

## Curriculum Vitae



**NAME: THEODORE PACHIDIS**

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**NATIONALITY: GREEK**

**YEAR & PLACE OF BIRTH: 1962, DRAMA, GREECE.**

**MARITAL STATUS: MARRIED**

I am married to Mrs. Theofani Gakou working as a teacher in Kavala.

### **EDUCATION - TRAINING**

1. **Bachelor in Physics**, School of Sciences, Aristotle University of Thessaloniki (1980-1985). (Grade “Very Good, 7.82”).
2. **Master’s Degree in Electronic Physics (Radioelectronics)**, School of Sciences, Aristotle University of Thessaloniki (1986-1989). (Grade “Very Good, avg course grade 7.19”).
3. **Ph.D.**, Department of Electrical and Computer Engineering, Democritus University of Thrace (1998-2005). (Grade: “Excellent, avg course grade 9.44”).
4. Diploma in English Language, Level LOWER (1977).
5. Shorthand (75 words / minute) (1980).
6. French Language Certificate (CERTIFICAT) (1982).

7. Certificate of participation in IT training course lasting 60 hours, held by the Department of Informatics, Aristotle University of Thessaloniki with the following curriculum: **“Operating Systems: DOS and NOVEL 2.2, Word Processing: WORD for WINDOWS, spreadsheet: EXCEL, Database: MS-WORKS / DATABASE”**, (29/3/1994 – 16/5/1994, Kavala, Greece).
8. Participation in the nationwide three-day seminar of Directors and Deputy Directors of Institutes for Vocational Training (IEK), organized by the Vocational Education and Training Organization (OEEK) to update the issues related to **management, education, training and education reform** (1998, Loutraki, Greece).
9. Participation in the intensive learning mandatory training course of 6 hours for **“Technical Education”** (10/12/1998).
10. Participation in a training course lasting 14 days (60 hours) within the mobility program of the Operational Programme “Education and Initial Vocational Training” (EPEAEK) entitled **“Multimedia - Internet - School Activities”** (1-14/11/1999, Kavala).
11. Participation in the seminar of teachers of Secondary Education to support the project “Development of the High School Laboratories” entitled **“Evaluators Training Program for Electronic Devices”** (5-6/12/1999, Corfu, Greece).
12. Participation in the seminar of teachers of Secondary Education to support the project “Development of the High School Laboratories” entitled **“Coordinators Training Program for the Evaluation of Physical Sciences Devices and Audiovisual Media”** (13-14/4/2000, Athens, Greece).
13. Participation in the seminar of teachers of Secondary Education to support the project “Development of the High School Laboratories” in the OP, Action 1.2D on **“Practical Evaluation Program for Natural Sciences Instruments”** (8-12/5/2000, Athens, Greece).
14. Training in operations 2.3.21β’ entitled: **“Training of teachers in the TEE and TEC to meet the new realities of the planned upgrade of the institution”** and 2.3.20’ entitled: **“Evaluation of the pilot TEE”** (12-13/12/2003, Kavala Institute of Technology).
15. Skills and Knowledge Certification in Information and Communication Technologies. (2008).

## **MILITARY SERVICE**

I served in the Greek army on Telecommunications with the specialty of “Multichannel Operator” (13/6/1985 – 13/6/1986).

## **JOBS**

1. As a trainer in wireless telecommunication systems “Very High Ground Frequencies, V.H.G.F.” and “Ultra High Ground Frequencies, U.H.G.F. – Multichannel” in the Greek army (Telecommunications Training Center 1985 to 1986).
2. Customer support and service to the INFONORTH Ltd. computer company in Thessaloniki (12/1986 – 8/1987).
3. Practice in Hellenic Telecommunications Organization (OTE) as a graduate student (5/7/1988 – 31/8/1988).
4. As a teacher in Secondary Education (1989 to 2010).
5. As a Deputy Director of the Public Vocational Training Institute (IEK) of Kavala (1996-1998).
6. As a coordinator of Practical Training in the public Vocational Training Institute (IEK) of Kavala (26/9/1997 – 31/8/1998).
7. As a designer and manufacturer of prototype electronic circuits and applications in my company (applications for universities, schools, and enterprises), (22/8/1996 – 6/7/1998).
8. As a qualified scientist in the Department of Petroleum and Natural Gas Technology, Kavala Institute of Technology (TEI), Kavala, (1/9/2005 – 29/2/2008).
9. As an adjunct assistant professor in the Department of Industrial Informatics, School of Applied Technology of TEI of Kavala (2005 - June 2010).
10. As an assistant professor in the Computer and Informatics Engineering Department (Old Industrial Informatics), School of Applied Technology of the Eastern Macedonia and Thrace Institute of Technology (TEI) (July 2010 – 11/9/2017).
11. As an associate professor in the Computer and Informatics Engineering Department, School of Applied Technology of the Eastern Macedonia and Thrace Institute of Technology (TEI) (11/9/2017 to 7/5/2019).

12. As an associate professor in the Department of Computer Science, School of Sciences, International Hellenic University (7/5/2019 - 14/2/2024).
13. As a professor in the Department of Computer Science, School of Sciences, International Hellenic University (15/2/2024 - 12/3/2024).
14. As a professor in the Department of Computer Science, School of Sciences, Democritus University of Thrace (13/3/2024 to date).

### **TEACHING**

1. Teaching “**Information Technology**” and “**Computer Programming**” in a Lyceum (EPL), Kavala (1992-1996).
2. As a trainer in the Institute for Vocational Training (IEK) at Kavala teaching the 42-hour course: “**Word Processing**”, (7/10/1996 – 14/2/1997).
3. As a trainer in the Institute for Vocational Training (IEK) at Kavala teaching the 28-hour course: “**Computer Use**” (23/2/1998 – 30/6/1998).
4. As a trainer in the Institute for Vocational Training (IEK) at Kavala teaching the course “**Computerized Bank Accounting**”, lasting 42 hours, (23/2/1998 – 30/6/1998).
5. Teaching (assisting) the laboratory course “**Digital Systems and Computers I**” (3 hours/week) to undergraduate students in the sixth semester of the Electrical and Computer Engineering Department, D.U.TH, (1999-2002).
6. Teaching (assisting) the laboratory course “**Digital Systems and Computing II**” (3 hours/week) to undergraduate students in the seventh semester of the Electrical and Computer Engineering Department, D.U.TH, (2001-2002).
7. Teaching (assisting) the laboratory course “**Electronics III**” (3 hours/week) to undergraduate students in the sixth semester of the Electrical and Computer Engineering Department, D.U.TH, (2000-2002).
8. Teaching (as posted by the Secondary Education) the laboratory courses “**Electric Circuits**” of the second semester (4 hours/week), “**Plant Automatic Control Systems I**” of the third semester (4 hours/week), “**Plant Automatic Control Systems II**” of the fourth semester (4 hours/week) to students of Petroleum and Natural Gas Technology Department, Kavala Institute of Technology, (2005-2008).

9. Teaching (as an adjunct assistant professor) the course “**Robotics Laboratory**” (4 hours/week) and the course “**Robotics, Practice Exercises**” (1 hour/week) to students of the seventh semester of the Industrial Informatics Department, Kavala Institute of Technology, (2005-2009).
10. Teaching (as an adjunct assistant professor) the course “**Robotics Laboratory**” (2 hours/week) to students of the seventh semester and the course “**Software Project Management - Software Quality**” (2 hours/week) of the sixth semester of the Industrial Informatics Department, Kavala Institute of Technology, (2009-2010).
11. Teaching (as an assistant professor, at Industrial Informatics Department and then at Computer and Informatics Engineering Department of TEI EMT) the following courses:
  - a) “**Electric Circuits**” of the first semester (**2L + 1PE + 2LE** hours / week), (2011-2017),
  - b) “**Electronic Circuits**” of the second semester (**2L + 1PE + 2LE** hours / week), (2010-2017),
  - c) “**Introduction to Software Engineering**” of the third semester (**2L + 2PE** hours / week), (2010-2017),
  - d) “**Digital Image Processing**” of the fourth semester (**2L + 1PE** hours / week), (2014-2017),
  - e) “**Computer Graphics**” of the sixth semester (**2L + 1PE** hours / week), (2010-2016),
  - f) “**Software Project Management - Software Quality**” of the sixth semester (**3L + 2PE** hours / week), (2010-2017),
  - g) “**Robotics and Automatic Industrial Systems**” of the 7<sup>th</sup> semester (**1PE + 2LE** hours / week), (2010-2014),
  - h) “**Robotics and Human – Machine Interaction Laboratory**” of the 7<sup>th</sup> semester (**2LE** hours / week), (2014-2017),
  - i) “**Mobile Robots and Applications**” of the 7<sup>th</sup> semester (**2L + 2PE** hours / week), (2016 - 2017).
12. Teaching (as an Associate Professor in the Department of Computer and Informatics Engineering of TEI EMT and then to the Department of Computer Science of the International Hellenic University) of the courses:

- a) "**Electric Circuits**" of the First Semester (**2L + 1PE + 2LE** hours/week), (2017 – 2018).
  - b) "**Electronic Circuits**" of the Second Semester (**2L + 1PE + 2LE** hours/week), (2018 – 2019).
  - c) "**Introduction to Software Engineering**" of the 3rd Semester (**2L + 2PE** Hours/Week), (2017 – 2018).
  - d) "**Digital Image Processing**" of the 4th semester (**2L + 1PE** hours/week). (2017 – 2018).
  - e) "**Software Project Management - Software Quality**" of the Semester (**3L + 2PE** hours/week) (2017 – 2021).
  - f) "**Robotics and Human Machine Interaction, Laboratory**" of Z 'semester (**2LE** hours/week) (2017 - 2022).
  - g) "**Mobile Robots and Applications**" of the Z 'semester (**2L + 2PE** hours/week). (2017 - 2022).
  - h) "**Software Engineering I**" of the 5<sup>th</sup> semester (**2L + 1PE** hours/week) of the Department of Computer Science (2021 - 2023).
  - i) "**Digital Image Processing**" of the 6<sup>th</sup> semester (**2L + 1PE** hours/week) of the Department of Computer Science (2021 - 2023).
  - j) "**Software Engineering II**" of the 6<sup>th</sup> semester (**2L + 1PE** hours/week) of the Department of Computer Science (2021 - 2023).
  - k) "**Mobile Robots and Applications**" of the Z 'semester (**2L + 2PE** hours/week). (2022 - 2023).
13. Teaching (as a Professor in the Department of Computer Science of the International Hellenic University and then in the Department of Computer Science of the Democritus University of Thrace of the courses:
- a) "**Software Engineering I**" of the 5<sup>th</sup> semester (**2L + 1PE** hours/week) of the Department of Computer Science (2024 to date).
  - b) "**Digital Image Processing**" of the 6<sup>th</sup> semester (**2L + 1PE** hours/week) of the Department of Computer Science (2024 to date).
  - c) "**Software Engineering II**" of the 6<sup>th</sup> semester (**2L + 1PE** hours/week) of the Department of Computer Science (2024 to date).

- d) "**Mobile Robots and Applications**" of the Z 'semester (2L + 2PE hours/week). (2024 to date).
14. Teaching (as an assistant professor, at the Industrial Informatics Department and then at the Computer and Informatics Engineering Department of TEI EMT) the following course: a) "**Image Processing**" of the 2<sup>nd</sup> semester (26 hours / semester), in the Master of Science program with title: "**Innovation in Technology and Entrepreneurship**" at Electrical Engineering Department of TEI EMT. (2012 - 2017).
  15. Teaching (as an assistant professor or as an associate professor, at the Computer and Informatics Engineering Department of TEI EMT) the course "**Mobile Robots**" of the B' semester (39 hours/semester), in the master of science program with title: "**Advanced Technologies in Informatics and Computers**" at Computer and Informatics Engineering Department of TEI EMT (2016 - 2018) and then the course "**Mobile Robots**" of the A' semester (39 hours/semester), in the master of philosophy (MPhil) program with the same title: "**Advanced Technologies in Informatics and Computers**" at Computer and Informatics Engineering Department of TEI EMT (2018 - 2021).
  16. Teaching (as an associate professor, at the Informatics Engineering Department of TEI of Central Macedonia) the course "**Autonomous Robotic Systems**" of the B' semester (6 hours/semester), in the master of science program with title: "**Robotics**" at Informatics Engineering Department of TEI of Central Macedonia (2017 - 2021).
  17. Teaching in the English language (as an associate professor) the course "**Digital Image Processing**" of the D' semester (39 hours/semester), in ERASMUS students at the Computer and Informatics Engineering Department of TEI EMT and then at the Department of Computer Science (Spring Semester 2018 – 2020).

#### **SUPERVISION OF UNDERGRADUATE STUDENTS' THESES**

Undergraduate students' theses in which I have contributed importantly without being the supervisor:

1. Theodorou Konstantinos, "**Software application development, based on a computer vision system mounted on the end effector of a robotic manipulator,**

- for monitoring the position of an object”, Electrical and Computer Engineering Department, D.U.TH, Xanthi, July 2001.
2. Aristos Dimitrios, “**Software application development for trajectory control of a two-dimensional cutting system, in real time**” Electrical and Computer Engineering Department, D.U.TH, March 2002.
  3. Skotida Chrysanthi, “**Automatic control applications development by using a PLC**”, Electrical and Computer Engineering Department, D.U.TH, March 2002.
  4. Poulakis Pantelis, “**Object oriented software application development for the bidirectional serial communication with the industrial control systems of a PUMA robotic manipulator**”, Mechanical Engineering Department, National Technical University of Athens, 2003.
  5. Ziarras Nikolaos, “**Control of a PUMA 761 robotic manipulator through the Accessory port**”, Electrical and Computer Engineering Department, D.U.TH, July 2006.

**Undergraduate students’ theses in which I was the supervisor:**

1. Ntimenos Pantelis, “**Design and development of a software application based on a vision system for the protection and security in a robotic arm’s environment**” Department of Industrial Informatics, Kavala Institute of Technology, Kavala, May 2008.
2. Krousti Katerina and Nasou Katerina, “**Study and development of a software application to control a robotic system using voice commands**” Department of Industrial Informatics, Kavala Institute of Technology, Kavala, November 2009.
3. Aountatala Dimitrios and Kotzageorgiou Savvas, “**Study, design, and development of software to manage customer orders in fast food chains**”, Department of Industrial Informatics, Kavala Institute of Technology, Kavala, December 2010.
4. Theodorou Christos, “**Configuring the behavior of a robot to detect the mood of a person using a vision system and the study of his facial expressions**”, Department of Industrial Informatics, TEI of Kavala, Kavala, Greece, June 2011.
5. Grammatikopoulos Nikolaos, Katsikas Athanasios, “**Study, design and development of software for automatic recording of students attendance by means of their fingerprints and verification with their images and personal**

- data**”, the Department of Industrial Informatics, TEI of Kavala, Kavala, January 2012.
6. Chatziioannidis Christos, “**Design and construction of an autonomous robotic camera mounting base with two degrees of freedom and development of a software application to control the system according to a selected variable**”, Department of Industrial Informatics, TEI of Kavala, Kavala, March 2012.
  7. Xenitidis Paraskevas, “**Analysis, design and development of software to detect random objects with the help of images captured by a vision system**”, Department of Industrial Informatics, TEI of Kavala, Kavala, April 2012.
  8. Stefanis Vassilis, Tsaousi Anastasia, “**Analysis, design and development of a software for the proportional remote control of devices**” Department of Industrial Informatics, TEI of Kavala, Kavala, May 2013.
  9. Mpantavi Panagiota, Ouzounsavvidis Ioannis, “**Human emotions detection by means of a vision system and the study of faces expression**”, Department of Industrial Informatics, TEI of Kavala, Kavala, June 2013.
  10. Kelektsoylou Ioannis, Raftopoulos Aggelos, “**Simulation of a Fuzzy logic based robot navigation to detect a CO<sub>2</sub> source**” Department of Industrial Informatics, TEI of Kavala, Kavala, June 2013.
  11. Karatzia Sofia, Mauromati Zoe, “**Online information portal of Industrial Informatics Department**” Department of Industrial Informatics, TEI of Kavala, Kavala, July 2013.
  12. Pantos Laertes, “**Study, design and development of a software for the entrance control of a protected area based on the recognition of the face and of the fingerprint of a person**”, Department of Computer and Informatics Engineering, TEI of Eastern Macedonia and Thrace, Kavala, October 2013.
  13. Nakou Ifigeneia, Chapsoula Olga, “**Study, design and development of a software for the selection and the presentation of a number of important images from a set of images or video in a security system**”, Department of Computer and Informatics Engineering, TEI of Eastern Macedonia and Thrace, Kavala, May 2014.
  14. Zounis Aggelos, «**Study, design and development of a software system for the management of a store for electronic components**”, Department of Computer and Informatics Engineering, TEI of Eastern Macedonia and Thrace, Kavala, May 2014.

15. Merkouris Spiros, Vigani Nensi, **“Study, design and development of a software for the simulation of electronic circuits”**, Department of Computer and Informatics Engineering, TEI of Eastern Macedonia and Thrace, Kavala, July 2014.
16. Kormouli Euanthia, Menziltidou Stella, **“Study, design and development of a software to execute laboratory exercises in the frame of course of computer graphics and to learn OPENGL”**, Department of Computer and Informatics Engineering, TEI of Eastern Macedonia and Thrace, Kavala, November 2014.
17. Margaritiadis Dimitrios, **“Study, design and development of a system for the wireless control of an electric vehicle by means of hand movements”**, Department of Computer and Informatics Engineering, TEI of Eastern Macedonia and Thrace, Kavala, November 2014. (1st prize at the 5th Pan-Hellenic festival in industrial informatics)
18. Panagiotou Andreas, **“Study, design, and development of a software for localizing and collecting of a moving ball from a robotic manipulator by means of a vision system”**, Department of Computer and Informatics Engineering, TEI of Eastern Macedonia and Thrace, Kavala, May 2015.
19. Tatakis Aggelos, **“Study, design and development of a mobile robot and its control by voice commands”**, Department of Computer and Informatics Engineering, TEI of Eastern Macedonia and Thrace, Kavala, May 2015.
20. Fardellas Achilleas, **“Study, design and development of a software to serve customers in a self-service restaurant with the aid of mobile phones”**, Department of Computer and Informatics Engineering, TEI of Eastern Macedonia and Thrace, Kavala, July 2015.
21. Volianiti Maria, Kountorogianni Kanelli, **«Integrated Objects Separation System in Classes with Criteria the Color and the Size Based on a Vision System»**, TEI of Eastern Macedonia and Thrace, Kavala, September 2015.
22. Michailidis Apostolos, **«Design and Construction of a Two DOF Autonomous Vision System Robotic Base and Development of a Software Application to Control This Base by Means of the Vision System»** TEI of Eastern Macedonia and Thrace, Kavala, October 2015.
23. Tsimitiadis Georgios, **«Study, Design and Development of a Software Application to Identify Objects Detected in Acquired Images by means of a**

- Vision System and Object Models**», TEI of Eastern Macedonia and Thrace, Kavala, November 2015.
24. Kountriavtsev Alexandros, «**Mobile Robot Obstacle Avoidance Based on Computer Vision** », TEI of Eastern Macedonia and Thrace, Kavala, February 2016.
  25. Triantafillidis Eleftherios, Tontorov Toni, «**Control of the Trajectory and of the Landing Location of a Quadcopter by Using a Personal Computer**», TEI of Eastern Macedonia and Thrace, Kavala, September 2016.
  26. Micropoulos Phillipos, «**Smart Mirror**», TEI of Eastern Macedonia and Thrace, Kavala, November 2016 (co-supervisor).
  27. Kogias Nikolaos, «**Study, Design and Development of a Software Application to Simulate Scorbot – ER Vplus Robotic Manipulator**», TEI of Eastern Macedonia and Thrace, Kavala, May 2017.
  28. Tsiampas Efthimios, «**Study, Design and Development of a Software to Automatically Record Employees' Presence by means of an RFID Tag and Verification with the Image and Their Personal Data**», TEI of Eastern Macedonia and Thrace, Kavala, May 2017.
  29. Anesti Nikoletta, Psillias Andreas, «**Developing an intelligent Arduino-based dog collar**», TEI of Eastern Macedonia and Thrace, Kavala, Mai 2017 (co-supervisor).
  30. Tsanis Konstantinos, Tsirikas Nikolaos, «**Automatically Crash Detection and Alert**», TEI of Eastern Macedonia and Thrace, Kavala, May 2017 (co-supervisor).
  31. Kyratsa Polixeni, «**Mobile Robot Control and Obstacle Avoidance based on the Robotic Operating System (ROS)**», TEI of Eastern Macedonia and Thrace, Kavala, May 2018.
  32. Sgouros Christos, Xatzipetrou Petros, «**Object Separation Production Line by means of a Vision System and Criteria Desired Features**», TEI of Eastern Macedonia and Thrace, Kavala, November 2018. (1st prize at the 8th Pan-Hellenic festival in industrial informatics)
  33. Amanatidis Petros, Apostolidis Kyriakos, "**Design, Construction and Control of Mobile Robot - Companion**", IHU, Kavala, October 2019.
  34. Krasogiannis Stavros, Filia Maria, "**Study, Design and Construction of Educational Piano Based on Touch**", IHU, Kavala, November 2019.

35. Tsatouras Nikolaos, "**Object Monitoring with the help of a mobile robot based on a vision system**", IHU, Kavala, November 2019.
36. Kakavas Georgios, "**Implementation of Warehouse Management System for Technology Products**", IHU, Kavala, December 2021. (co-supervisor)
37. Sidirenios Kyriakos, "**Planning and Development of Electronic Secretariat for Public Vocational Training Institutes**", IHU, Kavala, December 2021. (co-supervisor)
38. Michelakis Stefanos, "**Design and Development of Two-Dimensional Game on the UNITY Graphics Machine**", IHU, Kavala, January 2022. (co-supervisor)
39. Papaspyropoulos Manolis and Proimos Stylianos, "**iGas: Automatic Fuel Seller**", IHU, Kavala, January 2022. (co-supervisor)

**I participated in many other undergraduate theses as a co-supervisor or as a member of the three-member examination committee in the undergraduate and postgraduate programs of the Department, while a number of undergraduate theses are ongoing.**

#### **SUPERVISOR OF DOCTORAL DISSERTATIONS**

From the fall semester of the academic year 2021-2022, I am the supervisor of the doctoral theses of three candidates with the following temporary titles and also a member of their three-member advisory committees:

- 1) **Kalaitzidou Magdalene**, "Utilization of Social Robots in the Teaching of STEAM Education Fields: An Innovative Teaching Intervention"
- 2) **Kirpitsas Ioannis**, "Hybrid Methods of Developing Software Systems and Audit of Information Systems".

I am also a member of at least three more three-member advisory committees.

## **HEAD - COMMITTEE MEMBER - RESPONSIBILITIES**

- Public Vocational Training Institute, Kavala (Kavala IEK), in three-member committees hiring trainers (1996 - 1998).
- Public Vocational Training Institute, Kavala (Kavala IEK), in a committee of students trained certification (1996 - 1998).
- At TEI of Kavala (EMT), in the Industrial Informatics Department (Computer and Informatics Engineering Department), **responsible for the final examinations' program** (2009 – 2014).
- At TEI of Kavala (EMT), in the Industrial Informatics Department (Computer and Informatics Engineering Department), at International Hellenic University in the Department of Computer Science, and then at Democritus University of Thrace **as a member of the three-member committees to examine the theses of students** (2010 – up to date).
- At TEI of Kavala, as a **member of the evaluation committee for the recruitment of adjunct teachers of the department** (2011 – 2012).
- In TEI of Kavala (EMT), as **head** of the section “**Study - Planning and Promotion of new products**” in Technological Research Center (TRC) EMT (2011 up to the end of operation of TRC).
- At TEI of Kavala, as a **member of the Central Committee** of the procurement procedure in the program (ESPA, NFSR), ETEIK (and its complementary ETEIK2, 2013): “Supply of new or upgrade of high technology laboratory hardware & software in TEI of Kavala”, Operational Programme “Macedonia - Thrace 2007 – 2013”, priority 9, “SUSTAINABLE DEVELOPMENT AND QUALITY OF LIFE IN THE REGION OF EMT” (2011-2012) and with a budget of 10.000.000 €. I have redacted and configured in its final form the proceedings of the technical data evaluation for all groups of the procurement procedure (684 pages, August 2011).
- At the TEI of Kavala, in the program, ETEIK: "Supply of a new or upgrade of laboratory and technological equipment and software at TEI of Kavala", Operational Program "MACEDONIA-THRACE 2007-2013" Priority Axis 9, "CONTINUOUS DEVELOPMENT AND LIFE QUALITY IN THE REGION OF EMT" (2011-2012) responsible for the coordination, receipt, and restoration of the functionality

(software installation) of computing systems for the Departments of TEI of Kavala who had requested relevant material under the competition (2012).

- At the TEI of Kavala, as a member of the **Central Committee for Evaluation** of the Open Competition "**PROCUREMENT OF GRID COMPUTER SYSTEMS AND SUPPORTING SYSTEMS, ETEIK- GRID**", (Declaration Number 21/11-7-2013, issue 29<sup>o</sup> of Council, ADA5469108-ESF). I evaluated the offers that had been submitted.
- As Chairman, Regular or Alternate Member of the following electoral bodies:
  - (2011), for the filling of a teaching position of Assistant Professor in the field of knowledge: "**Physics with emphasis on the technology of microelectronics devices**" (Regular Member)
  - (2017), for the filling of a teaching position of Assistant Professor in the field of knowledge: "**Prediction Quantitative Methods in Software Engineering**" (Alternate Member)
  - (2018), for the movement to another Department of a teaching member in the field of knowledge: "**Databases - Information Systems - Experienced Systems**" (Chairman).
  - (2018), for the filling of a teaching position of Assistant Professor in the field of knowledge: "**Internet of Things Technologies with Mathematics Applications in Informatics**" (Chairman, Regular Member).
  - (2020), for the permanence of an Assistant Professor in the field of knowledge" "**Automatic and Intelligent Systems Control and Robotics**", (Regular Member)
  - (2020), for the filling of a grade position of an Associate Professor in the field of knowledge: "**Flexible Robotic - Engineering Devices**" (Alternate Member)
  - (2020), for the filling of a teaching position of Assistant Professor in the field of knowledge: "**Educational Technologies and Data Bases**" (Chairman, Regular Member)
  - (2020), for the filling of a teaching position of Assistant Professor in the field of knowledge: "**Robotic Systems**" (Alternate Member)
  - (2020), for the filling of a teaching position of Assistant Professor in the field of knowledge: "**Robotics**" (Alternate Member)

- (2021), for the permanence of an Assistant Professor in the field of knowledge: "**Robotics**", (Regular Member)
- (2021), for the filling of a teaching position of Assistant Professor in the field of knowledge: "**Image and Multi-dimensional Processing to Optimize Business Installations**" (Alternate Member)
- (2021), for the filling of a teaching position of Assistant Professor in the field of knowledge: "**Typical Methods in Software Development**" (Alternate Member)
- (2022), for the permanence of an Assistant Professor in the field of knowledge: "**Motion Design for Autonomous Moving Units**", (Regular Member)
- Also a regular or alternate member in many more electoral bodies from 2023 until today.
- At TEI of Kavala (EMT), then at International Hellenic University, and now at Democritus University of Thrace, as a committee member of the Board of qualifying examinations in the Department (2011- to date).
- At TEI of Kavala, as a committee member of receiving the new equipment in the Department of Industrial Informatics (2012-2013).
- At TEI of Kavala, as a member of the Evaluation Committee for applications for Students' Employment in the Department (2012-2013).
- Member of the three-member scientific committee **Ideas to Life (I2L)** which focuses on the development of a series (portfolio) of original and innovative products and software, which will have the necessary conditions for immediate commercialization (November 2012 to present).
- At TEI EMT, **Member** of the committee for the conduct and the evaluation of open, international, regular procurements (budget over 60.000,00 € VAT excluded) for the needs of TEI E.M.T. (2015)
- At TEI EMT, **Chairman** of the committee for the conduct and the evaluation of handy competitions for procurement of goods and services (budget up to 60.000,00 € VAT excluded) for the needs of TEI E.M.T. (2015)
- At TEI EMT and now at IHU, Chairman of the Committee for the Performing and Evaluation of two International Procurements for the Supply of goods and Services for the needs of projects under the title "Personalized Optimal Grape Harvest by

Autonomous Robot, POCHAR" and " Social Robots as Tools in Special Education, SRTSE" (2018-2019).

- At TEI of Kavala (TEI EMT) and then at IHU, **Head** of the **Electric Circuits Laboratory** of the Department (act 4<sup>th</sup>/12-12-2013, Issue 1<sup>st</sup>, 2013 up to date).
- At TEI of Kavala, **Head** of the Production Systems Sector in the Department of Industrial Informatics (2013).
- At TEI EMT, **Director** of the Production Systems Sector, in the Computer and Informatics Engineering Department (2014 – 2017).
- **Head of the Computer and Informatics Engineering Department, School of Applied Technology, TEI EMT** (the last Head of the Department), (2017 – 2019). As a Head, I was responsible for preparing the Department for its conversion into the Department of Computer Science, School of Sciences at International Hellenic University.
- **Head of the Department of Computer Science, School of Sciences, International Hellenic University** (the first Head of the Department) (2019-2021), with the responsibility, among other things, for the organization of the new Department in order to ensure its proper functioning. Indicatively, the creation of the new undergraduate program that provides horizontal pedagogical and educational competence to graduates of the Department, new regulations for a) Postgraduate Programs, b) Doctoral Studies, c) Postdoctoral Research, d) new establishment of the research laboratories of the department and the election of their Directors, (e) Undergraduate Studies and Theses Guides, (f) Procurement of new educational or/and research equipment (computers, instruments, robots) that will allow it to operate properly for several years.
- At TEI EMT, **ERASMUS Deputy in Charge** of the Computer and Informatics Engineering Department and then of the Computer Science Department of the School of Sciences, International Hellenic University (2018 – 2020).
- **Member of the Central Committee** of the Open International Electronic Competition above Limits (ESPA 2014-2020) at the Operational Program "EASTERN MACEDONIA AND THRACE 2014-2020", Priority Axis 3: "Human Resources Development Infrastructure and reinforcement of social cohesion" with title «Development / upgrading of Higher Education Infrastructure», based on the

decision of joining no. 2299/2019 of the Act "Supply of New and Upgrading / Completion of Educational Equipment at TEI EMT" (2017 - 2021). In addition, I was responsible for preparing all the material necessary for procuring equipment in the Department (Compliance Tables, Suppliers' Offers) and the final receipt of the equipment for the Department.

- Member of the **program committee** in Conferences **H AIS2010, H AIS2012, H AIS2013, H AIS2014, H AIS2015, H AIS2016, H AIS2017, H AIS2018, H AIS2019, H AIS2020, H AIS2021, H AIS2022, H AIS2023**, (International Conferences on Hybrid Artificial Intelligence Systems) and **NABIC 2011** (World Congress on Nature and Biologically Inspired Computing).
- **Member of Editorial Board, topics: Human Robot/Machine Interaction, Vision Systems και Robot Sensors**) of the Journal “**International Journal of Advanced Robotic Systems**” (2013 – 2024), **SAGE**.
- **Head** of Robotics Sector in the **Human–Machines Interaction Laboratory, HUMAIN**, decision number 464/GG 836B/30-3-2016 (2016 up to date).
- A member of another large number of all kinds of committees such as staff assessment in general, receiving deliverables, goods, services, and equipment in the Department or the International Hellenic University and a significant number of development and research projects running at the IHU (2010 to date).
- In IHU and now in DUTH, in the Department of Computer Science, a member of many evaluation committees of doctoral candidates.

### **EUROPEAN PROJECTS (As a Teacher in Secondary Education)**

1. **TECHNOMATHEIA I (GSRT)**. Program for the development of young people’s inventiveness. The title of the proposal was “**Device to study mechanical and optical phenomena by means of a Personal Computer**”. The program duration was 10 months, funded by the General Secretariat for Research and Technology with a budget of 2,498,000 drachmas (1995-1996) and with project leader the teacher of the lyceum Mr. Theodore Pachidis.
2. **SOCRATES / COMENIUS Action I**. Participation of four countries (Greece, Italy, Hungary and Finland). The English title of the program was “**Science and Technology in Everyday Life - A Multimedia Project**” with project leader the

Headmaster of the Technical Lyceum of Chrysoupoli, Mr. Theodore Papoulidis (1998 –1999).

3. **Mobility - Action II.** Working with the school in Venice, Italy IPSIA Sanudo where the Coordinator Mrs. Androniki Saringelou was with the Technical Lyceum of Chrysoupoli, (1999).

## **EUROPEAN RESEARCH PROGRAMS**

### **(Democritus University of Thrace, D.U.TH)**

1. In the project: “**Countermeasure system against pulsed Doppler Radar**”, funded by the Research Com. at the Democritus University of Thrace, with project leader the Assist. Professor George Kyriacou.
2. In the research project: “**Autonomous Underwater Vehicle for Subsea Intervention-FREESUB**”, project code KE-831, funded by the European Union (EU) and the General Secretariat for Research and Technology (GSRT ) and project leader the Associate Professor at the Democritus University of Thrace Mr. John Lygouras (2000 –2004).
3. In the research project “**Improvement of infrastructure of the Digital Systems Laboratory**” with code KE-884 project, funded by the TSMEDE and project leader the Associate Professor at the Democritus University of Thrace Mr. John Lygouras (2001 –2002).
4. In the research project “**Development of infrastructure for the Microprocessors and Applications course**” with code project KE-886 and project leader the Associate Professor at the Democritus University of Thrace Ioannis Andreadis (2002).
5. In the research project: “**Strengthening the infrastructure of the Electronics Laboratory**” with code project KE-1035 and project leader the Associate Professor at the Democritus University of Thrace Ioannis Andreadis (2002 – 2003).

### **(At TEI of Kavala, TEI EMT, IHU)**

1. In the European project: “**Training & Certification of women with initial professional Training in IT business case - positive action for women**” with

- project leader the Associate Professor of TEI Kavala Elias Sarafis, as a remote trainer for asynchronous learning (2007).
2. In the operational program: “**INTERREGIIIA / PHARE CBC**” the project entitled “**Hybrid Separation Technologies**” funded by the European Union and the Greek public and project leader the Professor of TEI Kavala Athanasios Mitropoulos (2007 –2008).
  3. In the research program of the Technological Research Center (TRC) of Eastern Macedonia and Thrace the project entitled: “**D. Sidiropoulos & Co. - Measurements in oven manufacturing nuts**” with project leader the Professor of TEI Kavala Mr. Vassilis Kaburlasos (2007).
  4. In a research project funded by the ELKE (Special Account) of TEI Kavala entitled “**Optical recognition of geometric features of grape leaves using computer vision**” and project leader the assistant professor in the Mechanical Engineering department of the TEI Kavala Mr. Sarafis Elias (2008 – 2009).
  5. In the technology transfer project (innovation coupon), following the decision of the Technological Research Center (TRC), entitled “**Developing and implementing innovative manufacturing processes and improving quality characteristics of beverage products**” and project leader the Professor of the Industrial Informatics Department of TEI Kavala, Mr. Vassilis Kabulasos (2009).
  6. In the OP “Digital Convergence” on “**Virtual laboratories**” in package “**Simulation of Flexible Production Process**”, and project leader the Professor of Mechanical Engineering Department of the Kavala Institute of Technology Sarafis Elias (2011 – 2012).
  7. In the program: «EU Danube Strategic Project Fund (DSPF), Interreg Danube Transnational Programme. Project no. 07\_ECVII\_PA07\_RONNI» the project with the title: «Increasing the well-being of the population by Robotic and ICT based iNNovative education (RONNI) » and project leader the Professor of the Computer Science Department of IHU, Mr. Vassilis Kabulasos (2018).
  8. In the research project entitled: "Cyber-Physical Systems for Pedagogical Rehabilitation in Special Education", Funding Source: Horizon 2020, H2020-MSCA-Rise-2017 (Marie Skłodowska-Curie Research and Innovation Staff Exchange) Project No. 777720, and project leader the Professor of the Department

- of Computer Science of IHU, Mr. Vassilis Kabulasos (I am deputy project leader from 10/2021 up to date, act 132/6-10-2021 of the Research Committee of IHU).
9. In the research project with the title: «Personalized Optimal Grape Harvest by Autonomous Robot», POGHAR, of Action “RESEARCH – DEVELOP – INNOVATE”, cycle A, Intervention II, Operational Programme “Competitiveness, Entrepreneurship, and Innovation”, NSRF (National Strategic Reference Framework) 2014-2020 Project no. T1EΔK-00300, and project leader the Professor of the Computer Science Department of IHU, Mr. Vassilis Kabulasos (2018 – up to date, I am a deputy project leader from 10/2021 - up to date, act 132/6-10-2021 of the Research Committee of IHU ).
  10. In the research project with the title: «Social Robots as Tools in Special Education», SRTSE, of Action “RESEARCH – DEVELOP – INNOVATE”, cycle A, Intervention II, Operational Programme “Competitiveness, Entrepreneurship, and Innovation”, NSRF (National Strategic Reference Framework) 2014-2020 Project no. T1EΔK-00929, and project leader the Professor of the Computer Science Department of IHU, Mr. Vassilis Kabulasos (2018 – up to date, I am a deputy project leader from 10/2021 - up to date, act 132/6-10-2021 of the Research Committee of IHU).
  11. In the INTERREG project entitled: "Greek Bulgarian Business Partnership by Assistance, Services, Solutions to Promote Open Regions Team (GR BG Business Passport)", and project leader the Professor of the Department of Computer Science of IHU, Mr. Vassilis Kabulasos (I am a deputy project leader from 10/2021 - up to date, act 132/6-10-2021 of the Research Committee of IHU).
  12. In the research project with the title: «Optical Selection Based Data Collection System», of Action “RESEARCH – DEVELOP – INNOVATE”, Intervention II, Operational Programme “Competitiveness, Entrepreneurship, and Innovation”, NSRF (National Strategic Reference Framework) 2014-2020 and project leader the Professor of the Chemistry Department of IHU, Mr. Elias Sarafis (2018 – 2021).
  13. In the research project entitled: "Technology for Skillful Viniculture (SVtech)", the action "Reinforcement of the Research and Innovation Infrastructure", Operational Program “Competitiveness, Entrepreneurship and Innovation”, NSRF (National Strategic Reference Framework) 2014-2020 Project no. MIS 5046047, project leader

the Professor of the Department of Computer Science of IHU, Mr. Vassilis Kabulasos (2020 up to date, I am a deputy project leader from 3/2021 - up to date, act 132/6-10-2021 of the Research Committee of IHU).

## **PATENTS**

In the framework of the projects "**Personalized Optimal Grape Harvest by Autonomous Robot, POGHAR**" and "**Social Robots as Tools in Special Education, SRTSE**" proposals have been submitted for Greek and European patents. The 1st Greek Patent for the POGHAR project has already been approved, entitled "**Tool of Robotic End-effector for Cutting and Gripping with Application in Precision Agriculture and in Particular in Viticulture**", and No. 1010229.

## **SOFTWARE**

1. Software for measurements, recording, calculation and graphical representation of the results from the "**Device for the study of Mechanical and Optical phenomena with a computer**" developed under the program TECHNOMATHEIA I. The software was developed in GWBASIC and assembly language for the Microchip's microprocessor PIC16C57. Reference paper → **D10**.
2. **Integrated Robotic Application HumanPT**. The application enables real-time control of the robotic manipulator PUMA 761 via the ALTER serial port. **HumanPT** based architecture has been developed in Microsoft's Visual C++ (75000 lines of code). It is free software and can be used with minor alterations to any robotic system (URL: <http://users.otenet.gr/~pated>). Refer to operations **C1, C2, C3, C4, C5, C7, D3, D4, D5, D7, D11, E1, and E2**.
3. Control of PUMA 761 robotic manipulator through the **accessory** port. The application has been developed in Microsoft's Visual C++.
4. **Robotic Application to control a Gantry robotic system via the Internet**. It has been developed in Microsoft's Visual C++.
5. **Software application recording measurements through the Internet using the IDAC card of LAMDA Company**. The application has been developed in Microsoft's Visual C++. IDAC card references can be found in papers **C14, D8, and D9**.

6. **Software application that controls the SCORBOT-ER Vplus robotic workspace** using a camera to minimize the security problems in the robotic space from the entry of persons or objects. It has been developed in Microsoft's Visual C + +. Can be used with small modifications to control any area.
7. **Software for the visual recognition of geometric features of grape leaves in real time**, using artificial vision. It has been developed in Visual C++ of Microsoft. Reference is made to work C11 and D12.
8. Software for the technology transfer project (innovation coupon), with the title: **“Development and implementation of an innovative production process and improving quality characteristics of distillery products”** The application was developed in Labview. Reference is made to work C12.
9. **Development of software for the recording of data of a laboratory active suspension device**. The application was developed in the LabView environment.
10. **Development of software for the recording of data of a laboratory Venturi flowmeter device**. The application was developed in LabView.
11. **Software development system to remotely control power devices**. The high level application developed in Visual C ++ (Microsoft VS 2013) and the open source Arduino platform used.
12. **Software application development to control via a PC mobile robots** based on the open source platform Arduino. The high level application was developed in Visual C++ (Microsoft VS 2013).
13. **Software application development for mobile robots' motion tracking** based on color segmentation. It was developed in MVS Visual C++ 2010 (2016).
14. **Software application development for the study of photovoltaic features**. The application was developed in LabView (2023).

#### **LECTURES - SEMINARS - PARTICIPATION IN CONFERENCES**

- As a multiplier, informing colleagues - engineers of Secondary Education for the teaching of Technology course in Junior and Senior High Schools (a single day).
- Presentation of the project within the program TECHNOMATHEIA I in the National Research Foundation, June 1997.

- Presentation of two papers in the National Conference with International Participation “Microcomputer Systems Applications” (Research, Industry and Education), Patra, 3-5 October 1988 (Papers **D1**, **D2**).
- Paper presentation in “IEEE Instrumentation and Measurement Technology Conference”, Anchorage, Alaska, 2002 (Paper D3).
- Paper presentation in “2nd WSEAS Int. Conf. on Signal Processing and Computational Geometry and Vision”, Rethymnon, Crete, Greece, 2002 (Paper **D4**).
- Paper presentation in “WSEAS ICRODIC”, Skiathos, Greece, 2002 (Paper D5).
- Three Papers presented in “IEEE International Conference on Virtual Environments, Human-Computer Interfaces and Measurement Systems (VECIMS)”, La Coruna, Spain, 2006 (Papers **D9**, **D10**, **D11**).
- Participation in the 6th National Physics Conference, 18 - 21 March 1993.
- Participation in the 12th National Physics Conference, 20 – 23 March 2008.
- Participation in EUCOGII Members’ Conference (2nd European Network for the Advancement of Artificial Cognitive Systems, Interaction, and Robotics), with title: “Challenges for artificial cognitive systems”, Hamburg, Germany, 10 – 11 October 2009.
- Participate in 4th EUCOGII Members’ Conference (2nd European Network for the Advancement of Artificial Cognitive Systems, Interaction, and Robotics), with title: “Embodiment - Fad or Future?”, Thessaloniki, Greece, 11 – 12 April 2011.
- Participation in the International Conference on ECONOPHYSICS, Kavala, Greece, 2-3 June 2011.
- Participation in 2th EUCOGIII Members’ Conference (3rd European Network for the Advancement of Artificial Cognitive Systems, Interaction, and Robotics), with title: “Soft Robotics”, Odense, Denmark, 25-26 August 2012.
- Participation in 3<sup>rd</sup> EUCOGIII Members’ Conference (3rd European Network for the Advancement of Artificial Cognitive Systems, Interaction, and Robotics), with title: “Learning”, Palma de Mallorca, Spain, 10-11 of April 2013.
- Participation in 5<sup>th</sup> EUCOGIII Members’ Conference (3rd European Network for the Advancement of Artificial Cognitive Systems, Interaction, and Robotics), with title: “Embodied Communication”, Bochum, Germany, 19-20 of March 2014.

- Participation in 6<sup>th</sup> EUCOGIII Members' Conference (3rd European Network for the Advancement of Artificial Cognitive Systems, Interaction, and Robotics), with title: "Cognitive Systems: Present and future in the research, industry and funding landscape", Genoa, Italy, 18-19 October 2014.
- Participation as an instructor in lectures on ACADEMY - STRUCTURE LIFELONG LEARNING REGION OF EASTERN MACEDONIA AND THRACE in the Topic «I Live – I Act – I Parse" held in Kavala, in cooperation with the Democritus University of Thrace and the Eastern Macedonia and Thrace Institute of Technology, (2017 – 2019).

### **REVIEWER IN INTERNATIONAL SCIENTIFIC JOURNALS**

#### **AND CONFERENCES**

##### **Journal papers:**

- IEEE Transactions on Instrumentation and Measurement, IEEE Instrumentation and Measurement Society.
- Journal of Intelligent and Robotic Systems, Springer Science + Business Media B.V.
- Journal of Intelligent Manufacturing, Springer Science + Business Media B.V.
- Journal of Electronics and Electrical Engineering, Kaunas University of Technology
- Journal of Engineering Science and Technology Review, Kavala Institute of Technology.
- Information Sciences Informatics and Computer Science Intelligent Systems Applications.
- Information Sciences, Elsevier.
- Journal of Engineering, Hindawi.
- IEEE Transactions on Circuits and Systems for Video Technology.
- Machine Vision and Applications.
- Neural Computing and Applications, Springer.
- International Journal of Advanced Robotic Systems.
- Computers and Electronics in Agriculture, International Journal, Elsevier.
- Industrial Robot: An International Journal, Emerald.
- International Journal of Advanced Robotic Systems, SAGE publishing,
- Scientia Iranica, International Journal of Science and Technology.

- Food Control Journal, Elsevier.
- Agronomy, MDPI.
- Applied Sciences, MDPI.
- Axioms, MDPI.
- Data, MDPI.
- Horticulturae, MDPI.
- IJGI, MDPI.
- Photonics, MDPI.
- Remote Sensing, MDPI.
- Software, MDPI.
- Robotics, MDPI.
- Natural Communications, SPRINGER.

**Conference papers:**

- International Symposium on Robotics and Automation (ISRA2002), September 2002, Toluca, Mexico, Prof. Rene V. Mayorga ([Rene.mayorga@uregina.ca](mailto:Rene.mayorga@uregina.ca)).
- 2007 IEEE/RSJ International Conference on Intelligent Robots and Systems, Oct 29 - Nov 2, 2007, Sheraton Hotel, San Diego, CA, USA ([ras@papercept.net](mailto:ras@papercept.net)).
- 5<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2010 (HAIS' 10, [escorchado@ubu.es](mailto:escorchado@ubu.es) ).
- 7<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2012 (HAIS' 12, [escorchado@ubu.es](mailto:escorchado@ubu.es) ).
- 8<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2013 (HAIS' 13, [escorchado@ubu.es](mailto:escorchado@ubu.es) ).
- 9<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2014 (HAIS' 14, [escorchado@ubu.es](mailto:escorchado@ubu.es) ).
- 10<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2015 (HAIS' 15, [isantos@deusto.es](mailto:isantos@deusto.es), [enrique.onieva@deusto.es](mailto:enrique.onieva@deusto.es)).
- 11<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2016 (HAIS' 16, Emilio Corchado, [hais@usal.es](mailto:hais@usal.es)).

- 12<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2017 (HAIS' 17).
- 13<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2018 (HAIS' 18).
- 14<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2019 (HAIS' 19).
- 15<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2020 (HAIS' 20).
- 16<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2021 (HAIS' 21).
- 17<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2022 (HAIS' 22).
- 18<sup>th</sup> International Conference on Hybrid Artificial Intelligent Systems 2023 (HAIS' 23).
- Third World Congress on Nature and Biologically Inspired Computing (NaBIC2011, NaBIC 2011 - Organizing Chairs <http://www.mirlabs.org/nabic11>
- FLINS 2012 Conference Special Session entitled "Logic Algebra, Algebraic Logic and Their Applications" organized by Yang XU, Vassilis Kaburlasos, Jun LIU.
- IEEE Symposium Series on Computational Intelligence 2013 (SSCI2013), Ponnuthurai Nagaratnam Suganthan, [EPNSugan@ntu.edu.sg](mailto:EPNSugan@ntu.edu.sg)
- IEEE Symposium Series on Computational Intelligence 2014 (SSCI2014), Haibo He, [he@ele.uri.edu](mailto:he@ele.uri.edu).
- 2011 International Joint Conference on Neural Networks (IJCNN 2011 Ali Minai, [ijcnn2011@inns-conf.org](mailto:ijcnn2011@inns-conf.org)).
- 2012 International Joint Conference on Neural Networks (IJCNN 2012 Cesare Alippi, [cesare.alippi@polimi.it](mailto:cesare.alippi@polimi.it)).
- 2013 International Joint Conference on Neural Networks (IJCNN 2013 Plamen Angelov, Daniel Levine, [dlevine@uark.edu](mailto:dlevine@uark.edu)).
- 2015 International Joint Conference on Neural Networks (IJCNN 2015 De-Shuang Huang, [dshuang@tongji.edu.cn](mailto:dshuang@tongji.edu.cn)).

- 2016 International Joint Conference on Neural Networks (IJCNN 2016 Leonid Perlovsky, José F. Fontanari, Asim Roy, Angelo Cangelosi and Daniel Levine, lperl@rcn.com)
- 2017 International Joint Conference on Neural Networks (IJCNN 2017 Yoonsuck Choe, Christina Jayne, <http://www.ijcnn.org/>, choe@tamu.edu)
- 2018 International Joint Conference on Neural Networks (IJCNN 2018, <http://www.ijcnn.org/>)
- 2019 International Joint Conference on Neural Networks (IJCNN 2019, <http://www.ijcnn.org/>)
- 2019 IEEE Sensors Applications Symposium (SAS, <https://2019.sensorapps.org/>)
- 2020 International Joint Conference on Neural Networks (IJCNN 2020, <http://www.ijcnn.org/>)
- 2020 The 13th International Conference on Machine Vision (ICMV 2020, <http://icmv.org/>)
- 2022 The 5<sup>th</sup> International Conference on Machine Vision and Applications (ICMVA 2022, <http://icmva.org/>)

### **AWARDS**

- STATE SCHOLARSHIP FOUNDATION (I.K.Y.): Honorary scholarship at the Physics Department of Aristotle University of Thessaloniki (1982-83).
- Reciting the oath in the Physics Department of the Faculty of Sciences, the Aristotle University of Thessaloniki at the bachelor receiving ceremony (1985).
- TECHNOMATHEIA I: Top rated in Greece of the proposed project title (1996).
- Reciting the oath in the Electrical and Computer Engineering Department, Polytechnic School of Xanthi, the Democritus University of Thrace at my Ph.D. diploma receiving ceremony (2005).

### **OTHER ACTIVITIES**

- As a Vice President of the Governing Committee of the Union of Greek Physicists, of Kavala's Branch, in collaboration with the other members of the committee and / or the TEI of Kavala, organization and support lectures by eminent speakers and

design by myself the related posters (**D. Nanopoulos - 20/5/2009, S. Trachanas – 14/4/2010, E. Gazis - 31/3/2011 and 01/04/2012, S. Theodosiou – 23/02/2013**).

- As a Vice President of the Governing Committee of the Union of Greek Physicists, of Kavala's Branch, in collaboration with the other members of the Committee and the TEI of Kavala, organization of the exhibition of **CERN** in Kavala (10-29 Φεβρουαρίου 2012) at the amphitheater of the TEI of Kavala.
- As a President of the Governing Committee of the Union of Greek Physicists, of Kavala's Branch, in collaboration with the other members of the committee, organize and support events of the Branch, lectures by eminent speakers, and design by myself the related posters (**Ch. Petridou - 13/2/2015, S. Tsitomeneas – 12/2/2016, J. Seiradakis – 4/3/2016**).
- Participation in the 3rd Industrial Informatics Festival with four theses (17-21 October 2012).
- Participation in the 4th Industrial Informatics Festival with theses (15-21 Οκτωβρίου 2013). Organizer and Coordinator of the one-day meeting of the Festival (19/10/2013) with the title "**Modern Trends in Robotics**" and as speakers Professor Doulgeri Zoe, Professor Kaburlazos Vasilios, Professor Lygouras John, and Assoc. Professor Gasteratos Antonios.
- Participation in the 5th Industrial Informatics Festival with theses (12-18 October 2014). The thesis of my student Margaritiadis Dimitrios "**Study, design and development of a system for the wireless control of an electric vehicle by means of movements of the hand**" was awarded the **first prize**.
- Participation in the 8th Industrial Informatics Festival with undergraduate theses (6 - 13 October 2017). The undergraduate thesis of Sgouros Christos and Hatzipetrou Petros, with the title "**Production Line for the separation of objects with the help of artificial vision and desired features as a criterion**" was awarded the **1st Prize**.
- Creation and maintenance of my website, of the eight websites of my courses in the Industrial Informatics Department of TEI of Kavala, then in the Computer and Informatics Engineering Department of TEI EMT, and now in the Department of Computer Science, Internationa Hellenic University and of the website of Kavala's Branch of the Greek Physicists Union.

<http://users.otenet.gr/~pated/>  
<http://195.130.93.18/pachidis/HLKY/index.html>  
<http://195.130.93.18/pachidis/HLEK/index.html>  
<http://195.130.93.18/pachidis/etl/index.html>  
<http://195.130.93.18/pachidis/dip/index.html>  
<http://195.130.93.18/pachidis/comgraph/index.html>  
[http://195.130.93.18/pachidis/spm\\_sq/index.html](http://195.130.93.18/pachidis/spm_sq/index.html)  
<http://195.130.93.18/pachidis/robotiki/index.html>  
<http://195.130.93.18/pachidis/mra/index.html>  
<http://195.130.93.18/pachidis/DIPPL/index.html>  
<http://195.130.93.18/pachidis/SE1/index.html>  
<http://195.130.93.18/pachidis/SE2/index.html>  
<http://195.130.93.18/pachidis/amra/index.html>  
<http://www.eef-kavalas.eu/> (έως και το 2016)

- Participation in the creation of the postgraduate curriculum program (MSc) of the Computer and Informatics Engineering Department with the title “Advanced Technologies in Informatics and Computers”. The Steering Committee (SC) of MSc consists of Professor Papakostas George (Director of SC), the Assist. Professor Moussiades Eleftherios (Member of SC) and the Assist. Professor Pachidis Theodore (Member of SC), (2016).
- Participation in committees of the Master of Philosophy program (MPhil) of the Department of Computer and Informatics Engineering entitled «Advanced Technologies in Informatics and Computers».

### **EXPERIENCE - KNOWLEDGE**

- In programming assembly and high level languages (Z80, 6502, 68HC11, PIC of Microchip company, AVR (Arduino), Visual C + +, Basic, Fortran, Cobol, Val II, ACL, etc.).
- To design and process by means of a computer (Autocad, Orcad, Protel, Corel Draw, Paint Shop Pro, Visio Technical, SolidWorks, FreeCAD etc.).
- In simulation and programming by means of a computer (Matlab, LabView).

- In design by using a computer, theoretical and printed circuits, as well as the final construction of printed circuit boards using a photographic or a silkscreen based method.
- In manufacturing step by step final electronic products and electromechanical devices.
- In robotic systems and artificial vision systems.

### **ADMINISTRATIVE EXPERIENCE**

- As a Deputy Director in the Public Institute of Professional Training (I.E.K.) of Kavala.
- As responsible for students' practical training at the Public Institute of Professional Training (I.E.K.) of Kavala.
- As coordinator of evaluators in the "Project for the Practical Evaluation of organs in Physical Sciences".
- As a Sector Director in the Computer and Informatics Engineering Department of TEI EMT.
- As a member or chairman in an important number of Committees in TEI EMT.
- As a Vice President or President of the Governing Committee in the Union of Greek Physicists, Kavala's Branch.
- As a Head of the Computer and Informatics Engineering Department of TEI EMT.
- As a Head of the Department of Computer Science of International Hellenic University.

### **REST OF PROFESSIONAL EXPERIENCE**

- Maintenance and repair of "Very High Ground Frequencies, L.Y.S.E." and "Ultra High Ground Frequencies, Y.Y.S.E. (multichannel)" equipment in the Greek army (1985 - 1986).
- Repair of electronic circuits in Hellenic Telecommunications Organization (O.T.E.) during my practice (5/7/1988 – 31/8/1988).
- Maintenance, computer repair and customer support and sales in INFONORTH Ltd. company at Thessaloniki (12/1987 – 8/1988).

- Development, design and construction step by step of final electronic and electromechanical devices in my P-T ELECTRONICS Company, <http://users.otenet.gr/~pated/>, (22/8/1996 – 6/7/1998).

### **RESEARCH INTERESTS**

1. Construction and control of robotic systems (robotic arms, mobile robots, gantry) with emphasis on control with the help of vision systems (visual servo control).
2. Control of robotic systems through voice commands.
3. Research and implementation of integrated behaviors of robotic systems (mainly mobile robots) to support people with disabilities and / or older.
4. Development of artificial intelligence systems with application to robotic systems.
5. Design and construction of prototype computer vision systems with application to robotic systems.
6. Design and prototyping of novel analog and digital circuits and electromechanical systems, generally, in control and automation applications and the use of single sensors or a network of sensors.
7. Internet of Things (IoT), generally, with emphasis on the design, the construction and the communication of the related units (electronic boards).
8. Digital image processing with emphasis on segmentation of objects, finding the coordinates of feature points in three dimensional space to control robotic systems.
9. Monitor and control systems via a wired or wireless network and the use of sensor networks.
10. Study, design and development of software applications to manage automatic control systems.
11. Recognition and identification of fingerprints and the creation of integrated software applications to control any kind of systems through them and in general control using biometrics.
12. Detection and identification of faces and of the emotions that appear to them as facial expressions and control of systems through the data collected.
13. Control of systems with gestures.

## **TEACHING INTERESTS**

1. Software Engineering
2. Computer Programming
3. Robotics
4. Artificial Vision
5. Image Processing
6. Computer Graphics
7. Automatic Control Systems
8. Analog / Digital Electronics
9. Analog and digital electronic systems
10. Sensors and Measurements

## **MEMBERSHIP**

- Member of the Union of Greek Physicists, Kavala's Branch.
- Senior Member of the Institute of Electrical and Electronics Engineers, IEEE.
- Member of the IEEE Computer Society.
- Member of the IEEE Robotics and Automation Society.
- Member of EUCOGII (2nd European Network for the Advancement of Artificial Cognitive Systems, Interaction and Robotics)
- Member of EUCOGIII (3rd European Network for the Advancement of Artificial Cognitive Systems, Interaction and Robotics).
- Member of MIR LABS (Machine Intelligence Research Labs, Scientific Network for Innovation and Research Excellence).

## **PUBLICATIONS**

### **MASTER THESIS**

**A1.** Title of my Master thesis:

**“Construction of a Control Unit with Microprocessor for a Local Area Network”**

### **Ph.D. DISSERTATION**

**B1.** Title of my Ph.D. thesis:

## “Trajectory Control of a Robotic Manipulator in Real Time, Based on a Pseudo-stereovision System”

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- C7. **Pachidis T.**, Lygouras J. and Tarchanidis K., “HumanPT: An Open-Source, HumanPT Architecture-based, Robotic Application for Low Cost Robotic Tasks,” *Journal of Intelligent and Robotic Systems*, Vol. 55, No. 4, 2008, pp.385-420.
- C8. Lygouras J., **Pachidis T.** and Tarchanidis K., “Adaptive High-Performance Velocity Evaluation Based on High Resolution Time-to-Digital Converter,” *IEEE Transactions on Instrumentation and Measurement*, Vol. 57, No. 9, 2008, pp.2035-2043.
- C9. Lygouras J., Kodogiannis V., **Pachidis T.** and Liatsis P., “Terrain-based Navigation for Underwater Vehicles Using an Ultrasonic Scanning System,” *Advanced Robotics*, Vol. 22, No. 11, September 2008, pp.1181 - 1205.

- C10.** Lygouras J. N., Kodogiannis V., **Pachidis T. P.**, Sirakoulis G. Ch., “A New Method for Digital Encoder Adaptive Velocity/Acceleration Evaluation Using a TDC with Picosecond Accuracy,” *Microprocessors and Microsystems*, Vol. 33, 2009, pp. 453–460.
- C11.** **Pachidis T. P.**, Sarafis I. T., Lygouras I. N., “Real time feature extraction and Standard Cutting Models fitting in grape leaves,” *Computers and Electronics in Agriculture*, Vol. 74, 2010, pp. 293–304.
- C12.** Kaburlasos V. and **Pachidis T.**, “A Lattice-Computing Ensemble for Reasoning Based on Formal Fusion of Disparate Data Types, and an Industrial Dispensing Application,” *Information Fusion*, Vol. 16, 2014, pp.66-83.
- C13.** Kodogiannis V.S., **Pachidis T.**, Kontogianni E., “An intelligent based decision support system for the detection of meat spoilage,” *Engineering Applications of Artificial Intelligence*, Vol. 34, 2014, pp. 23-36.
- C14.** Tarchanidis K.N., **Pachidis Th.**, Lygouras J.N. and Tarchanidis J.N., “PUMA Internet Task Logging Using the IDAC-1,” *Journal of Engineering Science and Technology Review*, Vol. 7, No. 3, 2014, pp. 188 – 191.
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- C23.** Samatas G. G. and **Pachidis T. P.**, “Inertial Measurement Units (IMUs) in Mobile Robots over the Last Five Years: A Review,” *Designs*, vol. 6, no. 1, p. 17, Feb. 2022, doi: 10.3390/designs6010017. [Online].  
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- D3. Pachidis T.**, Lygouras J., “A Pseudo Stereo Vision System as a Sensor for Real Time Path Control of a Robot,” in *Proc. IEEE Instrumentation and Measurement Technology Conference*, 2002, pp.1589-1594.
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- D5. Pachidis T.**, Lygouras J. and Tsalidis P., “A Graphical User Interface for the Initial Path Generation of a Robotic Manipulator for an Arc Welding System,” *WSEAS ICRODIC*, 2002, pp. 1601-1607.
- D6.** Aristos D., **Pachidis T.**, Lygouras J., “Robot Path Generation by Viewing a Static Scene from a Single Camera,” in *Proc. IEEE Int. Symposium on Robotics and Automation*, 2002.
- D7. Pachidis T.** and Lygouras J., “Pseudo Stereo Vision System: Modifications for Accurate Measurements in 3-D Space Using Camera Calibration,” in *Proc Sensors for Industry Conference (IEEE/ISA)*, Houston, 2002, pp. 66-70. (Invited Paper)
- D8.** Tarchanidis K., **Pachidis T.**, Lygouras J. and Koutras J., “Remote Robot Task Monitoring Using the IDAC-1,” in *Proc. IEEE Instrumentation and Measurement Technology Conference (IMTC)*, 2006, pp. 1296-1300.
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- D15. Papakostas G. A., Kaburlasos V. G., Pachidis Th.,** “Thermal Infrared Face Recognition Based on Lattice Computing (LC) Techniques,” 2013 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2013), Hyderabad, 7-10 July 2013, pp. 1 – 6. (E:2)
- D16. Kaburlasos V. G., Papakostas G. A., Pachidis Th.,** Athinellis Alex., “Intervals’ Numbers (Ins) Interpolation/Extrapolation,” 2013 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2013), Hyderabad, 7-10 July 2013, pp. 1 – 8. (E:1)
- D17. Kaburlasos V. G., Pachidis Th.,** Papakostas G. A., Dimitrova M., Kostova S., Chavdarov I., “Transformations from a Symbol Language to a Sign Language by a Humanoid Robot for Blended Learning: Preliminary Application Results,” Proceedings of the 1<sup>st</sup> International Association for Blended Learning Conference (IABL 2016), April 22-24, 2016, Kavala, Greece.
- D18. Dimitrova M., Lekova A., Chavdarov I., Kostova S., Krastev A., Roumenin C., Stanchev V., Andreeva A., Kaburlasos V. G., Pachidis T.,** “A Multidisciplinary Framework for Blending Robotics in Education of Children with Special Learning Needs,” Proceedings of the 1<sup>st</sup> International Association for Blended Learning Conference (IABL 2016), April 22-24, 2016, Kavala, Greece.
- D19. Pachidis T.,** Vrochidou E., Kaburlasos V. G, Kostova S., Bonković M., Papić V., “Social robotics in education: State-of-the-art and directions,” Proceeding of 27<sup>th</sup>

International Conference on Robotics in Alpe-Adria Danube Region, Springer, Cham, June 6-8, 2018, Patra, Greece, pp. 689-700.

- D20.** Kostova S., Dimitrova M., Kaburlasos V., Vrochidou E., Papakostas G., **Pachidis T.**, Saeva S., Bonković M., Kružić S., Marasović T., Musić J., Papić V., Zamfirov M., “Identifying needs of robotic and technological solutions for the classroom,” IEEE 26th International Conference on Software, Telecommunications and Computer Networks (SoftCOM), September 13-15, 2018, Split - Supetar, Croatia, pp.1-6.
- D21.** Badeka, V. E., Kalampokas, T., Tziridis, K., Nikolaou, P. A., Vrochidou, E., Mavridou, E., Papakostas A. G. and **Pachidis, T.**, “Grapes Visual Segmentation for Harvesting Robots Using Local Texture Descriptors,” 12th International Conference on Computer Vision Systems (ICVS2019), 23-25 September 2019, Thessaloniki, Greece.
- D22.** Jaafar A., Illoussamen Y., Vrochidou E., **Pachidis T.**, Kaburlasos V. G. and Mestari M., "Multi-Agent Parallel Implementation To Solve Nonlinear Equality Constrained Multiobjective Optimization Problem – Case of Unmanned Aerial Vehicle (UAV)," 2019 Third International Conference on Intelligent Computing in Data Sciences (ICDS), 2019, pp. 1-6, doi: 10.1109/ICDS47004.2019.8942338.
- D23.** Kalampokas, T.; Tziridis, K.; Nikolaou, A.; Vrochidou, E.; Papakostas, G.A.; **Pachidis, T.**; Kaburlasos, V.G. Semantic Segmentation of Vineyard Images Using Convolutional Neural Networks. In *21st International Conference on Engineering Applications of Neural Networks (EANN 2020)*; 2020, pp. 292–303.
- D24.** Kaburlasos, V. G.; Vrochidou, E.; Lytridis, C.; Papakostas, G. A.; **Pachidis, T.**; Manios, M.; Mamalis, S.; Merou, T.; Koundouras, S.; Theocharis, S.; Siavalas, G.; Sgouros, C.; Kyriakidis, P. Toward Big Data Manipulation for Grape Harvest Time Prediction by Intervals’ Numbers Techniques. In proceedings of the 2020 International Joint Conference on Neural Networks (IJCNN), Glasgow, United Kingdom, 2020, pp. 1-6, doi: 10.1109/IJCNN48605.2020.9206965.
- D25.** Badeka, E.; Vrochidou, E.; Tziridis, K.; Nicolaou, A.; Papakostas, G.A.; **Pachidis, T.**; Kaburlasos, V.G. Navigation route mapping for harvesting robots in vineyards using UAV-based remote sensing, In Proceedings of the 10th IEEE

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- D27.** Margounakis D., **Pachidis T.**, Politis D., “A Rubric-Based Evaluation of Video Conferencing Services for Educational Use”, 8<sup>th</sup> International Conference TIE (2020), Technics and Informatics in Education, Serbia, 18-20th September 2020.
- D28.** **Pachidis T.**, Sgouros C., Kaburlasos V. G., Vrochidou E., Kalampokas T., Tziridis K., Nikolaou A., Papakostas G. A., “Forward Kinematic Analysis of JACO2 Robotic Arm Towards Implementing a Grapes Harvesting Robot”, The 28th International Conference on Software, Telecommunications and Computer Networks (SoftCOM 2020), 17-19 September, Hvar, Croatia, pp. 1-6, doi: 10.23919/SoftCOM50211.2020.9238297.
- D29.** Bouloumpasi E., Theocharis S., Karampatea A., Pavlidis S., Mamalis S., Koundouras S., Merou T., Vrochidou E., **Pachidis T.**, Manios M., Papakostas G., Kaburlasos V., “Exploration of viticultural tasks to be performed by autonomous robot: possibilities and limitation”, 11th International Scientific Agriculture Symposium (AGROSYM 2020), Jahorina, Bosnia and Herzegovina, 8-11 October 2020, pp.56-61.
- D30.** Badeka E., Vrochidou E., Papakostas G. A., **Pachidis T.**, Kaburlasos V. G., “Harvest Crate Detection for Grapes Harvesting Robot Based on YOLOv3 Model”, The Fourth International Conference on Intelligent Computing in Data Sciences (IEEE ICDS 2020), October 21-22-23, Fez, Morocco 2020, pp. 1-5, doi: 10.1109/ICDS50568.2020.9268751.
- D31.** Fentis A., Lytridis C., Kaburlasos V., Vrochidou, E., **Pachidis, T.**, Bahatti, E., Mestari, M., “A Machine Learning Based Approach for Next-Day Photovoltaic Power Forecasting” Fourth International Conference On Intelligent Computing in Data Sciences (ICDS 2020), October, 2020, pp. 1-8.

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- D32.** Badeka E., Kalampokas T., Vrochidou E., Tziridis K., Papakostas G. A., **Pachidis T.**, Kaburlasos V. G., “Real-time Vineyard Trunk Detection for a Grapes Harvesting Robot via Deep Learning,” The 13<sup>th</sup> International Conference on Machine Vision (ICMV 2020), November 02-06, 2020, Rome, Italy, Proc. SPIE 11605, Thirteenth International Conference on Machine Vision, 116051D (4 January 2021), <https://doi.org/10.1117/12.2586794>.
- D33.** Tziridis K., Nikolaou A., Kalampokas T., Vrochidou E., **Pachidis T.**, Papakostas G. A. and Kaburlasos V. G., “Information Management and Monitoring System for a Grapes Harvesting Robot,” International Scientific Conference of Communications, Information, Electronic and Energy Systems – CIEES 2020, Borovets, Bulgaria, 26-29 November, 2020. In IOP Conference Series: Materials Science and Engineering, Vol. 1032, No. 1, p. 012051, IOP Publishing.
- D34.** Vrochidou E., Bazinas C., Papakostas G. A., **Pachidis T.**, and Kaburlasos V. G., “A Review of the State-of-Art, Limitations, and Perspectives of Machine Vision for Grape Ripening Estimation,” *The 13th EFITA International Conference*, Nov. 2021, doi: 10.3390/engproc2021009002. [Online].  
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### **OTHER DOCUMENTS OF MYSELF**

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