

## KONSTANTINOS STAMOULIS

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## EDUCATION

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### **University of Thessaly, Volos, Greece**

Doctor of Philosophy in Structural Analysis of Solids with Microstructure: Fatigue of MEMS, December 2007; Department of Civil Engineering; Thesis Advisor: Professor A. E. Giannakopoulos; GPA: 10.0/10.0 (Sep 2002 – Dec 2007)

### **Massachusetts Institute of Technology, Cambridge, MA**

Master of Science degree in Materials Science and Engineering, February 2005;  
Thesis Title: *Mechanics Aspects of Wafer Thermocompression Bonding*; Thesis Advisor: Professor S. Mark Spearing; Greek Air Force Fellow; GPA: 5.0/5.0 (Jan 2003 – Jan 2005)

### **National Technical University of Athens, Athens, Greece**

Master of Science degree in Applied Mechanics, Department of Applied Mathematics and Physical Sciences, February 2000; Director of Studies: Professor Y. F. Dafalias, H.G. Georgiadis; Graduated 1<sup>st</sup> in class; GPA: 8.85/10.00 (Sep 1997 - Sep 1999)

### **Graduate Computing School, Ministry of Defense, Athens, Greece**

Diploma in Advanced Computing, June 1998; Curriculum included C, C++, SQL, RDBMS, Software Engineering, Networks. GPA: 91.7/100.0 (Jan 1998 - Jun 1998)

### **Hellenic Air Force Academy, Athens, Greece**

Diploma in Aeronautical Engineering, June 1993; Broad curriculum in engineering with emphasis on aeronautics, mechanics, materials, thermodynamics and propulsion; Graduated 2<sup>nd</sup> in class; GPA: 86.8/100.0 (Sep 1989 - Jun 1993)

## LANGUAGES

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**English** (TOEFL 633/677, July 2002, Cambridge IELTS 8.5/9.0, February 2001, Cambridge FCE, July 1986); **French** (DELF, 2<sup>nd</sup> Degré, March 1998)

## AWARDS AND HONORS

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Graduated with honors from MIT (SM '05, GPA: 5.0/5.0), Hellenic Air Force Graduate Studies Scholarship (2002); Graduated with honors (1<sup>st</sup>) from National Technical University of Athens, (MSc, 1999), AEA Technology Award in 11<sup>th</sup> Int. Conference on Experimental Mechanics, University of Oxford (1998); Student Awards for admitted with distinction (2<sup>nd</sup>) in Hellenic Air Force Academy, School of Engineering (1989).

## PROFESSIONAL EXPERIENCE

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### **Lt. Colonel (Aeronautical Engineer), Hellenic Air Force**

#### **Hellenic Aircraft Depot (KEA), Athens, Greece**

*Engineering Directorate* – Director (Nov 2011 - present); Head of Aeronautics Department: Engineering Design and Failure Analysis for Structural Components, Aircraft Modifications and Repairs (Feb 2005 - Aug 2005 and Feb 2006 - May 2008)

## **KONSTANTINOS STAMOULIS – PAGE 2**

**Hellenic Air Force General Staff, Ministry of Defence (MOD), Athens, Greece**  
*Aircraft Maintenance & Airworthiness Directorate (C1) – Aircraft Airworthiness Management, Quality Improvement, Standardization, Depot Level Maintenance Management and Logistics, Program Management, Technical Education (Sep 2010 - Oct 2011);*

**332 Squadron (SQ), 114 Combat Wing (CW), Tanagra Air Force Base (AFB), Hellenic Air Force (HAF), Greece**

*Chief Engineer - Head of Squadron Maintenance Office (Planning, Implementation and Supervision of the Airworthiness requirements for the Mirage 2000 Fleet); Leading 110 engineers and technical personnel; (Jun 2008-Aug 2010);*

**Air Force Command & Staff College (AFCSC), HAF, Greece**

*Full time Student - Graduate Military College (Aug 2005 - Jan 2006)*

**114 CW, Tanagra AFB, HAF, Greece**

*Technical Advisor - Head of Quality Assurance (Q.A.) Dept. (May 2001-Jan 2003); Leading Role in Design and Development of Maintenance Information System (HAF Project, 1999-2001); Advisor in Q.A. Dept. (Aircraft Airworthiness, Engineering, A/C Modifications and Upgrades, Technical Investigator, Statistical Process Control; Nov 1995 - May 2001); Aeronautical Engineer – A/C Inspections/Repairs; Supervision of the training, certification and performance of 40 aircraft engineers and technicians (Feb 1994 - Nov 1995)*

**Hellenic Aerospace Industry & 114 CW, Tanagra AFB, Greece**

*Engineering Practice - Aircraft Depot Level Maintenance and Repairs, Aerospace Engineering, Non Destructive Inspection, Quality Assurance, M-2000 Maintenance (Jul 1993 - Feb 1994)*

## **RESEARCH EXPERIENCE**

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**Laboratory for Strength of Materials and Micromechanics, Volos, Greece**

*Research assistant to Prof. A. E. Giannakopoulos, Dept. of Civil Eng, Univ. of Thessaly; Modeling on fatigue of microstructural components (Feb 2005 – present).*

**Technology Lab for Advanced Composites (TELAC), MIT, Cambridge, MA**

*Research assistant to Prof. S. Mark Spearing, Dept. of Aeronautics and Astronautics, MIT; Modeling (interface fracture mechanics) and experiments (four-point bending and atomic force microscopy) on thermocompression bonding (Sep 2003 - Jan 2005).*

## **TEACHING EXPERIENCE**

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**Hellenic Military Academy, Vari, Athens, Greece**

*Lecturer (Special Scientist); Teaching Mechanics, Statics, Strength of Materials, Combat Systems Engineering (Feb 2012 – present); Supervision of Degree Theses in Aircraft/Combat Systems Structural Design and Materials Engineering.*

**Technological Institute of Chalkis, Dept. of Aircraft Technology, Chalkis, Greece**

*Lecturer; Teaching Strength of Materials (Sep 2008 – Sep 2012).*

**Hellenic Air Force Technical NCO Academy (STYA), Athens, Greece**

*Lecturer; Teaching Aircraft Structures, Mechanics, Strength of Materials (Sep 2007 – present).*

### **PUBLICATIONS**

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#### **Journal Papers**

- [A.1] Giannakopoulos, A.E., Stamoulis, K., 2007. “Structural analysis of gradient elastic components”, *International Journal of Solids and Structures*, Vol. 44, p. 3440-3451.
- [A.2] Stamoulis, K., Giannakopoulos, A.E., 2008. “Size effects on strength, toughness and fatigue crack growth of gradient elastic solids”, *International Journal of Solids and Structures*, Vol. 45, p. 4921-4935.
- [A.3] Stamoulis, K., Giannakopoulos, A.E., 2010. “A second gradient elasto-plastic model for fatigue of small-scale metal components”, *International Journal of Structural Integrity*, Vol. 1, p. 193-208.
- [A.4] Stamoulis, K., Giannakopoulos, A.E., 2012. “A study of size effects and length scales in fracture and fatigue of metals by second gradient modeling”, *Fatigue and Fracture of Engineering Materials & Structures*, Vol. 35, p. 852-860.
- [A.5] Stamoulis, K., Panagiotopoulos, D.I., Pantazopoulos, G.A., Papaefthymiou S., 2016. “Failure analysis of an aluminium extrusion aircraft wing component”, *International Journal of Structural Integrity*, in press.

#### **Refereed Conference Papers**

- [A.6] Stamoulis, K., Spearing, S.M., 2004. “Influence of macro- and nanotopography, thin film thermomechanical behavior and process parameters on the stability of thermocompression bonding”, in *Stability of Thin Films and Nanostructures*, Materials Research Society Symposium Proceedings, Vol. 854, p. 208-213, Boston, MA, USA.
- [A.7] Stamoulis, K., Tsau, C.H., Spearing, S.M., 2005. “Low-temperature, wafer level, gold thermocompression bonding: Modeling of flatness deviations and associated process optimization of high yield and tough bonds”, in *Reliability, Packaging, Testing and Characterization of MEMS/MOEMS IV*, SPIE Proceedings, Vol. 5716, p. 42-52, San Jose, CA, USA.
- [A.8] Stamoulis, K., Giannakopoulos, A.E., 2006. “Analysis of MEMS beam components within the strain gradient elasticity framework”, in *Higher Order Theories*, 6<sup>th</sup> European Solid Mechanics Conference (ESMC 2006 Proceedings), Budapest, Hungary.
- [A.9] Stamoulis, K., Giannakopoulos, A.E., 2011. “A study of size effects and length scales in fracture and fatigue by second gradient elasto-plastic models”, in *Elasticity and Plasticity Theories in Fracture and Fatigue*, 2<sup>nd</sup> International Conference of Engineering Against Fracture, ICEAF II Proceedings, paper 19.3, Mykonos, Greece.
- [A.10] Panagiotopoulos, D.I., Stamoulis, K., 2013. “Failure analysis and fatigue life assessment of a redesigned aircraft landing gear component”, in *Engineering Approaches in Industry*, Proceedings of the 3<sup>rd</sup> International Conference of Engineering Against Failure (ICEAF III), p. 838-844, Kos, Greece.
- [A.11] Stamoulis, K., Panagiotopoulos, D.I., Pantazopoulos, G.A., Papaefthymiou S., 2015. “Failure analysis of a fractured aluminium extrusion structural component in an aircraft wing”, Proceedings of the 4<sup>th</sup> International Conference of Engineering Against Failure (ICEAF IV), Skiathos, Greece.

### **CITATIONS**

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**88 Citations** of Publications (Scopus/Google Scholar)