

CURRICULUM VITAE

PREKAS KLEANTHIS

DATE OF BIRTH	10-11-1957
PLACE OF BIRTH	Athens, Greece
NATIONALITY	Greek
MARITAL STATUS	Married, 3 children
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CURRENT POSITION	Lecturer, Department of Electronics, Technological Education Institute of Piraeus, GR-12244, Aigaleo-Athens, GREECE
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EDUCATION

- Diploma of Electrical Engineer, (major: Electronics Engineer), National Technical University of Athens, Athens, Greece, 30-10-1984.
- Degree of Electronics Technical Engineer, Department of Electronics "A. Anastasiades", Higher Technological Education Centre of Piraeus, Athens, Greece, 1978.
- Degree of Electronics, Technical College of Electronics "TOMSON", Athens, Greece, 1974.

VOCATIONAL TRAINING

Assistant researcher, Industrial Electronics and Automation Laboratory, Direction of Electronics, National Center of Scientific Research "Demokritos", Athens, Greece, 1975-1978.

PROFESSIONAL EXPERIENCE – POSITIONS HELD

1989 - today: Lecturer, Department of Electronics, Technological Education Institute of Piraeus, Aigaleo-Athens, Greece. Director of the Power Electronics and Automatic Control Systems Laboratory.

1985 - 1989 : Adjoint lecturer (part time), Department of Electronics, Technological Education Institute of Piraeus, Aigaleo-Athens, Greece. Assignment: Instruction of undergraduate student on Telecommunications, Automatic Control Systems, Analog Electronics and Electric Machines courses.

1994- today: Consultant Engineer, ELPACK S.A. packing case production company, (ELPACK Group, Greece). Responsibility: Supervising engineer for the electrical, electronics and automation systems of the company plant in Patras, Greece.

2002 – today: Consultant Engineer, SIGMA-PACK S.A. packing case production company, (ELPACK Group, Greece). Responsibility: Supervising engineer for the electrical, electronics and automation systems of the company plant in Kapandriti – Attiki, Greece.

2003 - today: Consultant Engineer, Fthia Papermills S.A. paper mills, (ELPACK Group, Greece). Responsibility: Supervising engineer for the electrical, electronics and automation systems of the company plant in Damasta-Lamia, Greece.

1984 - 1996: Consultant Engineer, PAKO S.A. papermills and paper production company. Responsibility: Supervising engineer for the electrical, electronics and automation systems of the company plant in Pelasgia-Lamia, Greece.

1999 - 2001: Consultant Engineer, MEL S.A. papermills. Responsibility: Supervising engineer for the electrical, electronics and automation systems of the company plant in Thessaloniki, Greece.

1984 – 1996: Freelance electronics engineer (personal enterprise). Design and development of electronic systems for customers / enterprises in the biomedical electronics and other fields.

1981-1984: External partner, electronics engineer for the design and development of electronic circuits and systems, “Scientific Enterprises Ltd.” (greek private company for the development and distribution of electronic systems, supplier to the Greek Army).

1979-1981: Military Service in the Greek Army (mandatory). Design of electronic circuits and system for the Telecommunication Division Factory of the Greek Army.

1974: Assistant electronics engineer, TOA Audio System S.A., Athens, Greece. Installation of audio systems for the company clients.

RESEARCH AND DEVELOPMENT PROJECTS

[1979 – 1981] Military service – telecommunications engineer in R&D projects, *Greek Army*, Telecommunication equipment rebuilding plant, Acharnai-Attiki, Greece.

1. Design and implementation of a frequency synthesizer at 0.5 – 6 MHz (Dec. 1979)
2. Design and implementation of PP-109 and II.2 power supply units, (Dec. 1979)
3. Modification of the design for an automatic charger, (Dec. 1979)
4. Specialized design for the modification of an MRR-5WF receiver, (Sept. 1980)
5. Preliminary design for an FM 0.5 W – 399 channel receiver – transmitter (Nov. 1981).

[1986 – 1987] *Freelance electronics engineer* (personal enterprise).

1. Design and development of an electronic vector anemograph along with the communication unit to the adjoined microcomputer system (Commodore 64) for data logging. In cooperation with the Atmosphere Physics Laboratory, Department of Physics, Aristotle University of Thessaloniki, Greece, (Dec. 1986).
2. Ch.Zerefos, J.Ziomas, Kl.Prekas, Patent on “Microcomputer-based vector anemograph system,” Greek National Patent Office, Patent No. 871178, vol. 87-12, page 155, July 1987.

[1992 – 2001] Consultant Engineer – External Partner, *PAKO S.A.* papermills and paper production company, Pelasgia – Lamia, Greece.

1. Design, development and installation of the synchronizing electronic system (between liquid and dry sections), on the paper machines of the plant, (July 1992).
2. Redesign and replacement by PLC of the electronic automation subsystem of the SIMCA Ltd. carton

sewing machine for carton boxes, (July 2001).

3. Redesign of the motion automation subsystem of the Gandossi Fossatti Ltd. carton box production machine, (Oct. 2001).
4. Redesign and replacement by PLC of the electronic automation subsystem of the VEGA Ltd. carton sewing machine for carton boxes, (Oct. 2001).
5. Design and installation of the integrated automation system with PLC for the operation of the conveyors of the plant, for the circulation of carton boxes, (Oct. 2001).
6. Design and installation of the integrated automation system with PLC for the operation of the SIGNODE S.A. strapping / packaging machine of the plant, for the sealing of carton boxes, (Oct. 2001).
7. Detailed design and supervision of the installation of undulating carton production machines (AGNATI S.A. corrugator and cut off), (Nov. 2001).

[2001] Consultant Engineer – External Partner, **MEL S.A.** papermills, Thessaloniki, Greece.

1. Design, development and installation of the synchronizing electronic system (first dry section) on the paper production machines of the plant, (Sept. 2001).

[1992 – 2001] Consultant Engineer – External Partner, **ELPACK S.A.** packing case production company, (ELPACK Group Member), Patras, Greece.

1. Design, development and installation of a three-phase power supply for the regulation of speed on a 20 HP dc motor for carton box production, (Apr. 1993).
2. Design, development and installation of the total electrical – electronic automation subsystem of the waste recyclable paper press machine, (Dec. 1993).
3. Design, development and installation of the total electrical – electronic automation subsystem of the stacker machine of the plant, (Dec. 1993).
4. Project coordinator for the annual update and re-organization of the company electronic files, (Dec. 2002).
5. Design, installation supervision and support services for the electrical – electronic subsystems of the machines of the plant, (July 2005, May 2006 and March 2008).

[2002 – today] Consultant Engineer – External Partner, **SIGMA-PACK S.A.** packing case production company, (ELPACK Group Member), Kapandriti – Attiki, Greece.

1. Detailed design and supervision of the installation of undulating carton production machines (AGNATI S.A. corrugator and cut off), (Dec. 2002).
2. Design, installation supervision and support services for the total electrical – electronic automation system of the plant, (May 2003).
3. Design and supervision of the installation of undulating carton production machine (corrugator and cut off), (June 2003).
4. Supervision of the installation of a conveyors system, for the circulation of carton products in the plant, (Sept. 2004).
5. Design and supervision of the installation of a laminating machine in the plant, (Sept. 2004).

[2003 – today] Consultant Engineer – External Partner, **Fthia Papermills S.A.**, (ELPACK Group Member),

Damasta - Lamia, Greece.

1. Design and supervision of the development and installation of the electric power board, for the vacuum pumps motion automation subsystem in the plant, (May 2004).

[1998 – 2001] Consultant Engineer – External Partner, **KEM S.A.**, (Hydraulic Automations Company), Athens, Greece.

1. Design and development of an electro-mechanical system for the destructive testing of tractor vehicle protection structures (cabins), (1998).
2. Design of the automation subsystem for the “OMES” extractor vehicle, used in the power production plants of the greek Public Power Corporation S.A. in Ptolemais / Greece and Megalopoli / Greece, (2001).

[1998 – 2003] Consultant Engineer – External Partner, **Scientific Enterprises Ltd.** (greek private company for the development and distribution of electronic systems, supplier to the Greek Army), Athens, Greece.

1. Design and development of a microcontroller-based educational software for color television an electronic instruction course. Controlled injection of non-destructive faults, for training purposes. Automated evaluation of the efficiency of trainees in fault detection and removal, (1998).
2. Design and development of a data acquisition and telemetry software for environmental parameters monitoring, (1998 - MS-DOS environment and 2003 – MS Windows environment).

[2006] Consultant Engineer – External Partner, **Recycle S.A.**, Aspropyrgos – Attiki, Greece.

1. Complete detailed design for the electrical – electronic automation subsystem of a waste recyclable paper press machine, (Sept. 2006).

[2006] R&D projects engineer and project leader - Lecturer, **Department of Electronics, TEI Piraeus**, Aigaleo-Athens, Greece.

- [1998 and 2002 – today] R&D engineer, “Communication and data management software for the *Environmental Radiation Monitor –2 unit*,” TEI Piraeus Internal R&D Project, Department of Electronics and Department of Physics, Chemistry and Material Science, TEI Piraeus.
 - *Objective: Design and development of the software and hardware communication unit and development of the user interface application, for the Environmental Radiation Monitor – 2 unit; gamma radiation measurements. Supported operations: Data collection, storage and management. This system is operational since 1998 up today within the TEI Piraeus Aigaleo-Athens campus. Development for MS-DOS environment (1998) and update to MS-Windows platform, (2003).*
 - *Funding: TEI Piraeus Research and Development Funds Management Office.*
- [1999 – 2001] R&D engineer, “A flexible wireless network for automation and control processes,” R&D Project by the National Research Center NCSR-“Demokritos”, the University of Ioannina, Greece and Department of Electronics, TEI Piraeus, Greece
 - *Objective: Development of a multi-protocol wireless communication network, with an embedded control unit that allows for automatic protocol switching, in order to adapt to the system changing requirements.*
 - *Funding: 1999 National Research Resources Support Programme (PENED 1999), General Secretariat for Research and Technology, Greek Ministry of Development.*
- [2001] Research engineer, “Digital Processing and Recognition of Speech Signals,” Internal TEI Piraeus Research Project.
 - *Objective: The adaptation of algorithms for the analysis and digital processing of speech signals, in greek language phoneme recognition task. Dynamic Time Warping (DTW) and Hidden Markov Models (HMM) methods are employed for the recognition of speech in greek, both at the isolated words and at the phonemes level in Continuous Speech Recognition (CSP).*

- Funding: *TEI Piraeus Research and Development Funds Management Office.*
- [2001] Primary Investigator, “Non-linear processing and classification of Electroencephalogram (EEG),” Internal TEI Piraeus Research Project.
 - Objective: *The application of non-linear signal processing methods for the analysis of the EEG signals of healthy adults at rest, aiming towards automatic person identification for security applications. Volterra series expansion and bilinear models exploited in connection to an Artificial Neural Network classifier.*
 - Funding: *TEI Piraeus Research and Development Funds Management Office.*
- [2001] Research Engineer, “DSP methods substitute non-destructive methods for the analysis of fabrics,” Internal TEI Piraeus Research Project.
 - Objective: *The exploitation of methods and tools from the DSP field, for the automatic detection, classification and management of digital images of fabrics. Digital images are obtained on-line during the fabric production process and analysed for fault detection either off-line or at a quasi-real time framework.*
 - Funding: *TEI Piraeus Research and Development Funds Management Office.*
- [1/2004-12/2006] Research Engineer, “Electrically conductive fabrics,” **TEI Piraeus “Archimedes I” R&D Project**, Department of Electronics and Department of Textiles, TEI Piraeus, in collaboration with the Department of Mechanical Engineering, National Technical University of Athens, Greece and the Department of Electrical and Computer Engineering, Aristotle University of Thessaloniki, Greece.
 - Objective: *The study of the electrical and mechanical properties of electrically conductive yarns and fabrics as a function of the conductive material and the weaving technique employed. Micro-mechanical modeling of yarns and fabrics through application of the Finite Elements Method. Investigation of the information transmission properties of the fabrics by application of ac signals that can carry information under various frequency and modulation scenarios.*
 - Funding: *European Union (ESF) and national funding through the Greek Ministry of Education, Operational Programme “Education and Initial Vocational Training II”.*
- [2003-2006] Academic staff, “Undergraduate syllabus reform for the Department of Electronics undergraduate curriculum,” **TEI Piraeus Development Project**, Department of Electronics, TEI Piraeus.
 - Objective: *The redesign and reform of the curriculum of undergraduate studies in the Department of Electronics, TEI Piraeus. Course and laboratory material revisited, updated and ported to electronic educational platforms.*
 - Funding: *European Union (ESF) and national funding through the Greek Ministry of Education, Operational Programme “Education and Initial Vocational Training II”.*

VARIOUS PROFESSIONAL ACTIVITIES

- [2001-2004] Technical committee member – electronics engineer, **Greek National Insurance Organization for Agriculture**, Greek Ministry of Agriculture. Field evaluation of the automation and tele-control electronic subsystems of the anti-hail canons installed for protection of the agricultural production across Greece.
- [2004-2005] Appointed member of the Scientific Committee, Institute for the Technological Education, Greek Ministry of Education. Responsibility: Academic recognition of degrees obtained abroad.
- [2005-today] Appointed committee member, Technological Education Branch, Greek NARIC organization, Greek Ministry of Education. Responsibility: Academic recognition of degrees obtained abroad.

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS / ORGANIZATIONS

Member of the Technical Chamber of Greece (1985).

Member of the National Technical University of Athens Alumni Association, (1988).

Member of the Greek Electrical and Mechanical Engineers Association (1985).

ACADEMIC EXPERIENCE

[1989 – today] Instruction of undergraduate course laboratories, Department of Electronics, TEI Piraeus:

1. Power Electronics
 2. Logic Design I and II
 3. Telecommunications I and II
 4. Automatic Control Systems I and II
 5. Intelligent Control Systems
 6. Television
 7. Electronic Physics
 8. Analog Electronics
- Author of complete laboratory manuals and student handouts for these courses.

INSTRUCTION NOTES – MONOGRAPHS

[1979] Greek Military Telecommunications School, “Instruction manual for the protection of military premises against lightning”.

[1985] Laboratory Instruction Notes for the course “Telecommunications I” and “Telecommunications II”, Department of Electronics, TEI Piraeus.

[1990 - 2001] Laboratory Instruction Notes for the course “Automatic Control Systems I”, “Automatic Control Systems II” and “Digital Control systems”, Department of Electronics, TEI Piraeus (editions 1 to 8).

[1995] Laboratory Instruction Notes for the course “Sensors and Transducers”, Department of Electronics, TEI Piraeus.

[1996] Laboratory Instruction Notes for the course “Programmable Logic Controllers (PLCs)”, Department of Electronics, TEI Piraeus.

[2000] Instruction Notes for the course “Textile process control”, Department of Textiles, TEI Piraeus (co-authored).

[2001] Laboratory Instruction Notes for the course “Power Electronics”, Department of Electronics, TEI Piraeus.

[2003 - today] Laboratory Instruction Notes for the remote laboratory experiments on Automatic Control Systems over the Internet: “Digital control of position” and “Liquid level control”, Department of Electronics, TEI Piraeus (open access via <http://labpower.teipir.gr>).

RESEARCH PUBLICATIONS

Journal Papers

- [P1] E.Servetas, K.Prekas, "Measure SCR parameters automatically," *Electronic Design*, vol. 26, No 7, pp. 76-78, March 1978.
- [P2] S.K.Koutroumbas, K.Prekas, E.Adamides, K.S.Koutroumbas, "Estimation and variability of ionizing radiation in the wider TEI Piraeus area," *Applied Research Review Journal of the TEI Piraeus*, vol. VI, no. 1, pp. 91-101, 2001.
- [P3] K.Prekas, M.Rangoussi, S.Vassiliadis, G.Prekas, "Performance of laboratory experiments over the Internet: towards an Intelligent Tutoring System on Automatic Control," *International Journal of Signal Processing*, vol. 1, No. 1, pp. 208-211, Dec. 2004 / *Enformatika: Transactions on Engineering, Computing and Technology*, Vol. 2, pp. 346-349, Dec. 2004.

International Conference proceedings

- [C1] S.Vassiliadis, M.Rangoussi, K.Prekas, G.Kogias, "Detection and classification of faults in circular knitting machines using signal processing techniques," *Proc. 1st Hellenic-Turkish International Physics Conference, Bodrum - Turkey & Kos - Greece, 10-15 Sept. 2001*. Also published in the "Balkan Physics Letters" Journal, Special Issue, 2001.
- [C2] C.Provatidis, S.Vassiliadis, M.Rangoussi, K.Prekas, "Retrieval of structural parameters of textile fabrics from surface roughness data obtained from KES-F measurements," *Proc. 4th Intl. Conf. IMCEP'2003*, pp. 149-156, Maribor, Slovenia, October 2003.
- [C3] M.Rangoussi, K.Prekas, S.Vassiliadis, "Biometrics for person identification: The E.E.G.," *Proc. 1st International Conference on Information Technology and Quality, TEI Piraeus, Athens, Greece, June 2004*.
- [C4] K.Prekas, S.Vassiliadis, M.Rangoussi, "A Flexible System for Remote Acquisition and Processing of Environmental Measurement Data," *Proc. 7th Panhellenic (International) Conference of Meteorology, Climatology & Atmospheric Physics, Cyprus, October 2004*.
- [C5] S.Vassiliadis, C.Provatidis, K.Prekas, M.Rangoussi, "Electrically Conductive Spun Yarns," *Proc. Xth International Izmir Symposium on Textile and Apparel*, pp 37-49, Izmir, Turkey, October 2004.
- [C6] K.Prekas, M.Rangoussi, S.Vassiliadis, G.Prekas, "Performance of laboratory experiments over the Internet: towards an Intelligent Tutoring System on Automatic Control," *Proc. Intl. Conf. on Signal Processing, ICSP'2004*, pp 117-121, Istanbul, Turkey, Dec. 2004.
- [C7] K.Prekas, M.Rangoussi, S.Vassiliadis, G. Prekas, "An instruction system based on remote laboratory experimentation for tele-education on Automatic Control," *Proc. 2nd International Conference on Information Technology and Quality*, paper nr. A.3.5, Spetses, Greece, June 2005.
- [C8] M.Rangoussi, S.Vassiliadis, K.Prekas, "A comparative study of classification algorithms in automatic speech recognition of spoken greek," *Proc. 2nd International Conference on Information Technology and Quality*, paper nr. A.4.2, Spetses, Greece, June 2005.
- [C9] K.Prekas, M.Rangoussi, S.Vassiliadis, G. Prekas, "Automatic Control Lab: A Pilot System for Simulation and Remote Performance of Experiments," *Proc. 2005 WSEAS International Conference on Engineering Education*, pp. 237-242, Athens, Greece, 8-10 July 2005.
- [C10] S.Vassiliadis, K.Prekas, A.Kallivretaki and Ch.Provatidis, "The Challenges of the New Spinning Technologies," *Proc. of the XIth International Izmir Textile and Apparel Symposium*, pp. 246-258, Izmir, Turkey, 26-29 Oct. 2007.
- [C11] K.Prekas, M.Rangoussi, S.Vassiliadis, G.Prekas, "Power quality monitoring and analysis in a paper mill

plant,” Proc. 6th Mediterranean Conference on Power Generation, Transmission and Distribution (MEDPOWER’2008), Thessaloniki, Greece, Nov. 2008.

- [C12] S.Vassiliadis, K.Prekas, A.Kallivretaki, M.Rangoussi and Ch.Provatidis, “Electrically Conductive Yarns: A Technological Overview,” Proc. International Conference of Applied Research in Textile, Sousse, Tunisia, 2008.

National Conference Proceedings (in greek)

- [N1] S.Vassiliadis, K.Prekas, Th.Peppas, “The contribution of simulation using computers in the technological education”, 7th Panhellenic Congress of Physics, Hellenic Physical Society, Zakynthos, Greece, 11-13 Febr. 2000.
- [N2] S.K.Koutroumbas, K.Prekas, E.Adamides, K.S.Koutroumbas, “The ionizing radiation measuring station in the TEI Piraeus environment and its contribution to the technological education,” E.DI.KTI. National Conference on Renewable Energy Sources Technologies and Environment, Athens, Greece, 11-12 Oct. 2000.
- [N3] K.Prekas, S.Vassiliadis, M.Rangoussi, “Development of a Telemetry System for Environmental Measurements”, 3rd Conference on Technology and Automation, TEI Piraeus, Athens, Greece, 14-16 Oct. 2000, pp. 357-361.
- [N4] K.Prekas, S.Vassiliadis, M.Rangoussi, “Contribution of Telemetry in the protection of the environment: remote environmental measurements,” Proc. 4th Panhellenic Environment Congress, Hellenic Physical Society, Kalam-baka, Greece, 26 – 28 Jan. 2001.
- [N5] M.Rangoussi, S.Vassiliadis, K.Prekas, N.Stathopoulos, “Digital speech signal analysis and recognition,” Proc. 9th Panhellenic Congress of Physics, Hellenic Physical Society, Chios, Greece, 1 – 4 Nov. 2001.
- [N6] M.Rangoussi, S.Vassiliadis, K.Prekas, N.Stathopoulos, “Spectral analysis and feature extraction of EEG signals for person identification,” Proc. 9th Panhellenic Congress of Physics, Hellenic Physical Society, Chios, Greece, 1 – 4 Nov. 2001.
- [N7] S.K.Koutroumbas, K.Prekas, E.Adamides, K.S.Koutroumbas, “Gamma radiation variations in the TEI Piraeus area,” Proc. 10th Panhellenic Congress of Physics, Hellenic Physical Society, Loutraki, Greece, 29 –31 Jan. 2004.

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