

# CURRICULUM VITAE

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**Place/Date of Birth:** Athens, Greece / 31-01-1974  
**Marital Status:** Married with two children  
**Military Service:** Completed on 02-07-2001



## 1. EDUCATION

### Studies

- 2002 M.Sc. in Computational Mechanics (fluids section), National Technical University of Athens, grade 8.31/10.0
- 1999 M.Sc. in Aeronautical-Mechanical Engineering, National Technical University of Athens, grade 7.18/10.0, rank 41/168.
- 1992 Graduation from the International School of Naples, an English speaking school at NATO Headquarters, Italy.

### Language Skills

- Greek Mother tongue.
- English Proficiency level, obtaining the Proficiency certificate & state license for teaching the language.
- Italian Fair level, obtaining the C.E.L.I.-3 certificate.
- French Basic level.

### Computer Skills

- Op. Systems Unix, Linux, Windows, DOS.
- Applications MS Office / Project, AutoCAD, PRO Engineer, Mechanical Desktop, Visio, Mathcad, Phoenix, NASTRAN, 4MFin & Adapt, SAM, TRNSYS.
- Programming MatLab, Fortran, Visual Basic, Java, HTML, MySQL.

## 2. PROFESSIONAL & RESEARCH ACTIVITIES

### Professional Activity

- 4/2012 - **EADS-3SIGMA A.E., Business Development & Sales Manager**  
2/2013  
Tasks:
  - Responsible for the acquisition of new projects and project bids involving unmanned aerial and sea vehicles.
  - Manage the proposal development process.
  - Negotiate terms & conditions of contract agreements.
  - Initiate marketing strategies and actions to influence the market.
  - Analysis of domestic/international opportunities and proposal for developing new products or services.

- 2003 - ... **SKIAS Engineering, Owner.**  
 Company for scientific and engineering studies, technical software development and technical services. Indicative projects:
- “Airfoil & Hydrofoil Reference”, development and marketing of technical software design tool for wind turbines and aircraft wings.
  - “Feasibility of introducing natural gas in the electricity system of Crete”, Working Group of Technical Chamber of Greece.
  - “Solar thermal plant of 50MW in Akrotiri, Chania”, assessment and simulation of operation.
  - Official investigations on various electromechanical issues as an authorized investigator of Technical Chamber of Greece.
  - Feasibility studies of RES projects, energy audits in buildings.
  - Safety engineer in multiple private companies.
  - Various electrical, lighting, fire safety, plumbing, sanitation, HVAC, environmental and energy saving studies for public and private projects.
  - Design and Administration of IT and internet projects.

- 2003 - 2004 **EADS-3SIGMA SA, Operations Manager.**  
 Tasks:
- Full responsibility for the overall planning and execution of operations with the aerial and sea targets of the company in national and international operation theaters and for the personnel training.
  - Participation in several R&D studies regarding the design and performance of the company’s products.

Main achievements:

- Organization of the operations division
- Establishment of specific regulations, directives and procedures for all the life span (planning, execution) of a mission
- Establishment of a training program for the members in the operations team (technicians, pilots)
- Mission assessment reports
- Investigation of technical issues regarding the flight performance of the aerial targets during the operations and issuance of various design modification requests
- Development of a relational database system (MS Access) to cover the assets, personnel and activities of the operations division of the company.

- 2002 - 2003 **ELECTRA Airlines, Engineering & Planning Manager.**  
 Tasks:
- Full responsibility for keeping the company's fleet (McDonnell Douglas DC-10-15, Boeing B757-200) to the maximum level of operational readiness and safety
  - Conduction of reliability monitoring studies of aircraft systems
  - Planning of checks and coordination of any modifications.

Main achievements:

- Cooperation with pilots, technicians and aircraft manufacturer to troubleshoot and repair any reported technical items at a minimum of time
- Planning the execution of all aircrafts' checks (A / B / C Check)
- Administration of the incorporation of any Airworthiness Directives &

#### Service Bulletins

- Creation of a relational database system for engine trend monitoring with automated data analysis features to early identify and warn for any abnormal changes in engines' performance.

➤ 2002

#### ***Hellas Wings, Ltd, Technical Director.***

##### Tasks:

- Reorganization and management of the Technical Department in terms of human resources, equipment and procedures.
- Liaison to Hellenic Civil Aviation Authority (HCAA)

##### Main achievements:

- Review of all procedures to ensure high safety standards for the fleet.
- Implementation of key solutions to various technical problems of the company fleet (BAe Jetstream 31, Piper Chieftain) to maintain their 24h-operational availability at the maximum level of flight safety standards.
- Initiation of various communications, discussions and contracts with subcontractors for airframe and engine maintenance plans.

➤ 2001

#### ***AXON Airlines, Powerplant & Systems Engineering Manager.***

Full responsibility for the safe and efficient operation of the engines, APU's and fuel systems of all the aircraft of the fleet (Boeing 737-400,737-700, Embraer ERJ-145). Responsibility of the financial and technical evaluation of Airworthiness Directives and Service Bulletins implementation. My cooperation with the company ended when it ceased operation.

➤ 1998

#### ***KePa Ingenieuresellschaft mbH, Germany, Research Assistant/Internship.***

##### Involvement in two research projects:

- Together with VDO and BMW, verification of the operational strength of a prototype system for the electrical control of the valves of a internal combustion engine (ICE).
- Investigation of the stick-slip effect occurring during the operation of a new sunroof of an automobile (on behalf of OPEL and KIA Motors).

➤ 1997 - 1998

#### ***HochTief A.G., Electrical-Mechanical Engineering Dept, Internship.***

Selection and coordination of installation of the electromechanical equipment during the construction of the New Athens International Airport.

➤ 1996

#### ***Hellenic Aerospace Industry, Aircraft Division, Internship.***

- Maintenance & Inspection of Aircraft Hydraulic Systems (F-4E)
- Operational Testing of Aircraft (F-4E, C-130).

### **Teaching Experience**

➤ 2012

#### ***Technical University of Crete, Instructor at Energy Auditors' Training***

- Building energy performance assessment report.
- Technologies for energy conservation & management in electromechanical systems.
- Institutional framework - Methodology for assessing a building's energy performance.
- Thermal insulation sufficiency of a building's shell.
- Energy auditing of a building.
- Fieldwork training.

- 2005 – 2006 & 2010 ***Merchant Marine Academy of Crete, Professor at School of Engineering.***
  - Electric Machines.
  - Marine Auxiliary Machines.
  - Machine Components.
  - Strength of Materials.
  - Refrigeration Machines and Installations.
  - Internal Combustion Engines.
- 1999 - 2001 ***Hellenic Air Force Academy, Corporal Class A, Laboratory Assistant.***
  - Conduction of aerodynamics lab exercises, lectures on essential aeronautical engineering issues
  - Development of scientific software tools.
  - Participation in committees for the construction of a new subsonic wind tunnel and a modern CFD lab.
  - Technical Consultant at the Aircraft Maintenance Dept.

### **Research Activity**

- 2001 - 2002 *“Mathematical Simulation of the Flow Field Around Subsonic Airfoils”, M.Sc. Diploma thesis, N.T.U.A.<sup>1</sup>, Prof. N. Markatos, Grade 10/10.*  
Numerical solution of Navier-Stokes equations employing the k-ε (RNG) turbulence model. Production of results comparable to NASA’s experimental data using Computational Fluid Dynamics codes.
- 1997 - 1999 *“3-D Simulation of a Fighter Aircraft During Operations on Battle – Damaged/Repaired Runways”, M.Sc. Diploma thesis, N.T.U.A., Prof. Th. Costopoulos, Grade 10/10.*  
Design and development of computational software for calculation of the anticipated attitude and dynamic loads on fighter aircraft while operating on post-damaged and repaired runways.  
Note: Hellenic Air Force demonstrated a potential interest in purchasing the software code.
- 1998 - 1999 *“Salt-water pump damage-assessment project”, Research Engineer.*  
Participation in a research team for a fact-finding study, assigned to the Machine Elements Laboratory, N.T.U.A, Prof. Dr. Th. Costopoulos.
- 1997 *“Plataforma Solar de Almeria”, Spain, Chief of research team.*  
Responsibility to carry-out a research study at a solar test field operated by the D.L.R.<sup>2</sup>, in order to evaluate if a prototype system of solar energy collection, patented by the Hellenic firm “Heliostat Ltd”, could be technically and economically feasible.
- 1996 *“Research and Specifications for the Construction of Gear Boxes in the Hellenic Wind Generators”, N.T.U.A. & C.R.E.S.<sup>3</sup>, Research Engineer/Assistant.*
  - Analysis of the German, Danish and European engineering standards
  - Suggestions for implementation in the Hellenic Code of Standards.

### **Congresses/Conferences**

- Participation in the ENERTECH 2008 conference, Athens, November 20-23, 2008. Presentation of *“Optimal sizing and design of pumped-storage wind-hydro power plants according to the constraints of Greek Law 3468/2006: case study for Crete”* and *“Building energy performance evaluation according to Greek Law 3661/08. Comparison between measured and calculated approach”*.

- Participation in the 2<sup>nd</sup> PALENC Conference and 28<sup>th</sup> AIVC Conference, Building Low Energy Cooling and Advanced Ventilation Technologies in the 21<sup>st</sup> Century, Crete, September 27-29, 2007. Presentation of “*Contribution of Shading in Improving the Energy Performance of Buildings*”.
- Participation as Building Expert, "Third Trans-national Expert Workshop (3rd TEW): Testing of the Methodology", LENSE, Project no. 022718, 26th September 2007, Prague – Czech Republic, www.lensebuildings.com.
- “*The European Directive for the Energy Performance of Buildings; Challenges and Perspectives*”, National Research Institute, Athens, March 10, 2005.
- 10<sup>th</sup> International Congress on “*New Developments in Gravity*”, Aristotle University of Salonica, Chalkidiki, May 30 - June 2, 2002.
- 1<sup>st</sup> Pan Hellenic Congress on “*Biomedical Technology*”, N.T.U.A., Athens, March 20-21, 1998.
- European Congress on the “*Renewable Energy Sources Implementation*”, C.R.E.S., Athens, May 5-7, 1997.

## **Publications**

### **A. Publications in international journals**

1. **D. Katsaprakakis, M. Moniakis, N. Pasadakis, I. Skias**, The feasibility of the introduction of natural gas in the electricity production system in the island Crete (Greece), *Energy*, Under Review.
2. **T. Nikolaou, D. Kolokotsa, G. Stavrakakis, I. Skias, 2012**, On the application of clustering techniques for office buildings’ energy and thermal comfort classification, *IEEE Transactions on Smart Grid, Special Issue on Intelligent Buildings and Home Energy Management in a Smart Grid Environment*, Vol. 3, No. 4, pp. 2196-2210.
3. **T. Nikolaou, I. Skias, D. Kolokotsa, G. Stavrakakis, 2009**, Virtual Building Dataset for energy and indoor thermal comfort benchmarking of office buildings in Greece, *Energy Buildings*, Vol. 41, No. 12, pp. 1409-1416.
4. **T. Nikolaou, D. Kolokotsa, I. Skias and G. Stavrakakis, 2008**, Asset and operational benchmarking for office buildings in Greece, *International Journal of Sustainable Energy*, Vol. 27, No. 4, pp. 1-15.

### **B. Publications in conference proceedings with full paper evaluation**

1. **G. Vlassis, T. Nikolaou, G. Stavrakakis, I. Skias**, Per hour modeling of the operation of the isolated Power Production System of Crete-Greece with and without the introduction of a 20MW Pumped Storage System, *THE DEREGULATED ELECTRICITY MARKET ISSUES IN SOUTH-EASTERN EUROPE CONFERENCE 2010*, Sitia, Crete, 23-24 September 2010.
2. **D. Kolokotsa, G. Stavrakakis, T. Nikolaou, I. Skias**, Comparison of asset and operational rating for office buildings' energy performance-A case study in Athens Greece, *PROTECTION AND RESTORATION OF THE ENVIRONMENT IX CONFERENCE*, Kefalonia, Greece, 29 June - 3 July 2008.
3. **T. Nikolaou, G. Stavrakakis, I. Skias, D. Kolokotsa**, Contribution of Shading in Improving the Energy Performance of Buildings, 2<sup>nd</sup> PALENC Conference and 28<sup>th</sup> AIVC Conference, Building Low Energy Cooling and Advanced Ventilation Technologies in the 21<sup>st</sup> Century, 27-29 September 2007, Crete Island, Greece.

### **C. Publications in conference proceedings with abstract evaluation**

1. **T. Nikolaou, I. Skias, G. Stavrakakis, D. Kolokotsa**, Development of a Virtual Dataset for Comparative Evaluation, Calibration and Classification of buildings based on the Energy and Thermal Comfort (in Greek), *IENE, 15<sup>th</sup> National Conference on Energy «Energy & Development 2010»*, Athens, November 22-23, 2010.
2. **T. Nikolaou, D. Kolokotsa, G. Stavrakakis, I. Skias**, Building energy performance evaluation according to Greek Law 3661/08. Comparison between measured and calculated approach, *ENERTECH 2008*, Athens, 20-23 November 2008.

3. **T. Nikolaou, G. Stavrakakis, I. Skias, E. Skarlou**, Optimal sizing and design of pumped-storage wind-hydro power plants according to the constraints of Greek Law 3468/2006: case study for Crete, ENERTECH 2008, Athens, 20-23 November 2008.

#### D. Publications in Greek journals

1. **T. Nikolaou, G. Stavrakakis, I. Skias, D. Kolokotsa**, The shading applications reduce the energy consumption in buildings (in Greek), *Sun & Shadow / 7250*, Vol. 23, April-May-June 2009, 50-55.
2. **I. Skias**, Airplane Transportation (in Greek), *HAF Aerospace Review*, Vol. 63, 62-79, (2000).

#### Seminars

- Invited speaker at the 2<sup>nd</sup> Educational Seminar on Indoor and Outdoor Shading, *Sun & Shadow Magazine* and Kormos Expo Management, Athens, December 12, 2010. Speech Titles: “*Energy saving by static shading*”, “*K.EN.A.K. and the role of shading in the energy labeling and classification of buildings*”.
- Technical seminar by DAIKIN Greece, Athens, February 9-11, 2010, on “*VRV systems with heat recovery, heat pumps for heating applications, water systems - Fundamentals applications, water cooled VRV for geothermal applications*”.
- Invited speaker at the 1<sup>st</sup> Educational Seminar on Indoor and Outdoor Shading, *Sun & Shadow Magazine* and Kormos Expo Management, Athens, December 14, 2009. Speech Title: “*Shading and its contribution to energy saving in building sector*”.
- Various seminars held by Hellenic Association of Mechanical – Electrical Engineers and engineering companies on technology advancements and new products presentations.

#### Professional Licenses

- 14-01-2011 Certified energy auditor for buildings and HVAC systems, Class B, Ministry of Environment, Energy and Climate Change (No. 455).
- 29-05-2009 Certification for assessment studies & reports, Categories 9 & 27, Class A, Ministry of Environment, Energy and Climate Change (No. 18003).
- 08-04-2003 General license to approve electromechanical installations of all specializations and categories, Prefecture of Athens (No. 313 & 324).
- 04-07-2000 Professional license to practice mechanical engineering, Technical Chamber of Greece (No. 33765).

#### Affiliations

- Technical Chamber of Greece (No. 85131)
- Hellenic Association of Mechanical – Electrical Engineers.
- American Institute of Aeronautics and Astronautics
- American Society of Mechanical Engineers
- Society of Automotive Engineers, *Aerospace Division*

#### Distinctions

- “Best Airman” commendation from Aircraft Training Command of Hellenic Air Force.

### **3.HOBBIES**

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- Instrumental music composition.
- RC Aeromodelling.

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<sup>1</sup> National Technical University of Athens

<sup>2</sup> German Aerospace Center

<sup>3</sup> Center of Renewable Energy Sources