

# CURRICULUM VITAE

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**Date of Birth:** 31 / 01 / 1974  
**Marital Status:** Married with two children  
**Military Service:** Ended on 02 / 07 / 2001



## 1. EDUCATION

### Studies

- 2002 M.Sc. in Computational Mechanics (fluids section), National Technical University of Athens, grade 8.31/10.
- 1999 M.Sc. in Aeronautical-Mechanical Engineering, National Technical University of Athens, grade 7.18/10, 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, AutoCAD, Mechanical Desktop, Visio, Primavera, Mathcad, Mathematica, MatLab, Phoenix, NASTRAN, 4MFin & Adapt, Internet.
- Programming QBasic, Fortran, Visual Basic, Java, Visual C++ (novice level).

## 2. PROFESSIONAL & RESEARCH ACTIVITIES

### Professional Activity

- 2003 - ... **SKIAS Engineering, Engineering & Technical Office, Owner & C.E.O.**  
Scientific & engineering studies, technical software development and technical services. Indicative projects:
  - Development and marketing of innovative technical software “Airfoil & Hydrofoil Reference” as a reference design tool for the wind turbines and aircraft wings.
  - Studies of RES application and energy conservation in buildings.
  - Feasibility & environmental impact assessment studies of RES projects.
  - Participation in the Working Group of Technical Chamber of Greece on

the “Feasibility of introducing the natural gas in the electricity system of Crete”

- Various electrical, lighting, fire safety, plumbing, sanitation, HVAC and environmental studies for public and private projects.
- Conduction of investigations (fire, failures, etc.) in private sector.
- Safety engineer in different private companies.
- Design and administration of IT and internet projects.

➤ 2003 - 2004

***EADS-3SIGMA SA, Operations Manager.***

I was responsible 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. I also took part in a few R&D studies regarding the design and performance of the company’s products.

➤ 2002 - 2003

***ELECTRA Airlines, Engineering & Planning Manager.***

After completing a technical course on Boeing B757-200 aircraft, I was given the responsibility for keeping the company's fleet (McDonnell Douglas DC-10-15, Boeing B757-200) to a maximum level of operational readiness and safety, conducting reliability monitoring studies of aircraft systems, planning of checks and coordination of any modifications. My cooperation with the company ended as it ceased operation.

➤ 2002

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

As the company had been recently awarded with a contract by the National Medical Service, I reorganized the Technical Department in terms of human resources and equipment. The Dept. succeeded in implementing key solutions to various technical problems of the company fleet (BAe Jetstream 31, Piper Chieftain), ensuring their 24h-operational availability at the maximum level of flight safety standards.

➤ 2001

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

I was in charge of 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). I also conducted the financial and technical evaluation of Airworthiness Directives and Service Bulletins implementation. My cooperation with the company ended as it ceased operation.

➤ 1998

***KePa Ingenieurgesellschaft mbH, Germany, Research Assistant.***

I got involved in two research projects. The first one, conducted in conjunction with VDO and BMW, verified the operational strength of a prototype system for electrical control of the valves of a gas engine. The second one, carried out on behalf of OPEL and KIA Motors, comprised the investigation of the stick-slip effect occurring during the operation of a new sunroof of an automobile.

➤ 1997 - 1998

***HochTief, A.G., Trainee Engineer.***

I worked at the construction of the New Athens International Airport, at the Electrical-Mechanical Engineering Dept. I dealt with the selection and coordination of installation of the electromechanical equipment.

➤ 1996

***Hellenic Aerospace Industry, Trainee Engineer.***

I worked at the Aircraft Division, covering the following subjects:

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

### **Teaching Experience**

- 2004 - 2005 ***Merchant Marine Academy of Crete, Professor at School of Engineering.***  
I taught the following courses: Electric Machines, Marine Auxiliary Machines, Machine Components, Strength of Materials, Refrigeration Machines and Installations.
- 1999 - 2001 ***Hellenic Air Force Academy, Corporal Class A, Laboratory Assistant.***  
I conducted the aerodynamics lab exercises, gave lectures on essential aeronautical engineering issues and developed scientific software tools. I participated in various committees regarding the construction of a new subsonic wind tunnel and a modern CFD lab. I also served also as 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. I produced 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.***  
I designed and constructed computational software to calculate the anticipated attitude and dynamic loads on fighter aircraft while operating on post-damaged and repaired runways. Hellenic Air Force demonstrated a potential interest in purchasing my software code.
- 1998 - 1999 ***“Salt-water pump damage-assessment project”, Research Engineer.***  
I participated 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.***  
I was responsible 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”, NTUA & C.R.E.S.<sup>3</sup>, Research Engineer.***  
I analyzed the German, Danish and European engineering standards and proposed which items should be implemented in the Hellenic Standards.

### **Lectures & Participation in Congresses**

- I attended and participated 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”*.
- I attended and participated 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.
- I attended the conference "*The European Directive for the Energy Performance of Buildings; Challenges and Perspectives*", National Research Institute, Athens, March 10, 2005.
- I attended the 10<sup>th</sup> International Congress on "*New Developments in Gravity*", Aristotle University of Salonica, Chalkidiki, May 30 - June 2, 2002.
- I attended the 1<sup>st</sup> Pan Hellenic Congress on "*Biomedical Technology*", N.T.U.A., Athens, March 20-21, 1998.
- I attended the European Congress on the "*Renewable Energy Sources Implementation*", C.R.E.S., Athens, May 5-7, 1997.

## Publications

### A. Publications in international journals

1. **T. Nikolaou, G. Papadimitriou, E. Dougali, D. Kolokotsa, G. Stavrakakis, I. Skias**, On the application of clustering techniques for office buildings' energy and thermal comfort classification, *Energy and Buildings*, Under Review.
2. **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.
3. **T.G. Nikolaou, D.S. Kolokotsa, I.D. Skias and G.S. 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. **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.
2. **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. **Nikolaou, T.G., Kolokotsa, D.S., Stavrakakis, G.S., Skias, I.D.**, Building energy performance evaluation according to Greek Law 3661/08. Comparison between measured and calculated approach, ENERTECH 2008, Athens, 20-23 November 2008.
2. **Nikolaou, T.G., Stavrakakis, G.S., Skias, I.D., Skarlou, E.**, 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. **Skias, I.D.**, Airplane Transportation (in Greek), *Aerospace Review*, Vol. 63, 62-79, (2000).

### **Lectures & Participation in Seminars**

- I attended a 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*”.

### **Affiliations**

- Technical Chamber of Greece, state professional licentiate (No.85131) – Authorized investigator of electromechanical issues.
- 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. OTHER ACTIVITIES**

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- Holder of a valid pan European driving license for automobile and motorcycle.
  - Instrumental music composition, cinema, traveling.
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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