New Orleans, LA, December 1995.
- *General Chair*, 10th IEEE International Symposium on Intelligent Control, (ISIC'95) Monterey, CA, August 1995.
- *General Chair*, 2nd IEEE Mediterranean Symposium on New Directions in Control and Automation, Chania, Crete, Greece, June 1994.
- *Local Arrangements and Publications Chair* 1993 Workshop on Computer Architectures for Machine Perception (CAMP'93), New Orleans, LA, December 1993.
- *Vice Program Chair*, 4th International Conference on Tools with Artificial Intelligence, Arlington, VA, November 1992.
- *Program Cochairman*, 4th IEEE International Symposium on Intelligent Control (ISIC '89), Albany NY, September 1989.

Conference Technical/Scientific Program Committees

- Associate Editor, IEEE Intelligent Robots and Systems (IROS) Conference, Portugal, 2012.
- International program Committee, 9th IFAC Conference on Maneuvering and Control of marine Craft (MCMC'12), Italy, September 2012.
- International Advisory Committee, *IEEE-CYBER 2012*, Bangkok, May 2012.
- Organizing Committee, *NATO-ASI Advanced All-Terrain Autonomous Systems* Workshop, Cesme-Ismir, Turkey, August 13-24, 2010.
- Networked Robotics, IFAC Workshop, Golden, CO, October 2009.
- Conference on Telecommunications, ConTel 2009, Zagreb, Croatia, June 2009.
- Mediterranean Conference on Control and Automation, Thessaloniki, Greece, June 2009.
- IFAC Conference on Control Applications in Marine Systems, Croatia, September 2007.
- Conference on Telecommunications, ConTel 2007, Zagreb, Croatia, June 2007.
- European Control Conference, Greece, June 2007.
- Mediterranean Conference on Control and Automation, Ancona, June 2006.
- Conference on Telecommunications, ConTel 2005, Zagreb, Croatia, June 2005.
- Mediterranean Conference on Control and Automation, Cyprus, June 2005.

- Conference on Telecommunications, ConTel 2005, Zagreb, Croatia, June 2005.
- IEEE / JRS International Conference on Intelligent Robots and Systems (IROS), Las Vegas, 2003.
- Mediterranean Conference on Control and Automation, Rhodes, Greece, June 2003.
- Conference on Telecommunications, ConTEL 03, Zagreb, June 2003.
- IEEE International Conference on Robotics and Automation, Washington D.C., May 2002.
- 2002 Mediterranean Conference in Control and Automation (MCCA), Lisbon, Portugal, July 2002.
- Conference on Telecommunications, ConTEL 01, Zagreb, Croatia, June 2001.
- IEEE International Conference on Robotics and Automation, San Francisco, April 2000.
- Second World Manufacturing Congress, WMC'99, UK, September 1999.
- 14th IEEE International Symposium on Intelligent Control, Cambridge, MA, August 1999.
- Conference on Telecommunications, ConTEL 99, Zagreb, Croatia, June 1999.
- IEEE International Conference on Robotics and Automation, Detroit, May 1999.
- IEEE/JRS International Conference on Intelligent Robots and Systems (IROS), Canada, October 1998.
- IEEE International Conference on Robotics and Automation, Belgium, May 1998.
- IEEE International Conference on Systems, Man and Cybernetics, Orlando, FL, October 1997.
- 6th International Conference on Intelligent Systems, Boston, MA, June 1997.
- 5th Mediterranean Conference on Control and Automation, Paphos, Cyprus, July 1997.
- Conference on Telecommunications, ConTEL 97, Zagreb, Croatia, June 1997.
- 5th IEEE International Conference on Emerging Technologies and Factory Automation (EFTA 96) / Discrete Event / Hybrid Systems and Control Track, Hawaii, November 1996.
- 11th IEEE International Symposium on Intelligent Control, September 1996.
- 4th Mediterranean Conference on Control and Automation, Chania, Crete, June 1996.
- 1996 IEEE International Conference on Robotics and Automation, Minneapolis, MN, April 1996.
- 3rd Mediterranean Conference on Control and Automation, Cyprus, June 1995.
- Conference on Telecommunications, ConTEL 95, Zagreb, Croatia, June 1995.
- IEEE Conference on Systems, Man, and Cybernetics, San Antonio, Texas, November 1994.
- 7th International Conference on Parallel and Distributed Computing Systems, Las Vegas, October 1994.
- 9th IEEE International Symposium on Intelligent Control, August 1994.
- Conference on Telecommunications, Zagreb, Croatia, June 1994.
- Joint IEEE/IFAC Symposium on Computer Aided Control System Design, March 1994.
- 8th IEEE International Symposium on Intelligent Control, August 1993.
- Conference on Telecommunications, ConTEL 93, Zagreb, Croatia, June 1993.
- 7th IEEE International Symposium on Intelligent Control, August 1992.
- VLSI Workshop on Research and Education, Louisiana, April 1992.
- 1991 IEEE International Conference on Robotics and Automation.
- 1991 EURISCON, The European Robotics and Intelligent Systems Conference.
- 6th IEEE International Symposium on Intelligent Control 1991.

Conference Session Chairman (Selective)

- 24th Mediterranean Conference on Control and Automation, Athens, Greece, June 2016.
- 2011 IEEE Multi-Conference on Systems and Control, Denver, CO, September 2011.
- 19th Mediterranean Conference on Control and Automation, Corfu, Greece, June 2011.
- 17th Mediterranean Conference on Control and Automation, Thessaloniki, Greece, June 2009.
- 14th Mediterranean Conference on Control and Automation, Ancona, Italy, June 2006.
- IEEE International Conference on Robotics and Automation, Orlando, FL, May 2006.
- 9th Mediterranean Conference on Control and Automation, Croatia, June 2001.
- Conference on Telecommunications, ConTEL, Zagreb, Croatia, June 1999.

- 1999 IEEE International Conference on Robotics and Automation.
- IEEE/RJS International Conference on Intelligent Robotics and Systems, October 1998.
- 1998 IEEE International Conference on Robotics and Automation.
- 5th Mediterranean Conference on Control and Systems, June 1997.
- 1997 IEEE International Conference on Robotics and Automation.
- 4th Mediterranean Symposium on New Directions in Control and Automation, June 1996.
- World Automation Congress, ISRAM, France 1996.
- 1996 IEEE International Conference on Robotics and Automation.
- 3rd Mediterranean Symposium in Control and Automation, June 1995.
- 3rd International Conference on Automation, Robotics and Computer Vision, ICARCV '94, Singapore.
- 1994 IEEE International Symposium on Intelligent Control.
- 1994 Joint IEEE/IFAC Symposium on CACSD.
- 1993 IEEE International Symposium on Intelligent Control.
- IEEE Mediterranean Symposium on New Directions in Control Theory and Applications 1993, Crete, Greece.
- 1993 IEEE International Conference on Robotics and Automation.
- 1992 IEEE International Symposium on Intelligent Control.
- 1991 IEEE International Symposium on Intelligent Control.
- 1991 IEEE International Conference on Robotics and Automation.
- 13th IMACS World Congress on Computation and Applied Mathematics, Ireland, 1991.
- 1990 IEEE International Conference on Robotics and Automation.
- 1990 IEEE American Control Conference.
- 1990 SPIE Conference in Intelligent Robotics in Space.
- 1988 IEEE International Conference on Robotics Automation.
- 26th IEEE Conference on Decision and Control, 1987.

EDITORIAL BOARD APPOINTMENTS

✚ Since May 1, 2006	<i>Editor-in-Chief, Journal of Intelligent and Robotic Systems</i>
✚ Since January 2011	<i>Member, Editorial Advisory Board, Central European Journal of Engineering</i>
✚ Since 2010:	<i>Member Editorial Board, Central European Journal of Engineering</i>
✚ 1/2006-12/2008:	<i>Editor, IEEE SMC eNewsletter</i>
✚ 1/1996 – 12/2005	<i>Editor-in-chief, IEEE Robotics & Automation Magazine</i>
✚ 2/1996 – 2/1999	<i>Associate Editor, IEEE Trans. in Robotics & Automation</i>
✚ 10/ 1995 – Present	<i>Board of Editors, International Journal of Intelligent Control Systems</i>
✚ 1-12/1995	<i>Editor Elect, IEEE Robotics & Automation Magazine.</i>
✚ 1993 - Present	<i>Editorial Advisory Board, International Series on Microprocessor Based and Intelligent Systems Engineering, Kluwer Academic Publishers</i>
✚ 1993 - 1995	<i>Associate Editor, IEEE Robotics & Automation Magazine</i>
✚ 1/1992 – 12/2005	<i>Book Review Editor, Journal of Intelligent and Robotic Systems.</i>
✚ 9/1991 - 1992	<i>Managing Editor, Journal of Intelligent and Robotic Systems.</i>

GUEST EDITOR / SPECIAL ISSUES

1. K. P. Valavanis, Guest Editor, *30th Year Anniversary Issue, Journal of Intelligent and Robotic Systems*, Volume 91, Issue 1, July 2018.
2. K. P. Valavanis, Guest Editor, Special Issue on UAVs, *Journal of Control Theory and Technology*, Volume 16, Number 2, May 2018.
3. K. P. Valavanis, et al, Guest Editor, Special Volume on UAS, *Journal of Intelligent and Robotic Systems*.

- Systems, Part I, December 2017.
4. K. P. Valavanis, et al, Guest Editor, Special Volume on UAS, Journal of Intelligent and Robotic Systems, December 2016.
 5. K. P. Valavanis, Guest Editor, Special Volumes on UAS, Journal of Intelligent and Robotic Systems, Vol. 69, Vol. 73-74, January / April 2014.
 6. K. P. Valavanis, Guest Editor, Special Volumes on UAS, Journal of Intelligent and Robotic Systems, Vol. 69, Vol. 70, No. 1-4, January / April 2013.
 7. K. P. Valavanis, Guest Editor, Special Issue on UAVs, Journal of Intelligent and Robotic Systems, Special Issue on UAVs, Vol. 65, No. 1-4, March 2012.
 8. P. Valavanis, Guest Editor, Special Issue on UAVs, Journal of Intelligent and Robotic Systems, Special Issue on UAVs, Vol. 61, No. 1-4, March 2011.
 9. “Unmanned Aerial Vehicles”, *IEEE Robotics and Automation Magazine*, September 2006. Editors, K. P. Valavanis and G. J. Vachtsevanos.
 10. “Underwater Robotics Technologies”, *IEEE Robotics and Automation Magazine*, Vol. 6, No. 2, June 1999. Editors: D. Gracanin and K. P. Valavanis.
 11. “Theory and Applications of Intelligent Controls”, *Journal of Intelligent Control and Systems*, *World Scientific Publishers*, Editors: K. P. Valavanis and F. L. Lewis.
 12. “Discrete Event Systems in Robotics and Automation”, *Journal of Robotics and Autonomous Systems*, Vol. 13, No. 3, October 1994, *Elsevier Science*. Editors: T. Sobh, K. P. Valavanis.

INTERNATIONAL PROGRAM DEVELOPMENT

NSF Funded Workshop Organizer

International Program Development in Undersea Robotics and Intelligent Controls: A Joint U.S./Portugal Effort, Lisbon, Portugal, March 2 – 3, 1995. Researchers and scientists from the US and EEC countries discussed current problems in URIC and started collaboration on specific projects of common interest.

International Advanced Robotics Programme International Workshop on AUVs for Shallow Waters and Coastal Environments, Lafayette, LA, February 1998. (Representatives of nine countries: USA, Russia, China, France, Italy, Germany, Portugal, Croatia, and Greece.)

INTERNATIONAL WORKSHOPS AND TUTORIALS

- G. J. Vachtsevanos, K. P. Valavanis, Tutorial on *Why Are UAVs Failing? A Framework to Make Them Safe, Reliable and Resilient to Extreme Disturbances*, 2017 International Conference on Unmanned Aircraft Systems, Miami, FL, June 2017.
- G. J. Vachtsevanos, K. P. Valavanis, Tutorial on “*UAV Design for Autonomy: Challenges and Enabling Technologies*”, 24th Mediterranean conference on control and Automation, Athens, Greece, June 2016.
- G. J. Vachtsevanos, K. P. Valavanis, Tutorial on “*UAV Design for Autonomy: Challenges and Enabling Technologies*”, ICUAS’16, Arlington, VA, June 2016.
- J. Alvarenga, N. Vitzilaios, K. P. Valavanis, M. J. Rutherford, Tutorial on “*Navigation and Control of Unmanned Rotorcraft*”, ICUAS’14, Orlando, FL, May 2014.
- K. P. Valavanis, G. J. Vachtsevanos, Workshop on “*UAVs: Autonomy and Applications*”, 21st Mediterranean Conference on Control and Automation, Crete, Greece, June 2013.

- K. P. Valavanis, G. J. Vachtsevanos, Workshop on “*Micro and Small UAVs: Design, Sensor Based Control and Applications*”, 19th Mediterranean Conference on Control and Automation, Corfu, Greece, June 2011.
- K. P. Valavanis, G. J. Vachtsevanos, G. Atsalakis, Workshop on “*Modelling, Risk Management and Control of Financial Institutions*”, 19th Mediterranean Conference on Control and Automation, Corfu, Greece, June 2011.
- G. J. Vachtsevanos, K. P. Valavanis, Workshop on “*UAS Civilian Applications: Fire Detection, Forest Protection, Emergency Response*”, 17th Mediterranean Conference on Control and Automation, Thessaloniki, Greece, June 2009.
- K. P. Valavanis, G. Vachtsevanos, Tutorial on “*Unmanned Aerial Vehicles*”, 15th Mediterranean Conference on Control and Automation, Athens, Greece, June 2007.
- P. Oh, T. Adams, K. Valavanis, Workshop on “*Unmanned Air Vehicles: Payloads and Missions*”, IEEE International Conference on Robotics and Automation, Orlando, FL, May 2006.
- P. Oh, K. Valavanis, Tutorial on “*Hands-On Lessons for Unmanned Air Vehicle Construction*”, IEEE International Conference on Robotics and Automation, Orlando, FL, May 2006.
- G. Vachtsevanos, K. P. Valavanis, Tutorial on “*Unmanned Aerial Vehicles: Enabling Technologies and Roadmap for Autonomy*”, IEEE International Conference on Robotics and Automation, New Orleans, April 2004.
- G. Vachtsevanos, K. P. Valavanis, N. C. Tsoveloudis, Workshop on *Unmanned Aerial Vehicles*, 11th Mediterranean Conference on Control and Automation, Rhodes, Greece, June 2003.
- K. P. Valavanis, I. Lovrek, “*Agents and Agent-Based Systems*”, Tutorial Workshop No. 1, Conference on Telecommunications, (ConTEL’ 2001), Zagreb, Croatia, June 2001.
- L. Acar, K. P. Valavanis, H. R. Berenji, “*Intelligent Control with Applications*”, Tutorial Workshop No. 1, 31st IEEE Conference on Decision and Control, Tucson, AZ, December 1992.
- K. P. Valavanis (organizer), “*Theory and Applications of Intelligent Control Systems*” 1991 IEEE American Control Conference, Tutorial Workshop No. 2, June 1991.
- K. P. Valavanis, “*Robotics and its Applications*”, Higher Technological Institute, Nicosia, Cyprus, May 1991.
- K. P. Valavanis, “*Intelligent Robotic Systems: Theory, Design and Applications*”, IEEE International Conference on Robotics and Automation, Workshop S2, April 1991.
- K. P. Valavanis, “*Intelligent Robotic Systems*”, National Technical University of Athens, Greece, March 1990.

CONFERENCE INVITED SESSIONS

- T. Sobh, K. P. Valavanis, “*Discrete Events and Hybrid Systems in Robotics and Automation*”, Proceedings of IROS '95, Pittsburgh, PA, August 1995.

- G. J. Vachtsevanos, K. P. Valavanis, “*Intelligent Control: Applications in Robotics and Manufacturing I*”, Proceedings of the 30th IEEE Conference on Decision and Control, Brighton, England, December 1991.
- G. J. Vachtsevanos, K. P. Valavanis, “*Intelligent Control: Applications in Robotics and Manufacturing II*”, Proceedings of the 30th IEEE Conference on Decision and Control, Brighton, England, December 1991.

PROFESSIONAL SOCIETY MEMBERSHIPS & ACTIVITIES

- Fellow, Member, AAAS
- Fellow, U.K. Institute of Measurement and Control
- Senior Member, IEEE.
- IEEE Robotics and Automation Society; Co-Chair, Discrete Event Dynamic Systems (DEDS) Technical Activities Committee (1993 -1995).
- IEEE Society Memberships: Control Systems Society, IEEE Robotics and Automation Society, Computer Society, SMC Society, Oceanic Engineering Society.
- Sigma Xi (1986-1995).
- New York Academy of Sciences (. – 1996)
- International Service Robot Association (IRSA).
- Robotic Industries Association (RIA).
- UL at Lafayette Sigma Xi Club: Secretary 1992-93.

REVIEWER: IEEE Control Systems Society, IEEE Robotics and Automation Society, IEEE Automatic Control Transactions, IEEE Transactions on Systems, Man and Cybernetics, IEEE Computer Magazine, Journal of Intelligent and Robotic Systems (JINT), Journal of Robotic Systems, IEEE Robotics and Automation Conference, IEEE Conference on Decision and Control, IEEE American Control Conference, IEEE Conference on Systems, Man and Cybernetics, NSF.

SELECTED INVITED PRESENTATIONS, KEYNOTE ADDRESSES & SEMINARS

Briefings and Keynotes (2009 – current)

- November 6-10, 2018, Latin American Robotics Symposium (LARS) and Robotica, Joao Pessoa, Brazil.
- Organized by ENTE NATIONALE PER L’ AVIAZIONE CIVILE, “*Evoluzione della regolamentazione e stato dell’arte dei Mezzi Aerei a Pilotaggio Remoto*” - topic: ***Safety and Risk Analysis for RPAS Integration into Airspace***, Prof. Ing. Fulvia Quagliotti and Prof. Dr. Ing. Kimon Valavanis
- 2017 IEEE International Conference on Fuzzy Systems, FUZZ-IEEE, July 9-12, 2017, Naples, Italy
- Workshop on Robot Motion and Control, July 3-5, 2017, Poznan, Poland
- 47th IEEE/IFIP International Conference on Dependable Systems and Networks / III Workshop on Safety and Security of Intelligent Vehicles (SSIV 2017), June 26-27, Denver, USA
- AEAI-AUVSI-IEEE Joint Conference on Autonomous Systems: A Real Revolution? Ben-Gurion University of the Negev, May 2017, Beer-Sheva, Israel.
- Japan Drone 2017 – Expo for Commercial UAS Market, March 23-25, Makuhari Messe (Chiba, Japan)
- 2017 International Conference on Mechanical Systems and Control Engineering, February 2-4, Kayseri, Turkey

- XXI Congresso Brasileiro de Automatica – CBA2016 (21st Brazilian Congress of Automatics), Vitoria, State of Espirito Santo, Brazil, October 3 – 7, 2016
- 3rd Workshop on Research, Education and Development on Unmanned Aerial Systems, November 23-25, 2015, Cancun, Mexico
- UAV-g 2015 Conference: International Conference on UAVs in Geomatics, Toronto, Ontario, Canada, August 30-September 2, 2015
- NASA Langley Research Center, June 29-30, 2015
- 10th International Conference on Intelligent Unmanned Systems (ICIUS), Montreal, Canada, September 29 – October 1, 2014
- City Club of Denver, February 18, 2014
- Spaceport Colorado & Aeronautical Authority/ SCAA /Introduction of Spaceport Colorado and UAS Colorado at Adams Economic Development/Adams County Economic Development/ August 1st, 2013
- Front Range Airport (FRA) Authority meeting, May 2013 – Briefing on UAV Applications
- National Conference of State Legislatures (NCSL) Denver, CO, May 2013 – Briefing on UAVs
- Economic Club of Colorado, April 2013 – Briefing on UAV technology
- Colorado Cleantech Industry Association (CCIA) Fellows Institute, November 2012
- Adams County Economic Development, Aerospace and Aviation Taskforce, November 2012
- Adams County Economic Development, Denver, CO, March 2012
- 6th International KES Conference on Agents and Multi-Agent Systems – Technologies and Applications (KES AMSTA 2012), Dubrovnik, June 2012
- 1st Workshop on Research, Development and Education on UAS (RED-UAS), Seville, Spain, Nov./Dec. 2011
- Unmanned Aerial Systems: Civilian Applications and Technology Challenges, Politecnico di Torino, European Aeronautical Science Network, November 2011
- NASA Dryden, 2011
- AUVSI, Rocky Mountain Chapter, 2011

Briefings (2003 – 2008)

- FAA, SAIC, US SOCOM, SPAWAR, ARL, NRL
- Hillsborough County (Tampa)
- SRI, Innova Holdings, Inc.
- QTSI, Concurrent Technologies Corporation
- 11th IASTED Conference, Orlando, FL, November 2008
- Conference on Telecommunications, ConTel 2005, Zagreb, Croatia, June 2005
- NRL Workshop, Washington D.C., February 2004 – Invited presentation
- 1st IEEE Latin American Robotics Symposium, LARS 2004, Mexico City, October 2004.
- 4th IFAC Conference on Maneuvering and Control of Marine Craft, Brijuni, Croatia, September 1997.

Invited talks / Seminars

New York University Abu Dhabi, December 2024
 University of California Santa Cruz, *Distinguished Seminar Series*, March 2023
 University of Louisiana at Lafayette, *Herman Hughes Distinguished Lecture*, <https://sciences.louisiana.edu/node/256>, March 2023
 Universite de Lorraine / Polytech Nancy, 2022
 University of Minnesota, 2021
 Norwegian Institute of Science and Technology, Trondheim, Norway, September 28, 2018
 Universita Politecnica delle Marche, IEEE – ITALY, August 1, 2018

University of Notre Dame, 2018
 Technion University, Israel (2017)
 Politecnico di Torino, DIMEAS (2017)
 University of Texas at Arlington (2016)
 National Technical University of Athens, Greece, 2015
 University of Nevada, Reno, December 2014
 Concordia University, September 2014
 University of Virginia, December 2013
 University of Patras, October 2013
 National Technical University of Athens, October 2013
 California State University, Los Angeles (2011, 2012)
 University of Texas at Arlington (latest, 2012)
 University of Texas at Arlington, Distinguished Lecturer Series (twice prior to 2012)
 Colorado School of Mines (2012, 2010)
 Cleveland State University (2012)
 University of Notre Dame (2012, 2011, 2010)
 Air Force Academy, Colorado (2011)
 University of Wyoming (2011)
 University of Colorado, Denver
 University of Denver (annual addresses)
 University of Bridgeport, CT
 New Jersey Institute of Technology, NJ
 Drexel University, Distinguished Lecturer Series
 Boeing / American helicopter Society, Philadelphia, PA
 University of Ancona, Italy (short courses)
 Technical University of Crete
 British Aerospace Systems (BAES), UK
 University of Lancaster, UK (several seminars)
 11th Cretan Medical Conference, November 2001, Greece
 Bertinoro, Italy: Ph.D. Summer School organized by the University of Ancona
 University of South Florida
 Georgia Institute of Technology (May 9-10, 2002)
 Texas A&M University (2002)
 University of New Orleans (2002)
 University of Louisiana at Lafayette (2002)
 EURO UVS Meeting, Paris, France
 WEAG Meeting, Brussels, Belgium
 University Carlos III of Madrid, Spain
 University of Maribor, Faculty of EE and CS, Maribor, Slovenia.
 National Science Foundation, Division of ECS.
 Technical University of Vienna, Austria.
 LA Board of Regents Speaker, "Speaking of Science" (SoS) program.
 Technical University of Crete, Greece (Several seminars).
 University of Patras, Greece (Several seminars).
 University of Zagreb, Croatia (Several Seminars).
 Rensselaer Polytechnic Institute, NY.
 Georgia Institute of Technology, GA, *Distinguished Lecturer Series in Systems and Control*
 Rice University, TX.
 Drexel University, PA.
 University of Windsor, Canada.

University of Hull, United Kingdom.

National Technical University of Athens (NTUA), Greece (Several seminars).

University of Twente, The Netherlands (Several seminars).

Higher Technological Institute, Nicosia, Cyprus (Several seminars).

Analog Devices Company, MA.

SolidTech Company, CA.