

## CURRICULUM VITAE

# IOANNIS (JOHN) A. TSANAKAS

### PERSONAL INFORMATION



**Home address:** 19 Paflagonias str., 65404 Kavala, Greece  
**Job address:** Democritus University of Thrace  
School of Engineering  
Department of Production Engineering & Management  
Faculty of Materials, Processes & Engineering  
12 Vas. Sofias str., Central Campus, Building I  
67100 Xanthi, Greece  
**Phone number:** (+30) 6936680005 & 2541079346  
**Fax number:** (+30) 2541079878  
**E-mail:** [itsanaka@ee.duth.gr](mailto:itsanaka@ee.duth.gr)  
**URL:** <http://medilab.pme.duth.gr/john>  
**Birth date:** 18/06/1983  
**Marital status:** Unmarried

### STUDIES – EDUCATION

- 2006 – today** PhD Candidate in Faculty of Material, Processes and Engineering  
Democritus University of Thrace  
School of Engineering  
Department of Production Engineering & Management  
PhD thesis title: *“Advanced techniques of fault diagnosis/prognosis in mechanical structures with the use of visual methods: IR thermography case”*
- 2001 – 2006** Diploma (BSc/MSc) in Electrical and Computer Engineering  
Democritus University of Thrace  
School of Engineering  
Department of Electrical and Computer Engineering  
Diploma thesis title: *“Simulation of non-destructive testing on 3-D objects with the use of photon and neutron radiography”*  
Diploma grade: 7.82 / 10
- 1998 – 2001** 2<sup>nd</sup> Senior High School of Kavala, Greece  
Certificate of studies grade: 19.2 / 20

### OCCUPATIONAL/JOB EXPERIENCE

- 3/2012 – today** Lecturer of the seminar series with topic *“Training for energy inspectors: Buildings’*

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*inspections*", IEKEM-TEE, 2012, Kavala-Xanthi-Komotini, Greece.

- 3/2012 – 8/2012** External cooperator of Municipality of Kavala, Greece – Implementation of building energy inspections and IR thermographic measurements.
- 3/2010 – 9/2012** Lecturer under contract in Kavala Institute of Technology, School of Technological Engineering, Department of Mechanical Engineering (6 hours/week), course title: "Mechanical design applications with the use of CAD/CAM software"
- 1/2010 – 1/2012** External cooperator of "SKT Testing Hellas" in IR thermography applications.
- 6/2009 – 11/2009** Lecturer of the seminar with topic "*Infrared thermography and applications in engineering science: Energy, industry, manufacturing*" during the project of the Technical Chamber of Greece "e-Engineers: Education of engineers in communications and computer technologies", IEKEM-TEE, June-November 2009, Athens, Greece.
- 10/2009** Lecturer of the seminar with topic: "*Energy Efficiency and Certification of Buildings*" during the project of the Technical Chamber of Greece "e-Engineers: Education of engineers in communications and computer technologies", IEKEM-TEE, October-November 2009, Komotini, Greece.
- 7/2004 – 9/2004** Occupation/practice at a technical office in Kavala, Greece.
- 7/2003 – 9/2003** Occupation/practice at a technical office in Kavala, Greece.
- 7/2002 – 9/2002** Occupation/practice at a technical office in Kavala, Greece.

### RESEARCH EXPERIENCE

- 3/2012 – 8/2012** Research cooperator in the "Sustainable Energy Action Plan for the Municipality of Kavala, Greece" research program towards the European movement "Covenant of Mayors".
- 3/2012 – 8/2012** Research cooperator in the "Carbon Footprint Estimation for the Municipality of Kavala, Greece" research program towards the European movement "Covenant of Mayors".
- 2011 – 2012** Research cooperator in TSMEDE-2011 project titled "Reliability and availability assessment of renewable energy systems, by applying advanced maintenance techniques".
- 2009 – 2011** Research cooperator in TSMEDE-2009 project titled "Fault diagnosis in renewable energy systems with the use of IR thermography – case study: photovoltaic modules".
- 2006 – 2009** Research cooperator in TSMEDE-2006 project titled: "Fault diagnostic/prognostic models for CNC machines".

### RECENT PUBLICATIONS – JOURNALS & CONFERENCES WITH PEER REVIEW

1. J.A. Tsanakas and P.N. Botsaris, "On the Detection of Hot Spots in Operating Photovoltaic Arrays through Thermal Image Analysis and a Simulation Model", Materials Evaluation, (in press – 2012).
2. G. Gaidajis, P.N. Botsaris, K. Angelakoglou, J.A. Tsanakas, "Sustainable Energy Action Plan for the Municipality of Kavala", Final Technical Report, Kavala, Greece, August 2012.

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3. G. Gaidajis, P.N. Botsaris, K. Angelakoglou, J.A. Tsanakas, "Carbon Footprint Estimation for the Municipality of Kavala", Final Technical Report, Kavala, Greece, August 2012.
4. J.A. Tsanakas and P.N. Botsaris, "An Infrared Thermographic Approach as a Hot Spot Detection Tool for Photovoltaic Modules Using Image Histogram and Line Profile Analysis", International Journal of Condition Monitoring, Vol. 2 (1), 2012.
5. J.A. Tsanakas and P.N. Botsaris, "Passive and Active Thermographic Assessment as a Tool for Condition-Based Performance Monitoring of Photovoltaic Modules", ASME Journal of Solar Energy Engineering, Vol. 133, 021012 (2011).
6. J.A. Tsanakas and P.N. Botsaris, "Quantifying the Impact of Hot Spots on the Performance of Photovoltaic Modules by Infrared Thermography and a Simulation Model", 2nd International Exergy, Life Cycle Assessment, and Sustainability Workshop & Symposium - ELCAS2, 19-21 June 2011, Nisyros, Greece.
7. P.N. Botsaris, K. Angelakoglou, G. Gaidajis and J.A. Tsanakas, "Life Cycle Costs and Environmental Life Cycle Analysis of Solar Water Heaters in Greece", 24th International Congress and Exhibition on Condition Monitoring and Diagnostic Engineering Management - COMADEM, 30 May - 1 June 2011, Stavanger, Norway.
8. P.N. Botsaris, J.A. Tsanakas and M. Vogiatzi, "Tool Wear Monitoring by Design of Experiments (DOE) for Drilling", 24th International Congress and Exhibition on Condition Monitoring and Diagnostic Engineering Management - COMADEM, 30 May - 1 June 2011, Stavanger, Norway.
9. P.N. Botsaris and J.A. Tsanakas, "An Indicative Risk Based Inspection (RBI) Preventive Maintenance Program for Heat Exchangers in a Chemical Industry", ICASTOR Journal of Engineering, Vol. 4(1), 2011.
10. P.N. Botsaris and J.A. Tsanakas, "Infrared Thermography as an Estimator Technique of a Photovoltaic Module Performance via Operating Temperature Measurements", The 10th European Conference on NDT, 7-11 June 2010, Moscow, Russia.
11. J.A. Tsanakas and P.N. Botsaris, "Non-Destructive in Situ Evaluation of a PV Module Performance Using Infrared Thermography", The 6th International Conference on Condition Monitoring and Machinery Failure Prevention Technologies - CM and MFPT, 23-25 June 2009, Dublin, Republic of Ireland.
12. P.N. Botsaris and J.A. Tsanakas, "Mechanical and Thermal Signatures as Indirect Tool Wear Monitoring Indices - Case study: Drilling", 22nd International Congress and Exhibition on Condition Monitoring and Diagnostic Engineering Management - COMADEM, 9-11 June 2009, San Sebastian, Spain.
13. P.N. Botsaris and J.A. Tsanakas, "A Preliminary Study for the Efficiency of the Wear Debris Analysis and Thermography as Independent or Integrated Fault Diagnosis Methods in Tool Wear Monitoring", The 5th International Conference on Condition Monitoring and Machinery Failure Prevention Technologies - CM and MFPT, 15-18 July 2008, Edinburgh, Scotland/United Kingdom.
14. P.N. Botsaris and J.A. Tsanakas, "State-of-the-art in Methods Applied to Tool Condition Monitoring (TCM) in Unmanned Machining Operations: A Review", 21st International Congress and Exhibition on Condition Monitoring and Diagnostic Engineering Management - COMADEM, 11-13 June 2008, Prague, Czech Republic.

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## LANGUAGE PROFICIENCY

<b>Greek</b>	Mother tongue
<b>English</b>	Excellent knowledge
<b>French</b>	Basic knowledge

## RESEARCH AND EDUCATIONAL INTERESTS

- Non destructive testing and evaluation techniques
  - Infrared thermography
  - Radiography
  - Ultrasonics, penetrants and magnetic particles
- Renewable energy systems, esp. Photovoltaic systems and solar heating systems
- Condition based maintenance
- Fault diagnostics/prognostics
- Data acquisition, measurement and control systems and software
- Mechanical design and CAD/CAM systems and software

## RESEARCH AND EDUCATIONAL ACTIVITIES & PARTICIPATION

- Assistant educational staff of Mechanical Design Laboratory (MeDiLab) in conducting of:
  - i) diploma theses, ii) laboratorial courses, iii) laboratorial exams, for undergraduate students.
- Reviewer for *Journal of Manufacturing Science and Engineering, Transactions of ASME* (ISSN: 1087-1357) (2011).
- Reviewer for *Recent Patents on Electrical Engineering Journal* (ISSN: 2212-7992) (2011).
- IEEE member (2004-).
- Member of the Technical Chamber of Greece (2006-).
- Member of the National Association of Electrical and Mechanical Engineers, Greece (2006-).
- Member of the “Environment, Energy and Industry” standing committee of the Technical Chamber of Greece (2011-).
- Member of the “Technical Education and Liaison” standing committee of the Technical Chamber of Greece (2011-).
- Member of the “Communication and Publications” standing committee of the Technical Chamber of Greece (2011-).