

CURRICULUM VITAE

Dr. John Vournas

DATE OF BIRTH : 28 Feb. 1966
STATUS : Married
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EDUCATION

- 1989 : "Dipl.-Ing" Degree from the National Technical University of Athens, Greece. Department of Mechanical Engineering
- 1994 : PhD Thesis : "Multigrid technique (MG) applied to Numerical Mechanical Engineering problems" at the NTUA (with scholarship from NTUA), Department of Mechanical Engineering, National Technical University of Athens

PROFESSIONAL EXPERIENCE

- 1989 : GEWIS Laboratories Gmbh, Bochum, Germany. Mechanical Engineer. Development of Computer Integrated Solutions in Industry (CAD/CAM/CIM/CAQ)
- 1990 - present : Research Assistant at the National Technical University of Athens, Mechanical Engineering Dept.
- 1992-1993 : Intelltech S.A. R&D Department. Responsible for the development, creation and management of Computer Integrated Solutions in Manufacturing
- 1993-1994 : Intelltech S.A. Technical Director
- 1994 - present : Research Assistant and Technical Consultant (Ministry of Development, General Secretariat of Research and Development, Ministry of Education, Ministry of Transportation)
- 1994 - present : Research Assistant (NATIONAL TECHNICAL UNIVERSITY OF ATHENS, DEPARTMENT OF MECHANICAL ENGINEERING, Mechanical Design and Control System Section)
- 1994 - present : MOTION Hellas Ltd. Managing Director

PERSONAL SKILLS

Foreign languages : English and German
Computer lang. : Fortran 77, C++, Pascal, Basic, RDBMS
Computer O.S. : QNX, UNIX, Windows NT, Novell Netware

SCIENTIFIC INTEREST

- Project Management
- Design and Development of new products and methods (CAD/CAE/CAM,CAPP)
- Computer Integrated Manufacturing Systems
- Industrial Automation Systems (SCADA),
- Material Requirement Planning (MRPII) and Capacity Planning Systems
- Enterprise Resource Planning (ERP) Systems
- Quality Assurance and Inspection Systems (ISO-9000, EN14000, EN45000, OSHAS 18000)
- Computer Aided Quality Systems and Structural Design
- Statistical Quality Control Systems (SQC)
- Maintenance Management
- Total Quality Management
- Warehousing Applications
- Industrial Automation
- AVL and Telematic Applications
- Real Time Control Systems (SCADA)
- Environmental Protection and Management Systems
- Waste Management Systems
- Energy Management Systems

MAIN EUROPEAN & NATIONAL R&D PROJECTS

- Research assistant for the BRITE/EURAM-90 EuroMesh project (Area 5 Aeronautics project Aero 0018, BAe, Deutsche Airbus, RAE, DLR, ONERA, CERFACS, SAAB, NLR, Oxford Uni., CASA, Swansea Uni., Aerospatiale) with five publications in Journals and conferences (1992)
- Project Manager for Intelltech S.A. for the DRIVE-II/91, METAFORA project. The main objective of the METAFORA project is to prove the applicability in real conditions of Mobile Data Communication (MDC), Electronic Data Interchange (EDI) as combined with MDC, and tracing to a lesser extent, in Road Freight Operations (RFO). Special emphasis is placed to the problems and requirements of the small and medium size transport enterprises (SME's). Metafora partners : IBM, NEI, TRADEMCO, TRUTH, DCE, ALMATRANS, MAKIOS, MONDIA, DAF, SIMAC, PLANET.
- Researcher for Intelltech S.A. for the EC-Research Project ESPRIT-92 : UNIQUE (A Knowledge-Based Approach to Quality Control to Provide a Unified Quality Environment). The UNIQUE partners are: : PORTSMOUTH POLYTECHNIC (UK), INTELLTECH (GR), CAP SESA INDUSTRIE (F), E2S (B), CORINTH PIPE WORKS SA (GR), KAPSCH AG (A).
- Project Manager for Intelltech S.A. for the CIMEIG/ESPRIT-93 project. The CIMEIG project focuses on assisting Greece with manufacturing management. The CIMEIG project will seek to provide and develop a user friendly production and quality control system which will be implemented in large manufacturing organisations in Greek industries. The CIMEIG partners are : NTUA, Intelltech S.A., M+S Hourdakis S.A.
- Project Manager for Intelltech S.A. for the BRITE / EURAM 93 - "RINAMEN" : Robotic Inspection of Numerical Controlled Advanced Manufacturing for European Industries using Non-Contact Techniques. The Rinamen partners are : University of Teesside (UK), Carl Zeiss Jena Gmbh (G), Carl Zeiss Oberkochen (G), Mikron (GR), Marske Machine Company, Intelltech (GR), Rolls Royce

plc (UK)

- Researcher for Intelltech S.A. for the EC-Research Project SPRINT : SPI 008 "CAD/CAM Transfer Into Packaging Engineering". The CAD/CAM system is aimed towards the packaging industry and is a product of a team of European packaging organisations and companies : FLOG (University of Dortmund in Germany), INTELLTECH S.A. (GR),TEKNOLOGISK - DTI (D), TNO (Danish Packaging & Transportation Research), VDZ GmbH (Service Center for Packaging Technology)
- Researcher for the MENTOR-92 project (ETBA) for the Greek electronic industry InfoQuset (PCs' manufacturing process) entitled : "Development and research of a prototype computer based application on the PCs' production line for process optimisation and Quality control of the process and product"
- Researcher for the MENTOR-92 project (ETBA) for the Greek meat processing industry NIKAS S.A. entitled : "Research and cost benefit analysis for the application of a new, flexible, innovative and automatic system for reduction of the production cost"
- Researcher for the MENTOR-92 project (ETBA) for the Greek meat processing industry NIKAS S.A. entitled : "Application of the ISO9000 standard in the meat processing industry NIKAS S.A."
- Researcher for the MENTOR-93 project (ETBA) for the consulting company Helgeco S.A. entitled: "Research and cost benefit analysis for the application of a new, flexible, innovative and automatic production system and for the application of the ISO9000 standard at Henninger Hellas S.A."
- Researcher for the MENTOR-93 project (ETBA) for the consulting company Helgeco S.A. entitled: "Research and cost benefit analysis for the application of a new, flexible, innovative and automatic system for the design and production of new products at Terra S.A."
- Researcher for a CAD/CAM system for the apparel industry (Telematics Project -1994 ETAKEI S.A.)
- Researcher for a Statistical Quality Control System (CAQ/SPC) for the Apparel industry GALLOP S.A (ETAKEI S.A. project)
- Researcher for the NTUA for the EPET II project "PLASTICS - New Technology" (1995)
- Researcher for the MENTOR-95 project (ETBA) for NK TRAILERS SA entitled : "CAD/CAM/CAE system for the design and production of trailers and truck bodies "
- BRITE/EURAM programme 1996 "VISION" : Vibration Interpretation using Simulation and the Intelligence of Networks
- Project Manager for the R&D project "Design And development of a Hi-Tech Network of Data collection Terminals for Industrial applications" (1996)
- CRAFT BRITE/EURAM programme 1996: Controlling Waste in the food processing industry using intelligent ultrasound monitoring technology
- TIDE/TELEMATICS APPLICATIONS programme 1996 "HOME": Home applications Optimum multimedia/multimodal system for Enviroment control.
- TIDE/TELEMATICS APPLICATIONS programme 1996 "TRANSWHEEL": Transportation wheelchair with high impact safety and advanced sensor comfortability for people with mobility problems.

- Quality Manager for the RECITE II programme 1998 "TRANSTECH" : Transport technology product and process innovation management
- Project Manager for NTUA (NATIONAL TECHNICAL UNIVERSITY OF ATHENS, DEPARTMENT OF MECHANICAL ENGINEERING, Mechanical Design and Control System Section) **INNOTRAX (2004)** : Innovation Clusters for the Transport Industry. InnoTrax is an interregional commitment to develop a "collaboration platform", on which the latest European key technologies; Micro-nano technology, photonics and telematics can be turned into sustainable products (University of Valenciennes, WISTA management GmbH, Fraunhofer Institute for Production Systems and Design Technology, Senate Department for Economy, Labor and Women Issues (Berlin), Regional Innovation Centres in Lower Austria National Technical University of Athens (NTUA), Otaniemi Science Park (Otaniemi), Technology Foundation Innovation Agency Berlin (TSB), City Hall of Warsaw (Warsaw), Warsaw University of Technology (UoW), Brandenburg Ministry of Economy (Brandenburg), Technology Centre Transport Technology Hennigsdorf (TZV)
- Project Manager for HELECTOR SA for the Research and Development Programm (GSRT) entitled INTEGRATED SYSTEM FOR THE MANAGEMENT OF SERVICES FOR WASTE COLLECTION & ENVIRONMENTALLY VIABLE MANAGEMENT OF WASTE (2005)

MAIN INDUSTRIAL PROJECTS

- Project Manager for CIM applications in Greek Industries (Chemical, plastic, Pharmaceutical, textile etc). Over 30 projects from 1994 to 2005.
- Project Manager for design and implementation of the ISO 9001:1994 & ISO 9001:2000, ISO 14001 and OSHAS 18000 standards (over 30 projects from 1994 to 2005)
- Project Manager for planning, implementation and testing of Automation and SCADA systems in the fields of:
 - Environmental Protection and Management (Restoration of landfill sites, Water supply projects, Sewerage systems projects, Waste water treatment and disposal projects)
 - Cleaning and Solid Waste management
 - Energy Administration Systems

Over 5 projects from 1994 to 2005. Among them are COSMOTE, HELECTOR SA, TOMH SA, ELEMEX SA, HERHOF RECYCLING OSNABRUEK (HRO) GMBH etc

- Project Manager for planning, implementation and testing of Automation and SCADA systems in the fields of Building Management Systems (BMS). Over 10 projects from 1994 to 2005 Among them are LAN-NET AE, FILMNET AE, SyNET AE, Q-TELECOM, COSMOTE, HELECTOR SA, TOMH SA etc
- Design and Development of an innovative and user friendly management system for **Cleaning and Solid Waste management (CWS.NET)**. The Program has already successfully operating for the Olympic and Paralympic Games 2004 in the category of Cleaning, Removal and Environmentally Sustainable Waste Management Services by the Athens Organising Committee (ATHOC).

EDUCATIONAL EXPERIENCE

- Teaching Assistant at National Technical University of Athens, Department of Chemical Engineering for Computational Mechanics (1998)

- Teaching Assistant at National Technical University of Athens, Department of Mechanical Engineering (1994-2003)
- Teaching Assistant at National Technical University of Athens, [Faculty of Applied Mathematics and Physics](#) (2003-2004)
- Instructor of educational seminars for NTUA, ETAKEI SA, EUROSPACE SA (1992-present).
Courses:
 - a) Computer Integrated Manufacturing (CIM)
 - b) Total Quality Management (TQM)
 - c) Statistical Quality Control (SQC)
 - d) Object Orient Methodology for programming
 - e) ISO 9000

PUBLICATIONS

SCIENTIFIC PUBLICATIONS IN MAGAZINES WITH REVIEWERS

- [1] Kanarachos, A. and Vournas, I. Multigrid technique applied to the compressible Euler equations, *Acta Mechanica*, 97, 23-40, (1993).
- [2] Kanarachos, A., Pantelelis, N., and Vournas I. Multigrid methods for the acceleration and the adaptation of the transonic flow problems, In: *Multiblock Mesh Generation, Results of the EC-BRITE EURAM EUROMESH 1990-1992, Notes Num. Fluid Mech.* (Weatherill, N. eds.), Vol.44, pp.311-325, Vieweg (1993).
- [3] Kanarachos, A. and Vournas, I. Multigrid technique for the compressible Euler and Navier Stokes equations, *Engineering Computations*, 10, 123-137 (1993).

SCIENTIFIC PUBLICATIONS IN CONFERENCES WITH REVIEWERS

- [4] Kanarachos, A. and Vournas, I. Multigrid solution for the compressible Euler equations by an implicit characteristic-flux-averaging, In: *Proc. of the 1st Europ. Comput. Fluid Dynam. Conf., Computational Fluid Dynamics '92, Vol. 2*, pp.795-803, Elsevier North Holland, (1992).
- [5] Kanarachos, A., Vournas I. and Pantelelis, N. Multigrid technique applied to the compressible Euler and Navier-Stokes equations, In: *Proc. of the 1st Nat. Congress on Comp. Mech.*, pp.655-662, (1992).
- [6] Dr. Vournas, I. and Kokkinos G. "Design and Development of a Computer Integrated Manufacturing System for a Printed Circuit Board Industry", 2^o Conference for Quality Management Systems, Educational Center of Chemical Engineers (1997)
- [7] Prof. Kanarachos, A. and Dr. Vournas, I. "Design and Development of an E-Learning Application in the area of CAD/CAM/CIM. NTUA Scientific Congress for E-Learning (1998)
- [8] Dr. Vournas, I. and Sarris, H. "Automation Systems PLC and Production Data Collection Terminals PDA (Q-TERM)", Conference for Industrial Applications and Industrial Electronics, Technical Chamber of Greece, 28-29 September 2000
- [9] Arnaud Jannin, Aurelien Cabanel, Dr. John Vournas and Prof. K.Spentzas Propulsion system and electronic differential of an advanced electric-solar vehicle (LOB Optical Technologies March 23-24, 2006, Berli LASER OPTIK)

SCIENTIFIC PUBLICATIONS IN MAGAZINES

- [10] Dr. Vournas, I. and Sarris, H. "CIMEIG – Computer Integrated Manufacturing Systems for PCB production". *Technika* (ISSN 1105-0802), pp.96-100, 1995
- [11] Dr. Vournas, I., "OPUS Software for real time Production Planning and Control applications"

- Electrical and Mechanical Engineers Magazine, pp. 80-81, July 1996
- [12] Dr. Vournas, I. and Aidinis, V., " Data Collection Network design and development for real time Production Planning and Quality Control", Technical Inspection Magazine, pp. 28-33, October 1998
- [13] Dr. Vournas, I. "Shop Floor Control Applications", Technical Inspection Magazine,, March 1998
- [14] Dr. Vournas, I. "Design and Development of a new flexible Computer Integrated Manufacturing System for the Production Planning and Quality Control CIM/CAQ., Electrical and Mechanical Engineers magazine, pp 48-55, April 1998
- [15] Dr. Vournas, I. "Computer Aided Quality Applications", Technical Inspection Magazine, pp. 28-31, May 1998
- [16] Dr. Vournas, I. and Aidinis, V "Innovative Systems for Production Planning and Quality Control", Plant Management, pp. 64-67, July 1999
- [17] Dr. Vournas, I. "OPUS PPS&PQC Software Applications for real time Shop Floor Production Planning and Quality Control", Plant Management, pp. 58-60, 1999
- [18] Dr. Vournas, I. "Building Management Systems", Plant Management", pp. 68-69, July 2000
- [19] Dr. Vournas, I. and Sarris H. "Automation Systems for Manufacturing and Building Management Systems", Electrical and Mechanical Engineers magazine, pp.. 72-73, September 2000
- [20] Dr. Vournas, I. "E-Manufacturing Systems", Technical Inspection Magazine,, pp. 106-107, 2000-2001
- [21] Dr. Vournas, I. "Automation Systems & Production Data Collection Terminals (PDA/Q-TERM)", Plant Management, pp. 120-121, 2000-2001
- [22] Dr. Vournas, I. "New Manufacturing Technologies and RDBMS systems", pp. 97-98, January 2001
- [23] Dr. Vournas, I. And saris, H., "Automation Systems for Smart Buildings", Plant Management, pp. 114-115, June-July 2001
- [24] Dr. Vournas, I. & Sarris, H. "Integrating Embedded Data Collection Terminals and Bar coding with ERP", Transtech Transport Technology Product & Process Innovation Management A SUCCESSFUL EXPERIMENT, page 66-68, Press Universitaires De Valenciennes, 2003
- [25] Dr. Vournas, I. "Focal Issues in Production Planning & Control – CIM Applications", Transtech Transport Technology Product & Process Innovation Management A SUCCESSFUL EXPERIMENT, page 69-73, Press Universitaires De Valenciennes, 2003
- [26] Dr. Vournas, I. & Kalivas, A. "E-Manufacturing – Increase Communication Efficiency and Business Success", Transtech Transport Technology Product & Process Innovation Management A SUCCESSFUL EXPERIMENT, page 74-75, Press Universitaires De Valenciennes, 2003

TECHNICAL REPORTS FOR NATIONAL AND EUROPEAN R&D PROJECTS

- [27] Kanarachos, A., Vournas I. and Pantelelis, N. Adaptive Mesh Generation, Report SubTask 4.9, Brite/Euram Aero 0018, EC (1992).
- [28] "Model of the RFO process before use of RTI followed by major test cases", DRIVE II -Project METAFORA, Deliverable 92D02, Intelltech S.A., authors John Vournas and Harris Sarris.
- [29] "A critical survey of relevant projects in Production Planning, Process Control and Quality Control systems", ESPRIT-Project CIMEIG, Deliverable 93D01, authors Prof. A.Kanarachos and John Vournas.
- [30] "Analysis and Study of CIM implementation methodology in Greek electronic industries according to the CIM/OSA model", ESPRIT-Project CIMEIG, Deliverable 93D02, authors Prof. A.Kanarachos, John Vournas, Harris Sarris and Phillip Tarrazi Fonton.
- [31] "User Requirements and Software Requirements Document for the Quality Control System", ESPRIT-Project CIMEIG, Deliverable 94D01, authors Prof. A.Kanarachos, John Vournas, Harris Sarris and Phillip Tarrazi Fonton.
- [32] "Architectural Design Document (ADD) For an Optimized Production Planning System", ESPRIT-Project CIMEIG, Deliverable 94D02, authors Prof. Dr.-Ing. Andreas Kanarachos, Dr. John P. Vournas and Harris F. Sarris.

- [33] "SQC Methods & Man Machine User Interface Detailed Design Document (SQC & MMUI DDD)", ESPRIT-Project CIMEIG, Deliverable 95D01, authors Dr.-Ing. John Vournas, Harris Sarris and Philip Tarrazi Fonton.
- [34] "Detailed Design Document (DDD) for an Integrated Production Planning & Control System (CIMEIG PPS & PCS)", ESPRIT-Project CIMEIG, Deliverable 95D02, authors Dr.-Ing. John P. Vournas and Harris F. Sarris.
- [35] "Overall Evaluation of the CIMEIG Pilot", ESPRIT-Project CIMEIG, Deliverable 95D03, authors Dr.-Ing. John P. Vournas and Harris F. Sarris.
- [36] "Exploitation Activities & Results of the CIMEIG Project", ESPRIT-Project CIMEIG, Deliverable 95D04, authors Dr.-Ing. John P. Vournas and Harris F. Sarris.
- [37] Dr. Vournas, I. and Sarris, H. "New PVC pipe design and development by using FEM applications" Technical Report, PAVE/GSRT (1996).
- [38] Dr. Vournas, I. and Sarris, H. "CAQ System for Textile Industries - GALLOP SA" Technical Report, PAVE/GSRT (1997).
- [39] Dr. Vournas, I. Prof. Kanarachos, A, Prof. Tsamasphyros G. and Sarris, H. "design and Development of an E-Learning System for CAD/CAM/CIM" Technical Report NTUA, (1996).
- [40] Dr. Vournas, I. Prof. Kanarachos, and Sarris, H. "Telemedicine System for ELPEN SA" Technical Report PEPER/GSRT (1997)
- [41] Dr. Vournas, I. "PDA Network development Ανάπτυξη for Production Planning, Shop Floor Control and Quality Control", Technical Report PAVE/GSRT (1998)
- [42] Dr. John Vournas and Prof. A. Kanarachos "Quality Assurance Plan", Transtech Deliverable QR1001DI, RECITE II Office, 1998
- [43] Dr. John Vournas "Electronic Design Automation Software for ASM Design and Algorithmic State Machines under Windows 95". Technical Report PAVE-97BE90/GSRT 1999
- [44] Dr. John Vournas and Prof. A. Kanarachos PROPOSALS FOR SURVEY QUESTIONS. This document contains the proposed Central Master Questions for the Transportation Sector Surveys aimed at identifying the IT requirements of the European Transportation industry. RPT0302OIA, RECITE II Office, 1998
- [45] Dr. John Vournas and Prof. A. Kanarachos ATHENS REGION-Company Profiles. This document consists of a list of Greek companies (Company Profiles) in the area of automotive and aircraft industries, metal construction, plastic construction, transportation equipment, and high technology suppliers. RPT0303OIA, RECITE II Office, 1999
- [46] Dr. John Vournas and Prof. A. Kanarachos TYPICAL STEPS IN STARTING UP SME R&D PROJECTS. The purpose of this Internal Report is to disclose practical steps used by TROs (TransTech Research Organisations – UVHC, NTUA, MOTION, WISTA, INETI etc) when starting up R&D projects with SMEs under the TransTech Programme. Within this project, a general understanding has emerged that working with SMEs must take place in a context which is quite different from conventional R&D. RPT1003OIA, RECITE II Office, 1999
- [47] Dr. John Vournas and Prof. A. Kanarachos GUIDELINES FOR TECHNOLOGICAL AUDITS. The purpose of this Deliverable is to create awareness among TROs, as well as among SMEs, of the various types of methodologies and tools available throughout Europe for carrying out a short diagnostic analysis of an SME before the implementation of plans of action aimed at the acquisition of new technology, RPT1004OIA, RECITE II Office, 2000
- [48] Dr. John Vournas and Prof. A. Kanarachos RESULTS OF QUESTIONNAIRE SURVEY. This document consists of a questionnaire which is built to respond at the aims of TRASTECH and the results that came up of the implementation of the questionnaire, RPT0304OIA, RECITE II Office, 2000
- [49] Dr. John Vournas, "PDA Design and Development by using the State of the Art SMT (Surface Mount Technology) technology", Technical Report PAVE-99BE172/GSRT 2000