

CURRICULUM VITAE

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NATIONALITY : Greek

DATE OF BIRTH : September 29, 1953 (Thessaloniki, Greece)

MARITAL STATUS : Married to Dr. Evangelia (Elia) Vardaki, one daughter, one son.

EDUCATION

1959 - 1965 : 42nd elementary school of Thessaloniki.

1965 - 1971 : German secondary school of Thessaloniki.

1971 - 1976 : Diplom-Ingenieur degree studies in Electrical Engineering at the Technische Universität München, Munich, Germany. Specialisation on Control Systems Engineering.

June 1976 : Diploma thesis "Adaptive systems with recursive parameter estimation" (honors).

April 1981 : Doktor-Ingenieur degree with the thesis "A hierarchical control system for freeway traffic flow" (honors) from the Electrical Engineering Faculty of the Technische Universität München, Munich, Germany.

LANGUAGES

Greek (mother tongue)
German (fluently)
English (fluently)
French (fluently)
Italian (fluently)

POSITIONS

- P1. April - May 1974 : Krauss-Maffei AG, Munich; Research and Development Department for magnetic suspension control systems of high speed trains: **Student Associate**.
- P2. Oct. - Nov. 1975 : Siemens AG, Munich; Research and Development Department for telecommunication satellites: **Student Associate**.
- P3. Oct. 1976 - Feb. 1982 : Technische Universität München, Munich; Lehrstuhl für Steuerungs- und Regelungstechnik (Chair of Automatic Control) : **Teaching and Research Assistant**.
- P4. Feb. - Aug. 1982 : Politecnico di Milano, Milan, Italy; Dipartimento di Elettronica: **Visiting Professor**.
- P5. Aug. 1982 - May 1988 : Dorsch Consult Ingenieurges. mbH, Munich; Department of Water Systems: **Free Associate**.
- P6. April-June 1985, April-June 1986, from 1987 to 1991 once a year : Ecole Nationale des Ponts et Chaussées (ENPC), Paris, France; Département des Sciences Mathématiques: **Visiting Professor**.
- P7. April-June 1985, June 1986- Dec. 1997 : Institut National de Recherche sur les Transports et leur Sécurité (INRETS), Paris, France; Département Analyse et Régulation du Trafic : **Scientific Consultant**.
- P8. June 1988 - May 1994 : Technische Universität München, Munich; Faculty of Electrical Engineering and Information Technology: **Professor** (Extraordinarius, tenure position) of Automatic Control.
- P9. April-Sept.1993 : (Sabbatical semester) **Visiting Scholar** at :
 – University of Massachusetts Lowell; Department of Civil Engineering (April 1993)
 – University of Southern California, Los Angeles; Department of Electrical Engineering (May/June 1993)
 – University of Minnesota, Minneapolis; Department of Civil and Mineral Engineering (June/July 1993)
 – University of California at Berkeley; Department of Electrical Engineering and Computer Science (August/September 1993).
- P10. January 1994 - present : Technical University of Crete, Chania, Greece; Department of

Production Engineering and Management: **Professor and Director of the Dynamic Systems and Simulation Laboratory.**

P11. August 1997 - January : (Sabbatical semester)
1998

- **Visiting Professor** at Massachusetts Institute of Technology; Department of Civil and Environmental Engineering (Aug.-Oct. 1997).
- **Visiting Scholar** at University of California at Berkeley; Department of Electrical Engineering and Computer Science (Nov. 1997 - Jan. 1998).

P12. September 2000 - January : (Sabbatical semester)
2001

- **Visiting Professor** at Massachusetts Institute of Technology; Department of Civil and Environmental Engineering (Sept.-Nov. 2000).
- **Visiting Scholar** at University of California at Berkeley; Department of Electrical Engineering and Computer Science (Dec. 2000 - Jan. 2001).

ACADEMIC, RESEARCH AND PROFESSIONAL ACTIVITIES

P1. Krauss-Maffei AG

Theoretical and practical contributions in the frame of the magnetic suspension control of TRANSRAPID.

P2. Siemens AG

Theoretical and practical contributions in the frame of development of telecommunication satellites.

P3. Technische Universität München

Teaching Activities:

- (1) Tutorials on Classical Control Systems, Nonlinear Systems, Linear System Theory, and Optimal Control Systems.
- (2) Lectures on Optimal Control Systems.
- (3) Supervisor of 3 diploma theses and 6 semester theses.
- (4) Supervisor of student laboratory exercises on Systems Control.

Research Activities: (partially supported by the Federal Ministry of Transport (BMV) of W. Germany and by the German Research Foundation (DFG))

- (1) Freeway traffic modeling, identification, simulation, estimation, and control (B1, A1, A2, A4, A6, A9, A10, A12, A14, A17, BC1, BR1, C1, C3, C4, C5, C7, R2, R3).
- (2) Large scale system theory and applications: hierarchical optimisation, aggregation, model reduction, decentralized control, multilayer control (A3, A5, A7, A8, C2).
- (3) Multiprocessor systems, and realisation of control algorithms in microcomputer systems (A11, R4).
- (4) Optimal control systems.

P4. Politecnico di Milano

Teaching Activities:

Lectures on Applications of Automatic Control Concepts to Traffic Flow Modeling and Control (B2).

Research and Project Activities:

- (1) Development of optimal control strategies for combined sewer networks: Research project for Dorsch Consult IGmbH, Munich (A15, C6, R5).
- (2) Control of road traffic (A13, A18).

P5. Dorsch Consult IGmbH

Founder and director of a small engineering team for Automatic Control of Water Systems.

Teaching Activities:

- (1) Lectures on "Optimal Control and Filtering Theory" at Technische Universität München (1986).
- (2) Supervisor of one diploma thesis.

Research and Project Activities:

- (1) Design and implementation of real-time optimal control strategies for combined sewer networks. Application to the sewer networks of Munich and Frankfurt a. M. (A16, A21, A24, A25, A27, C9, C10, C11, C12, C14, R7, R10, R11, R19).
- (2) Optimal regulator design for water systems. Design and instrumentation of measurement, surveillance, and control systems for 7 detention basins in the combined sewer network of Munich with detention volumes ranging from 8.000 m³ to 100.000 m³ (A19, A22, R6, R8, R9, R12, R13, R15, R17).
- (3) Design and instrumentation of a measurement, surveillance, and control system for the river Isar in Munich (A30, C13, R14).
- (4) Rainfall-runoff models.
- (5) Development of optimal control strategies for generalized flow networks (A20, C8)
- (6) Optimal control of hydro power systems (A23).
- (7) Optimal control methods (A26).

P6. Ecole Nationale des Ponts et Chaussées

- (1) Lectures on Modeling and Control of Urban Traffic Systems.
- (2) Supervisor of student research projects.

P7. Institut National de Recherche sur les Transports et leur Sécurité

- (1) Series of seminars on practical aspects of modeling, identification, estimation, time-of-day control, and traffic-responsive control of freeway traffic, and on possible application to the traffic flow of Boulevard Périphérique in Paris.
- (2) Modeling, estimation and on-ramp control of freeway traffic flow with application to the Boulevard Périphérique and to the highways A1, A3 and A12:
 - **Overview** and discussion of existing methods (R16)
 - Development and validation of **macroscopic mathematical models**: META (Modèle d'Ecoulement du Trafic Autoroutier)(A29, A31, BC2, C16, R18)
 - Development and validation of **estimation** algorithms for traffic density (A28, C17)
 - Development of traffic-responsive **ramp metering** strategies for a single on-ramp: ALINEA (Asservissement linéaire d'Entrée Autoroutière) (A36)
 - Development and simulation testing of coordinated, traffic-responsive ramp metering strategies using LQ optimisation: METALINE (A32, BC3, C18, R20) and nonlinear optimal control methods (C22, C29).
 - Field trials for local and coordinated ramp metering strategies (BC4, C15, C21, R21).
- (3) Development and simulation testing of coordinated optimal control strategies for traffic lights in **urban road networks**: control strategy CRONOS (C23, C33).
- (4) Application of **neural networks** to road network control (A51).
- (5) Supervisor of 2 doctoral theses.
- (6) Applications of **Image Processing Techniques** to traffic control problems. Contribution to the research project V2015 (INVAID II) of the European Commission in the frame of the R&D Programme ATT (Advanced Transport Telematics) (R32).
- (7) Series of seminars on Natural and Artificial Intelligence.

P8. Technische Universität München

Teaching and Academic Activities:

- (1) Lectures on
 - Classical Control Systems (for Mechanical Engineers)
 - Classical Control Systems (for Electrical Engineers)
 - Optimal Control and Filtering Theory (B3)
 - Multivariable Linear Control Systems
 - Graph Theory Methods Applied to Automation
 - Simulation Methods
 - Natural and Artificial Intelligence
- (2) Supervisor of 2 doctoral theses, 25 diploma theses, and 5 semester theses (thereof 13 theses together with research assistants, and 6 theses in cooperation with industrial firms and other

external institutions). One of these theses was awarded the 1991 VDI-award for outstanding diploma theses.

- (3) Member of Professor Selection Committees of the Faculty of Electrical Engineering and Information Technology.

Research Activities:

- (1) Research project V1035 (CHRISTIANE) of the European Commission in the frame of the R & D Programme DRIVE (A33, A34, A35, A40, C19, C24, C27, C28, C41, O1, O2, R22, R23, R24, R25).
Scope: Modeling and control of traffic flow on **freeway networks** using variable route recommendation signs and ramp metering.
Funds: DM 350.000,- over three years (1989-1991)
- (2) Development, testing and comparison of **numerical methods for optimal control** problems (A46).
- (3) Development and simulation testing of moving strategies for **autonomous mobile objects** (e.g. robots) in a dynamic and stochastic environment (A42, A43, C30, C40).
- (4) Research projects Pa 428/2-1, Pa 428/2-2, and Pa 428/2-3 of the German Research Foundation (A38, C31, C35, C54, R26, R30).
Scope: Development of optimal control strategies for routing problems in **communication networks**.
Funds: DM 240.000,- over three years (1991-1994)
- (5) Development of control strategies for **sewer network flow** (A37, A41, C20).
- (6) Development of control strategies for **vehicle active suspension**; in cooperation with BMW AG, Munich.
- (7) Research project V2017 (EUROCOR) of the European Commission in the frame of the R&D Programme ATT (Advanced Transport Telematics) (A39, A54, BC8, C37, C42, C43, C44, C47, C48, C49, C51, C52, C57, C59, C63, C71, R28, R29, R33, R34, R36, R37).
Scope: Integrated modelling and control of traffic flow in **corridor networks** with application and implementation in Paris and Amsterdam.
Funds: DM 340.000,- over three years (1992-1994)
- (8) Research project V2042 (QUO VADIS) of the European Commission in the frame of the R&D Programme ATT (Advanced Transport Telematics) (A45, A47, A49, A50, A57, C38, C46, C50, C53, C60, C65, R27, R35, R38).
Scope: Application and **implementation of route guidance and driver information algorithms** to the **highway network** of Scotland and to a network in Aalborg, Denmark.
Funds: DM 370.000,- over three years (1992-1994)
- (9) Further activities in the area **traffic and transportation systems** (E1, E2, BC5, C32, C36, C39).
- (10) Sabbatical research project Pa 428/3-1 of the German Research Foundation (A48, C45).
Scope: Research in USA Universities on "**Control of complex traffic networks** via application of advanced control methods."
Funds: DM 22.000,- over 6 months (within 1993).

P9. Sabbatical Semester 1993

- (a) **University of Massachusetts Lowell**

Joint research on **corridor traffic control** systems.

(b) **University of Southern California**

- Joint research on **artificial neural network** theory and applications.
- Short course on "Traffic Flow Modeling and Control and Intelligent Vehicle and Highway Systems (IVHS)" (together with Professor P. Ioannou) (R31).

(c) **University of Minnesota**

Joint research on **corridor traffic control** systems (A44).

(d) **University of California at Berkeley**

- Joint research on **freeway traffic modeling and control** with application to the I-880 freeway.
- Joint research on **automated highway systems**.
- Short course on "Traffic Flow Modeling and Control".

P10. Technical University of Crete

Teaching and Academic Activities

(1) Lectures on:

- Dynamic Programming
- Nonlinear Programming (B4)
- Natural and Artificial Intelligence (A52, C55)
- Advanced Telematics for Road Transportation

(2) Supervisor of 7 post-doctoral researchers, 8 doctoral theses, 16 master theses, and 22 diploma theses.

(3) Examiner of 13 doctoral theses and 10 master theses.

(4) Member of Professor Selection Committees of several Departments in various Universities.

(5) Member of the Committees for Postgraduate Studies (1995-1997), for Public Relations (since 1995), and for Undergraduate Studies (1999-2001) of the Department of Production Engineering and Management.

(6) Member of the Research Funds Committee of the Technical University of Crete (since 1996).

(7) Lecturer of the annual "Short Course on Dynamic Traffic Flow Modelling and Control", 3-7 May 1999; 29 May - 2 June 2000; 28 May - 1 June 2001; 27-31 May 2002; 9-13 June 2003; 20-24 September 2004, 17-21 July 2006, 21-25 July 2008. Total participation: 146 persons from 18 countries (Austria, Belgium, Canada, Czech Republic, Finland, France, Germany, Greece, Hungary, Israel, Italy, Japan, S. Korea, Netherlands, Portugal, Sweden, United Kingdom, Yugoslavia).

(8) Representative of the Technical University of Crete at the Greek Central Committee for Admission of Students from Foreign Universities (1999-2006).

Research Activities

(1) Research project 02WA09374 of the German Federal Ministry for Research and Technology (BMFT) (A53, A58, A59, BC7, C61, C69, C75, C103, R40, R41).

Scope: Development of a **central control system for distributed retention reservoirs** with application and implementation to the sewer network Obere Iller.

Funds: DM 253.000,- over three years (1994-1997)

- (2) Various activities in the area of **traffic and transportation systems** (E3, A55, A56, A61, A64, A66, A74, A77, A79, A86, A91, A95, A105, BC6, BC9, BC10, BC16, BC18, BC19, S2, BR2, BR3, C56, C62, C74, C79, C92, C96, C98, C101, C102, C105, C107, C108, C110, C123, C128, C129, C130, C133, C134, C136, C143, C148, C150, C154, C155, C161, C162, C165, C168, C173, C174, O4, R44, R45, R46, R50, R51, R55, R56, R61, R64, R65, R82, R99, R106).
- (3) Development, testing and comparison of **numerical methods for optimal control** problems (C58, C67, R39, R76).
- (4) Research Project COMFORTABLE of the European Commission (DG VII) (C64, C78, R47).
Scope: Surveillance Tools for **Maritime Traffic**.
Funds: 40.000,- ECU over three years (1996-1998).
- (5) Research Project TR1017 (DACCORD) of the European Commission (DG XIII - Transport Telematics) (A60, A65, A68, A70, A71, C66, C68, C70, C76, C77, C80, C83, C84, C85, C86, C87, C91, C93, C97, C99, R42, R52, R57, R58, R59).
Scope: **Coordinated Dynamic Traffic Management** with Applications to the Ile-de-France Network, the Ville de Paris Network, the Amsterdam Periurban Network, and the Venice-Padua Motorway.
Funds: 450.000,- ECU over three years (1996-1999).
- (6) Research Project TR1054 (TABASCO) of the European Commission (DG XIII - Transport Telematics) (A62, A63, A69, C72, C73, C81, C82, C83, C88, C90, O3, O5, O6, O7, R43, R48, R49).
Scope: **Integrated Urban Traffic Control** with Applications to the Networks of Glasgow and Belfast.
Funds: 141.000,- ECU over two years (1996-1998).
- (7) Research Project 26965 (DELPHI) of the European Commission (DG III - ESPRIT) (A67, A84, C133, R60, R61, R62, R66, R70, R71).
Scope: **Integration in Manufacturing** with sales forecasting.
Funds: 246.000,- ECU over two years (1998-2000).
- (8) Research Project CHANIASYN of the Greek Ministry for Research and Technology (EPET II, Programme SYN) (A85, A92, C94, C104, C106, O9, R67, R69, R73).
Scope: **Central, Real-Time Traffic Control in Urban Networks** with application and implementation in the city of Chania.
Funds: 17.600.000 DRA over three years (1999-2001).
- (9) Research Project PENED of the Greek Ministry for Research and Technology.
Scope: **Stochastic Control of Optical Systems for Observatories**.
Funds: 16.000.000 DRA over two years (2000-2001).
- (10) Research Project OMNI (IST-1999-11250) of the European Commission (DG XIII), R&D Programme Information Society Technologies (C89, R68, R72).
Scope: **Integrated architecture** for urban traffic control and development of an **internet information system** with implementation in Chania
Funds: 140.000 € over three years (2000-2003) plus 26.000 € additional funds by the Greek Ministry for Research and Technology.
- (11) Research Project SMART NETS (IST-2000-28090) of the European Commission (DG XIII), R&D Programme Information Society Technologies (A73, A76, A89, BC11, BC20, C100, C109, C115, C120, C121, C124, C125, C126, C131, C144, C147, O8, R74, R75, R78, R80, R81, R83, R84, R85).
Scope: **Implementation and Field-Evaluation of the Urban Traffic Control Strategy TUC** in Southampton (U.K.), Munich (Germany) and Chania (Greece).

- Funds:** 430.000 € over 2.5 years (2001-2004) plus 85.000 € additional funds by the Greek Ministry for Research and Technology.
- (12) Research Project RHYTHM (IST-2000-29427) of the European Commission (DG XIII), R&D Programme Information Society Technologies (A78, A80, A83, A88, A93, A96, A99, A108, A109, BC17, C111, C114, C116, C117, C122, C137, C138, C139, C140, C141, C142, C153, O10, R77, R79, R86, R88, R89, R91).
Scope: Motorway Traffic Surveillance and Control Employing Video Sensor Technology.
Funds: 246.000 € over 3 years (2001-2004) plus 47.000 € additional funds by the Greek Ministry for Research and Technology.
- (13) Research Project EYE IN THE SKY (IST-2000-29531) of the European Commission (DG XIII), R&D Programme Information Society Technologies.
Scope: Advanced Data Fusion for Traffic Monitoring and Prediction.
Funds: 88.374 € over 2.5 years (2001-2004) plus 15.500 € additional funds by the Greek Ministry for Research and Technology.
- (14) Research Project WWT & SYSENG (HPRN-CT-2001-00200) of the European Commission (DG Research), Human Potential Programme, Research Training Networks (B5, C112, C118, R87, R94, R95, R97, R100).
Scope: Getting systems engineering into regional wastewater treatment strategies.
Funds: 166.764 € over 4 years (2002-2006) plus 45.000 € additional funds by the Greek Ministry for Research and Technology.
- (15) Various research activities (A72, A75, C113, C119, R54).
- (16) Research project EURAMP (IST-2004-507645) of the European Commission (DG INFSO), R&D Programme Information Society Technologies (A81, A82, A87, A90, A94, A98, A101, A102, A104, A106, BC15, C127, C132, C145, C146, C149, C151, C152, C156, C163, R90, R92, R93, R96, R98, R101, R102, R103, R105, R107).
Scope: Ramp Metering for Motorway Networks.
Funds: 449.000 € over 3 years (2004-2007) plus 125.000 € additional funds by the Greek Ministry for Research and Technology.
- (17) Research project CONNECT of the European Commission (DG-TREN), FP6-2002-Transport.
Scope: Network of excellence for Coordination of concepts for new collective transport.
Funds: 8.400 € over 2 years (2004-2006) plus 1.500 € additional funds by the Greek Ministry for Research and Technology.
- (18) Education project ETNITE of the European Commission (DG EDUC), Leonardo da Vinci Programme.
Scope: European network for training and education in Intelligent Transportation Systems.
Funds: 15.500 € over 2.5 years (2004-2007).
- (19) Research project PYTHAGORAS of the Greek National Education Ministry (A97, A103, C158).
Scope: Development of an integrated motorway network control system and its evaluation via microscopic simulation.
Funds: 60.000 € over 1.5 years (2005-2006).
- (20) Research project PENED of the Greek Ministry for Research and Technology (C157, C160, C167, C171).

Scope: Development and evaluation of a new real-time traffic signal control strategy for urban road networks.

Funds: 45.000 € over three years (2005-2008).

- (21) Research project PENED of the Greek Ministry for Research and Technology.

Scope: Development and evaluation of a central flow control strategy for sewer networks with emphasis on special needs and potential applications in Greece.

Funds: 45.000 € over three years (2005-2008).

- (22) Impact assessment and control strategy development for **Variable Speed Limits on motorways**. Partly in co-operation with Atkins Transport Systems and the Highways Agency, UK (A107, C164, R104).

- (23) **Adaptive optimisation algorithms** for fine-tuning of control systems with applications (A100, C159, C166, C169, C170, C172).

- (24) Project ANTREOFF funded by the Mobility and Public Works Department of the Flemish Government (Belgium).

Scope: Offline application of the RENAISSANCE tool to the motorway network around Antwerp.

Funds: 33.610 € for 11 months (2007-2008).

- (25) Project NEARCTIS of the European Commission (DG INFSO), R&D Programme ICT (Information and Communication Technologies).

Scope: Network of Excellence for Advanced Road Cooperative Traffic Management in the Information Society.

Funds: 213.000 € for 4 years (2008-2012).

P11. Sabbatical Semester 1997

(a) Massachusetts Institute of Technology

- Lecturer at the MIT Summer Professional Programme 1.10s on “Modeling and Simulation for Dynamic Transportation Management Systems”.
- Teaching of the graduate course “Traffic Networks: Flow Modeling and Control” (together with Professor I. Chabini).
- Joint research on traffic flow modeling, ramp metering, and route guidance systems.

(b) University of California at Berkeley

- Joint research on various issues related to traffic flow modeling and control.
- Invited lecture series on Traffic Flow Modeling and Control

P12. Sabbatical Semester 2000

(a) Massachusetts Institute of Technology

- Teaching of the graduate course “Dynamic Traffic Flow Modeling and Control”.
- Joint research on traffic flow modeling, ramp metering, and route guidance systems.

(b) University of California at Berkeley

- Research cooperation in ramp metering and urban network traffic control.

(c) Other Activities

- Lecturer of the Short Course "Traffic Flow Modeling and Control" (together with Prof. P. Ioannou) in the frame of the 3rd IEEE Intern. Conference on Intelligent Transportation Systems, Dearborn, Michigan, 1 October 2000.

MISCELLANEOUS

- 1971: Succeeded in the Examination for entering the faculty of Civil Engineering of the Aristotle's University of Thessaloniki; was offered a scholarship for being among the best ten (declined).
- 1971 - 1976: 5-year scholarship from the DAAD (German Academic Exchange Office) for university studies in W.Germany.
- November 1983: Awarded the "Eugen Hartmann" prize by the Measurement and Control Society (GMR) of the Union of German Engineers (VDI).
- Fulbright Research/Lecturing Award (Aug. 1997 - Jan. 1998).
- IEEE Fellow 1999 ("For contributions to the application of automatic control and optimization in transport systems and water networks").
- Award of the Hellenic Club of Writers, Athens (March 1999).
- Award of the Rotary Club of Chania (January 2005).
- (First) Recipient (2007) of the "IEEE Outstanding ITS Research Award" presented on 14 October 2008 in the frame of the 11th Intern. IEEE Conference on Intelligent Transportation Systems, Beijing, China.
- Rejected offers of academic positions :
 - Professorship (Ordinarius) of Traffic Control Systems and Automation at the Faculty of Traffic Science "Friedrich List", Technical University of Dresden, Germany (1992).
 - Professorship (Ordinarius) of Automatic Control at the Faculty of Mechanical Engineering, Ruhr-Universität Bochum, Germany (1993).
- Reviewer for the Journals :
 - Annals of Operations Research
 - ASCE Journal of Environmental Engineering
 - ASCE Journal of Transportation Engineering
 - ASCE Journal of Water Resources Planning & Management
 - ASME Trans. Journal of Dynamic Systems, Measurement, and Control
 - Automatica
 - Automatisierungstechnik

- Autonomous Agents and Multi-Agent Systems
- Computer-Aided Civil and Infrastructure Engineering
- Control Engineering Practice
- Environmental Software
- European Journal of Operational Research
- IEE Proceedings - Control Theory and Applications
- IEEE Trans. on Automatic Control
- IEEE Trans. on Intelligent Transportation Systems
- IEEE Trans. on Robotics and Automation
- IEEE Trans. on Systems, Man and Cybernetics
- IEEE Trans. on Vehicular Technology
- IET Intelligent Transport Systems
- Information Sciences
- International Journal of Control
- International Journal of Modern Physics C
- International Journal of Systems Science
- ITS (Intelligent Transportation Systems) Journal
- Journal Européen des Systèmes Automatisés
- Journal of Advanced Transportation
- Journal of Engineering Manufacture
- Journal of Intelligent and Fuzzy Systems
- Journal of Intelligent and Robotic Systems
- Journal of Mechanical Engineering Science
- Journal of Multi-body Dynamics
- Journal of Rail and Rapid Transit
- Journal of Systems and Control Engineering
- Journal of Zhejiang University – Science A
- Large Scale Systems
- Mathematical Modelling of Systems
- Mathematical Programming
- Nonlinear Science and Numerical Simulation
- Operational Research - An International Journal
- Optimal Control Applications and Methods
- Optimization and Engineering
- Physica A: Statistical Mechanics and its Applications
- Recherche-Transports-Sécurité (Revue de l'INRETS)
- Transport Policy
- Transportation Research A
- Transportation Research B
- Transportation Research C
- Transportation Research Record

- Transportation Science
- Vehicle System Dynamics
- Water Resources Research
- Zentralblatt für Mathematik
- Reviewer for the conferences :
 - IEEE Systems, Man and Cybernetics Conferences
 - VNIS (Vehicle Navigation & Information Systems) Conferences
 - Annual Meetings of the Transportation Research Board
 - IFAC Symposia on Transportation Systems
 - IFAC World Congresses
 - IEEE Conferences on Decision and Control
 - IFAC Symposia on Large Scale Systems
 - European Control Conferences
 - Congresses of the Greek Society of Operations Research
 - ISATA (Intern. Symposia on Automotive Technology and Automation)
 - American Control Conferences
 - ITS World Conferences
 - World Conferences of the Transport Research Society
 - IEEE Intern. Conferences on Intelligent Transportation Systems
 - IEEE Intern. Conferences on Control Applications
 - IEEE Mediterranean Conferences on Control and Automation
 - IEEE Intern. Conferences on Information & Communication Technologies
 - IEEE Intern. Conferences on Technology and Automation
 - IFAC Workshops on Technology Transfer in Developing Countries
 - IEEE Intelligent Vehicles Symposia
 - IFAC Symposia on Robust Control Design
- Reviewer for the Publishers :
 - McGraw-Hill Book Company
 - Carl Hanser Verlag
 - Elsevier Science Ltd.
 - Kluwer Academic Publishers
 - Physica Verlag
 - John Wiley & Sons Ltd.
- Member of the Editorial Board for the Journals/Conferences:
 - Recherche-Transports-Sécurité (Revue de l'INRETS) (1990-1997)
 - Transportation Research B (1992-1993)
 - Transportation Research C (since 1993), Associate Editor since 1996, Co-Editor-in-Chief since 2005, Editor-in-Chief since 2006

- Journal of Systems and Control Engineering (1998-2001)
- Transport Policy (1999-2008)
- ITS Journal: Computing, Communications and Transportation (since 2000)
- Journal of Cooperative Transportation Dynamics (internet journal: www.cooperative-transportation-dynamics.org) (since 2001)
- Operational Research: An International Journal (since 2001)
- IEEE Transactions on Intelligent Transportation Systems (Associate Editor) (2003-2007)
- IEEE Control System Society, Conference Editorial Board (Associate Editor) (since 2003)
- International Review of Automatic Control (IREACO) (since 2008)
- Scientific-technical consultant for limited time periods of several industrial companies and research institutions in different countries.
- Invited external evaluator of candidate faculty members or tenure researchers at:
 - INRETS, Arcueil, France (1990, 1991, 1998, 1999, 2002, 2005)
 - IRSIA-IWONL, Brussels, Belgium (1991)
 - University of Minnesota, Minneapolis (1994, 2005)
 - Université d'Evry-Val d'Essone, France (1996)
 - Universität-Gesamthochschule Siegen, Germany (1996)
 - University of Massachusetts, Lowell (1997, 1998)
 - Massachusetts Institute of Technology, Cambridge (1998, 2001, 2005)
 - Delft University of Technology, The Netherlands (1998, 2004, 2006)
 - Purdue University, West Lafayette, Indiana (1999)
 - University of California, Berkeley (2002)
 - University of Toronto, Canada (2003)
 - Columbia University, New York (2004)
 - Technion – Israel Institute of Technology (2004, 2005, 2006)
 - Alpen-Adria Universität Klagenfurt, Austria (2004)
 - Canada Research Chairs (2004)
 - University of Durham, U.K. (2005)
 - Cyprus University of Technology (2006)
 - Monash University, Melbourne, Australia (2007)
 - Trinity College, Dublin, Ireland (2007)
 - Northwestern University, Illinois (2008)
 - Business University of Athens, Greece (2000)
 - University of the Aegean, Greece (2001, 2002)
 - University of Thessaly, Greece (2001, 2008)
 - University of Peraeus, Greece (2001)
 - Hellenic Institute of Transport, Greece (2006)
 - National Technical University of Athens, Greece (2008)
- Invited external examiner of doctoral theses at :
 - Université Paris XI Orsay France (1986, 1991, 1996, 1999)

- Ecole Nationale Supérieure de l'Aeronautique et de l'Espace, Toulouse, France (1988)
 - Université de Paris I-Panthéon-Sorbonne, Paris, France (1994, 2008)
 - Technical University of Munich, Munich, Germany (1994, 1997, 2003)
 - Université Paris IX Dauphine, France (1999, 2000)
 - Delft University of Technology, Delft, The Netherlands (1999, Febr. 2004, Dec. 2004, 2006)
 - Massachusetts Institute of Technology, Cambridge, Massachusetts (2000)
 - Université d'Évry - Val d'Essonne, France (2001, 2002)
 - National Technical University of Athens, Greece (2004)
 - Ecole Nationale des Ponts et Chaussées, Paris, France (2004, 2007)
 - Institut National des Sciences Appliquées de Lyon, France (2005)
 - Nanyang Technological University, Singapore (2006)
 - University of Mauritius, Reduit, Mauritius (2008)
- Chairman (1999-2005) and Vice-Chairman (1994-1999) of the IFAC Technical Committee on Transportation Systems.
 - Evaluator of proposals (1988, 1999, 2000) and technical auditor (1989-1991, 1998-2002) of accepted projects for the Programmes DRIVE, Transport Telematics, and IST (Information Society Technologies) of the European Commission.
 - Member of the expert team in charge of preparing the workplan for DRIVE II (1992-1995) and for Transport Telematics (4th Framework: 1995-1998) of the European Commission.
 - National representative of Greece in the Programme Committee for Sustainable Transport of the 6th Framework Programme of the European Commission (2004-2006).
 - National Expert of Greece in the Committee Cooperation-Transport-Aeronautics of the 7th Framework Programme of the European Commission (since 2009).
 - Member of the National Committee (for the area of Transportation) in charge of specifying the actions of the Greek funding scheme ESPA (for Research, Technological Development, Innovation, Large-scale Research Infrastructures) (2008).
 - Auditor of research projects for the greek Ministry of Industry, Energy and Technology and evaluator of research proposals for the Ministry of National Education.
 - Evaluator of research proposals for the Italian Ministry for University and Research (2000), The Netherlands Organisation for Scientific Research (NWO) (2001), the California PATH Program (1993, 2002), German-Israeli Foundation (GIF) for Scientific Research and Development (2007, 2008), the Leverhulme Trust (UK) (2007), Israel Science Foundation (2007), California METRANS Transportation Center (2008), Agence Nationale de la Recherche (ANR), France (2009).
 - External evaluator (chairman of the evaluation committee) for the Department GRECIA (Génie des Réseaux de Transport et Informatique Avancée) of the French National Research Institute INRETS, Arcueil, France (2006).

- External evaluator (coordinator of the evaluation committee) for the research activities of the Dipartimento di Scienze dell'Ingegneria Civile, Università degli Studi Roma Tre, Rome, Italy (2009).
- Member of:
 - Working Group 1.2.4 on Flow Control of the Abwassertechnische Vereinigung (ATV) of Germany (1989-1993).
 - EURO Working Group on Transportation Systems (since 1991)
 - Committee on Traffic Flow Theory and Characteristics of the Transportation Research Board (since 1994).
 - DaimlerChrysler Circle Member Group (1997-1999).
 - IFAC Technical Committee on Large Scale Systems (since 1997).
 - IFAC Technical Committee on Transportation Systems (since 1994).
 - International Review Committee for TRAIL (The Netherlands Research School for Transport, Infrastructure and Logistics) (since 1997).
 - Scientific Advisory Board of the Transumo (Transition Sustainable Mobility) research funding program, The Netherlands (since 2005).
 - IEEE-ITS Fellow Evaluation Committee (since 2007)
- Member of the International Program Committee of :
 - IFAC Symposium on Control, Computers, Communications in Transportation, Paris, France, Sept. 19 - 21, 1989.
 - DRIVE Conference, Brussels, Belgium, Febr. 4 - 6, 1991.
 - 7th EURO/IFORS Summer Institute, on Urban Traffic Management, Cetraro, Italy, June 21 - July 7, 1991.
 - ATS '93 (Automazione e sistemi di trasporto - Convegno Associazione Nazionale Italiana per l'Automazione), Trieste, Italy, June 25, 1993.
 - 2nd IEEE Mediterranean Symposium on New Directions in Control & Automation, Chania (Crete), Greece, June 19 - 22, 1994.
 - TRISTAN II (Triennial Symposium on Transportation Analysis), Capri, Italy, June 23 - 28, 1994.
 - 7th IFAC Symposium on Transportation, Tianjin, PR China, August 24-26, 1994.
 - 10th National Congress of the Greek Society of Operations Research on Management of SME in Front of 2000, Chania, Greece, November 10-12, 1994.
 - 4th Intern. ASCE Conference on Applications of Advanced Technologies in Transportation Engineering, Capri, Italy, June 27-30, 1995.
 - IFAC/IFORS/IMACS Symposium LSS '95 on Large Scale Systems Theory and Applications, London, U.K., July 11 - 13, 1995.
 - 3rd IEEE Mediterranean Conference on Control and Automation, Limassol, Cyprus, July 11-13, 1995.
 - 28th ISATA (Intern. Symposium on Automotive Technology and Automation), Stuttgart, Germany, September 11-15, 1995.
 - 3rd Meeting of the EURO Working Group on Transportation, Barcelona, Spain, September 27-29, 1995.
 - 4th IEEE Mediterranean Symposium on New Directions in Control & Automation, Chania, Greece, June 10-14, 1996.

- 4th Meeting of the EURO Working Group on Transportation, Newcastle, U.K., 9-11 September 1996.
- 5th Meeting of the EURO Working Group on Transportation, Budva, Yugoslavia, 15-16 September 1997.
- 9th Mini EURO Conference on Fuzzy Sets in Traffic and Transport Systems, Budva, Yugoslavia, 17-19 September 1997.
- World Manufacturing Congress (WMC'97), Auckland, New Zealand, November 18-21, 1997.
- 31st ISATA (Intern. Symposium on Automotive Technology and Automation), Düsseldorf, Germany, June 2-5, 1998.
- TRISTAN III (Triennial Symposium on Transportation Analysis), San Juan, Puerto Rico, June 17-23, 1998.
- 1998 (3rd) European Robotics, Intelligent Systems and Control Conference, Athens, Greece, June 22-24, 1998.
- World Conference of the Transport Research Society, Antwerpen, Belgium, July 12-17, 1998.
- IFAC Symposium on Large Scale Systems Theory and Applications, Patras, Greece, July 15-17, 1998.
- 5th IFAC Symposium on Low Cost Automation, Shenyang, P.R. China, September 8-10, 1998.
- European Control Conference ECC'99, Karlsruhe, Germany, August 31-September 3, 1999.
- World Manufacturing Congress (WMC'99), Newcastle-upon-Tyne, United Kingdom, September 27-30, 1999.
- Modelling and Management in Transportation, Poznan and Cracow, Poland, October 12-16, 1999.
- 9th IFAC Symposium on Transportation Systems, Braunschweig, Germany, June 13-15, 2000.
- 8th IEEE Mediterranean Conference on Control & Automation (MED 2000), Rio, Greece, July 17-19, 2000.
- 8th Meeting of the EURO Working Group on Transportation, Rome, Italy, 11-14 September 2000.
- 3rd IEEE Conference on Intelligent Transportation Systems, Dearborn, Michigan, October 1-3, 2000.
- 13th National Conference of the Greek Society of Operations Research on "Transport and New Technologies", Athens, Greece, November 30 - December 2, 2000.
- IFAC Workshop on Automatic Systems for Building the Infrastructure in Developing Countries (DECOM-TT 2001), Ohrid, FYROM, May 21-23, 2001.
- IFAC Conference on Control Applications in Marine Systems, Glasgow, Scotland, 18-20 July 2001.
- 3rd World Manufacturing Congress (WMC 2001), New York, September 24-27, 2001.
- 6th IFAC Symposium on Cost Oriented Automation, Düsseldorf, Germany, October 8-10, 2001.
- 14th National Conference of the Greek Society of Operational Research on "Regional Development", Xanthi, Greece, 1-3 November 2001.
- 1st Intern. Congress on Transportation Research in Greece, Athens, Greece, 21-22 February 2002.

- 10th Meeting of the EURO Working Group on Transportation, Bari, Italy, 10-12 June, 2002.
- The International Conference Dedicated to the 65-th Anniversary of B.N. Pshenichnyi (1937-2000), Kiev, Ukraine, June 25-28, 2002.
- XV IFAC World Congress, Barcelona, Spain, July 21-26, 2002.
- 5th IEEE Intern. Conference on Intelligent Transportation Systems, Singapore, September 3-6, 2002.
- 15th National Conference of the Greek Society of Operational Research on “Employment, Job Flow and Operational Research”, Tripolis, Greece, 31 October - 2 November 2002.
- Workshop on Traffic Modeling: Trends and Challenges, Sitges, Spain, June 2-4, 2003.
- 2003 IEEE Intern. Conference on Control Applications, Istanbul, Turkey, 23-25 June 2003.
- IFAC Workshop on Automatic Systems for Building the Infrastructure in Developing Countries (Knowledge and Technology Transfer) (DECOM-TT 2003), Istanbul, Turkey, 27-28 June 2003.
- 10th IFAC Symposium on Control in Transportation Systems, Tokyo, Japan, August 4-6, 2003.
- 3rd Triennial Intern. Conference on Applied Automatic Systems, Ohrid, FYROM, September 18-20, 2003.
- 6th IEEE Intern. Conference on Intelligent Transportation Systems, Shanghai, PR China, October 12-15, 2003.
- 2nd Intern. Congress on Transportation Research in Greece, Athens, Greece, 22-23 February 2004.
- 2004 IEEE Intern. Conference on Networking, Sensing and Control, Taipei, Taiwan, March 21-23, 2004.
- 2004 American Control Conference, Boston, Massachusetts, June 30-July 2, 2004.
- 10th World Conference on Transportation Research, Istanbul, Turkey, 4-8 July 2004.
- 10th IFAC Symposium on Large Scale Systems, Osaka, Japan, 26-28 July 2004.
- 1st Intern. Conference on Informatics in Control, Automation and Robotics, Setúbal, Portugal, 25-28 August 2004.
- 2nd Intern. Symposium “Networks for Mobility”, Stuttgart, Germany, September 2004.
- 2004 IEEE Conference on Decision and Control, Paradise Island, Bahamas, December 14-17, 2004.
- 2005 IEEE Intern. Conference on Networking, Sensing and Control (ICNSC), Tucson, Arizona, March 19-22, 2005.
- 2005 American Control Conference, Portland, Oregon, June 8-10, 2005.
- 13th IEEE Mediterranean Conference on Control and Automation (MED-05), Limassol, Cyprus, June 27-29, 2005.
- XVI IFAC World Congress, Prague, Czech Republic, 4-8 July 2005.
- 10th Meeting of the EURO Working Group on Transportation, Poznan, Poland, September 13-16, 2005.
- Workshop on Traffic Modelling: Traffic Behaviour and Simulation, Sedona, Arizona, September 18-21, 2005.
- 5th IMACS Symposium on Mathematical Modelling, Vienna, Austria, February 8-10, 2006.
- 2nd IEEE Conference on Information and Communication Technologies: from Theory to Applications (ICTTA '06), Damascus, Syria, 24-28 April 2006.
- Traffic and Road Safety Scientific Conference, Ankara, Turkey, 17-19 May 2006.

- 3rd Intern. Congress on Transportation Research in Greece, Thessaloniki, Greece, 11-12 May 2006.
- 2006 American Control Conference, Minneapolis, Minnesota, June 14-16, 2006.
- Conference on “Informatics in Science Knowledge”, Varna, Bulgaria, 28-30 June 2006.
- 11th IFAC Symposium on Control in Transportation Systems (CTS 2006), Delft, The Netherlands, August 29-31, 2006.
- 11th Meeting of the EURO Working Group on Transportation, Bari, Italy, 27-29 September 2006.
- 3rd Intern. Symposium “Networks for Mobility”, Stuttgart, Germany, 5-6 October 2006.
- Intern. Congress on Motor Vehicles and Transportation, Timisoara, Romania, 15-17 November 2006.
- 45th IEEE Conference on Decision and Control, San Diego, California, December 13-15, 2006.
- Symposium on Formal Methods for Railway and Automotive Systems, Braunschweig, Germany, 24-25 January 2007.
- TRISTAN VI (Triennial Symposium on Transportation Analysis), Bentota, Sri-Lanka, 10-15 June 2007.
- European Control Conference (ECC ’07), Kos, Greece, 2-5 July 2007.
- 2007 American Control Conference, New York City, USA July 11-13, 2007.
- 11th IFAC Symposium on Large Scale Complex Systems, Gdansk, Poland, July 23-25, 2007.
- Intern. Conference on Transportation and Logistics Integrated Systems, Cracow, Poland, 11-12 October 2007.
- 3rd IEEE Intern. Conference on Information & Communication Technologies: From Theory to Applications (ICTTA’08), Damascus, Syria, April 7-11, 2008.
- 10th Intern. Conference on Application of Advanced Technologies in Transportation, Athens, Greece, May 27-31, 2008.
- 4th Intern. Congress for Transport Research in Greece, Athens, Greece, 27-31 May 2008.
- 2008 American Control Conference, Seattle, Washington, June 11-13, 2008.
- Intern. Trade and Freight Transportation Conference, Ayia Napa, Cyprus, 1-3 September 2008.
- 3rd Intern. Symposium on Transport Simulation (ISTS 2008), Queensland, Australia, August 6-8, 2008.
- 4th Intern. Symposium “Networks for Mobility”, Stuttgart, Germany, 25-26 September 2008.
- Symposium on Formal Methods for Automation and Safety in Railway and Automotive Systems (FORMS/FORMAT 2008), Budapest, Hungary, 9-10 October 2008,
- 47th IEEE Conference on Decision and Control, Cancun, Mexico, December 9-11, 2008.
- 6th Symposium on Mathematical Modelling, Vienna, Austria, February 11-13, 2009.
- Intern. Conference on Models and Technology for Intelligent Transportation Systems, Rome, Italy, 22-23 June 2009.
- 12th IFAC Symposium on Control in Transportation Systems (IFAC-CTS’09), Redondo Beach, California, September 2-4, 2009.
- 13th Meeting of the EURO Working Group on Transportation, Padua, Italy, September 23-25, 2009.

- Organizer of:
 - 1st Meeting of the EURO/IFORS Working Group on Urban Traffic and Transportation, Landshut, Germany, October 1 - 3, 1992 (together with Prof. H. Keller).
 - 8th IFAC/IFIP/IFORS Symposium on Transportation Systems, Chania, Greece, June 16-18, 1997.
- Mentioned in the Greek "Who is Who", the "Who's Who in the Balkans", the "European Biographical Directory", and the "Who's Who in the World".
- Member of the Technical Chamber of Greece (TEE) (since 1977), the Union of German Engineers (VDI) (1982-1994), the German Research Society for Highways and Traffic (1990-1994), the Greek Society of Operations Research (since 1999), the Greek Society of Transportation Engineers (since 2002) and Fellow of the Institute of Electrical and Electronics Engineers (IEEE) (since 1999).
- Scientific talks and attendance at scientific meetings in Germany, United Kingdom, Italy, USA, Poland, Denmark, Hungary, France, Portugal, Spain, Greece, Belgium, USSR, Austria, P.R. China, The Netherlands, Canada, Australia, Japan, Brazil, Argentina, Singapore, Turkey, Puerto Rico, Russia, Romania, Mexico, Israel, India, Syria, Gouadeloupe, Bulgaria, Czech Republic, Iceland, Switzerland, South Africa, Korea, Serbia.
- Author of the books
 - "Applications of automatic control concepts to traffic flow modeling and control" (Springer-Verlag, Berlin, 1983)
 - "Optimierung – Statische, dynamische, stochastische Verfahren für die Anwendung" (Optimisation – Applied static, dynamic, stochastic methods) (R. Oldenbourg-Verlag, Munich, 1991; 2nd Edition (corrected and extended), 1996).
 - "Optimal Real-time Control of Sewer Networks" (Springer-Verlag, London 2005) (together with M. Marinaki).
- Editor of:
 - "Concise Encyclopedia of Traffic and Transportation Systems" (Pergamon Press, Oxford, 1991).
 - Proceedings 1st Meeting of the EURO Working Group on Urban Traffic and Transportation (Technische Universität München, Munich, 1993) (together with J.C. Moreno Baños, B. Friedrich, H. Keller).
 - Preprints and Proceedings of the 8th IFAC/IFIP/IFORS Symposium on Transportation Systems (Elsevier Science, Oxford, 1998) (3 volumes, together with A. Pouliezios).
- Author or co-author of some 320 technical papers in journals and conference proceedings.

Chania, 3 March 2009