

## CURRICULUM VITAE

NAME : Dimitrios I. Papadimitriou  
DATE OF BIRTH : 4 December 1979  
PLACE OF BIRTH : Larisa, Greece  
NATIONALITY : Greek  
MARITAL STATUS : Married with two children  
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### EDUCATION

#### **2015-2016**

Visiting Scholar in the Mechanical Engineering Department, School of Engineering and Computer Science, Oakland University, Michigan, USA in the project “Design Optimization under Uncertainty”.

#### **2015**

Research Associate in the System Dynamic Laboratory of the Department of Mechanical Engineering, University of Thessaly, Greece in the project Project “(UQ-dynamics): Uncertainty Quantification and Propagation in Complex Structural Dynamics Simulations using Monitoring Data” funded by the General Secretariat for Research and Technology of Greece.

#### **2012-2015**

Research Associate in the System Dynamic Laboratory of the Department of Mechanical Engineering, University of Thessaly, Greece. Principal Investigator in the Project “(ROBAST): Robust Aerostructural Optimization based on New High-Order Adjoint Methods” funded by the General Secretariat for Research and Technology of Greece.

#### **2007-2012**

Research Assistant and Research Associate in the National Technical University of Athens, School of Mechanical Engineering, Fluids Section, Laboratory of Thermal Turbomachines, Parallel CFD & Optimization Unit.

#### Awards-Scholarships

1. Scholarship from State Scholarship's Foundation for Post-Doctoral Research (2010-2011).

#### **2002-2006**

PhD Diploma in Computational Fluid Dynamics and Aerodynamic Shape Optimization at the National Technical University of Athens, School of Mechanical Engineering, Fluids Section, Laboratory of Thermal Turbomachines, Parallel CFD & Optimization Unit.

Title: “Adjoint Formulations for the Analysis of Turbomachinery Cascades and Optimal Grid Adaptation using a Posteriori Error Analysis”.

Supervisor: Kyriakos C. Giannakoglou, Professor NTUA.

#### Awards-Scholarships

1. Finalist for the “**ECCOMAS award for the best PhD thesis of 2006** on computational methods in applied sciences and engineering”.
2. Scholarship from Beneficial Foundation Alexandros S. Onasis for PhD thesis (2003-2006).
3. Thomaidio Prizes for journal publications (2004, 2005, 2006, 2007).

### **1997-2002**

Dipl. Eng. in Mechanical Engineering at the National Technical University of Athens, School of Mechanical Engineering (Grade: **9.05/10**).

Diploma thesis title: “Analysis of internally cooled turbine blade of an aircraft engine using Computational Fluid Dynamics techniques” (Diploma Thesis Grade: **10/10**).

#### Awards-Scholarships

1. Prize for the **first rank graduate** from the School of Mechanical Engineering, NTUA (2002).
2. Prizes from Technical Chamber of Greece for graduate studies (1997-1998, 1999-2000, 2000-2001).
3. Prizes from State Scholarship's Foundation for graduate studies (1998-1999, 2001-2002).
4. “Nikolaos Kritikos” Scholarship for the progress in mathematics during graduate studies (1997-1998).
5. “Hristos Papakyriakopoulos” Prize, for the progress in mathematics during graduate studies (1997-1998).
6. “Ch. Chrysovergis” Prize for the first rank graduate from the School of Mechanical Engineering, NTUA, at the year 2002.
7. “S. Samara” Prize for the first rank graduate from the School of Mechanical Engineering, NTUA, at the year 2002.

### **1994-1997**

2° Senior High School (Grade: **20/20**).

#### Awards-Scholarships

1. Honors and Prizes for the first rank student.

### **1991-1994**

8° High School (Grade: **19.6/20**).

#### Awards-Scholarships

1. Honors and Prizes for the first rank student.
2. Hellenic Mathematical Society: Honor Diploma (1993-1994).

### **INSTITUTES-MEMBERSHIPS**

- 2002- : Member of Technical Chamber of Greece (TCG).  
-2005 : Member of American Institute of Aeronautics and Astronautics.

### **FOREIGN LANGUAGES**

English: Certificate of Proficiency in English (Michigan Proficiency).

### **TEACHING EXPERIENCE**

Adjunct Professor in the Technological Educational Institute of Greece, Energy Technology Department, Mechanical Engineering Section (2011-2015)

1. Heating, Ventilating & Air-Conditioning I (6<sup>th</sup> Semester)
2. Heating, Ventilating & Air-Conditioning II (7<sup>th</sup> Semester)
3. Heat Transfer (5<sup>th</sup> Semester)
4. Supervisor of 1 diploma thesis, related to heat transfer

Adjunct Professor in the Hellenic Air Force Technical Academy, 2010-2011

1. “Aerodynamics I (Incompressible Flow Aerodynamics)” (2<sup>nd</sup> Semester)
2. “Aerodynamics II (Compressible Flow Aerodynamics)” (3<sup>rd</sup> Semester)

### 3. “Principles of Aerodynamics” (3<sup>rd</sup> Semester)

#### Teaching Assistance in the School of Mechanical Engineering of NTUA, 2002-2012

1. Teaching assistance in computational exercises in 5 courses at the School of Mechanical Engineering, NTUA, during the PhD Studies (2002-2006):
  1. Numerical Analysis (3<sup>rd</sup> semester)
  2. Thermal Turbomachines (5<sup>th</sup> semester)
  3. Aerodynamic Optimization Methods (7<sup>th</sup> semester)
  4. Viscous Flows in Turbomachines (9<sup>th</sup> semester)
  5. Operating Systems & Programming Languages (1<sup>st</sup> and 2<sup>nd</sup> semester)
2. Teaching assistance during computational exercises in the course “Grid Generation and Adaptation” in the post-graduate master course “Computational Mechanics” of NTUA during the post-doctoral research at NTUA (2006-2012).
3. Teaching assistance during computational exercises in the course “Deterministic and Stochastic Optimization Methods and Applications” in the post-graduate master course “Applied Mathematical Sciences” of NTUA during the post-doctoral research at NTUA (2006-2012).
4. Conduction of Laboratory Exercises during PhD studies (years 2002-2006) for the course “Thermal Turbomachines” of the Laboratory of Thermal Turbomachines of the Fluids Section of the NTUA.

#### Supervising assistance to 20 diploma theses in the Laboratory of Thermal Turbomachines, NTUA.

### **PARTICIPATION IN SCIENTIFIC PROJECTS**

#### Participation in research projects of the University of Thessaly

- SP1. “ROBAST: Robust Aerostructural Optimization based on New High-Order Adjoint Methods”. Support of Postdoctoral Researchers, General Secretariat for Research and Technology, Greece, 2012-2015. (Principal Investigator)
- SP2. “UQ-dynamics: Uncertainty Quantification and Propagation in Complex Structural Dynamics Simulations using Monitoring Data”, Aristeia, General Secretariat for Research and Technology, Greece, 2015.

#### Participation as a principal investigator in research projects of NTUA

- SP3. “Adjoint approaches for the analysis and design of turbomachinery blades and optimal grid adaptation through a posteriori error estimation”. NTUA, Basic Research Program IRAKLITOS, 2002-2005.
- SP4. “Adjoint approaches for the design of optimal aerodynamic shapes. New mathematical formulations for well-posed problems. Development of software and validation”. NTUA Basic Research Program THALES 2002-2003.
- SP5. “Development of second-order sensitivity analysis methods for general cost functions in fluid mechanics”. Basic Research Program NTUA, 2009-2010.
- SP6. “Know-How on the Aeroelastic Analysis, Design and Optimization of Wind Turbines”, Program THALES, Greece, 2012-.
- SP7. “Modeling of internally cooled aircraft engine turbine blade using CFD tools”. General Secretariat for Research and Technology, PAVET, Greece, 2002-2005.

#### Participation in FP6 and FP7 projects of the Lab. of Thermal Turbomachines of NTUA

- SP8. “HISAC: Environmentally Friendly High-Speed Aircraft”. European Commission, 2006-2008.
- SP9. HYDROACTION (Development and laboratory testing of improved action and Matrix turbines designed by advanced analysis and optimization tools). European Commission, 2009-2011.

#### Participation in projects of NTUA funded by European companies

- SP10. “Development of optimization methods based on the combination of evolutionary algorithms and artificial neural networks”. Dassault Aviation, 2005.
- SP11. “Multidisciplinary Optimization in Aeronautics based on Hybridized Evolutionary/Deterministic Algorithms, Computational Intelligence, Game Theory and Hierarchical Models on a Distributed Computing Environment - Speed up Studies”. Dassault Aviation, 2007.
- SP12. Multilevel optimization of hydraulic blade runners using Computational Fluid Dynamics. VATECH-HYDRO GmbH & Co (Austria), 2009-2010.

#### Participation in projects of NTUA funded by the VW automotive industry (2008-2015)

- SP13. Optimization of Car Aerodynamics with Openfoam.
- SP14. Computation of Aerodynamic Sensitivity Maps: Methodology and test Application.
- SP15. Sensitivity-based Aerodynamic Optimization Methodology.
- SP16. Numerical Simulation of Flow Control with Continuous Jets.
- SP17. Development of an Adjoint Wall Function Formulation of the Continuous Adjoint Method for the Navier-Stokes Equations.
- SP18. Validation and industrialisation of the adjoint wall function formulation.
- SP19. Shape Optimization for External Aerodynamics: Method Development & Application.
- SP20. Adjoint Method for Time-Averaged Detached Eddy Simulations.

#### **PARTICIPATION IN SCIENTIFIC COMMITTEES OF INTERNATIONAL CONFERENCES**

- ECCOMAS thematic conference “CFD & Optimization”, May 2011, Antalya, Turkey.
- European Turbomachinery Conference, Athens, Greece, 2007.
- ERCOFTAC Design Optimization: Methods & Applications, Athens, Greece, 2004.
- EUROGEN Evolutionary Methods for Design, Optimisation and Control with Applications to Industrial Problems, Athens, Greece, 2001.

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

1. International Journal for Numerical Methods in Fluids (IJNMF).
2. Aerospace Science and Technology (AESCTE).

3. International Journal of Applied Mechanics (IJAM).

**MILITARY SERVICE**

**Duration:** May 2008 - February 2009.

**Military Unit:** Air Force Academy.

**Activities:** Educational support.

**Diploma:** School of Weapon Systems.

**PUBLICATIONS**

***Publications in International Journals***

- J1. I.C. Karpolis, **D.I. Papadimitriou**, K.C. Giannakoglou: 'Evolutionary Optimization Using a New Radial Basis Function Network and the Adjoint Formulation', Journal of Inverse Problems in Science and Engineering, Vol. 14(4), pp. 397-410, 2006.
- J2. K.C.Giannakoglou, **D.I. Papadimitriou**, I.C. Karpolis, "Aerodynamic Shape Design Using Evolutionary Algorithms and New Gradient-Assisted Metamodels", Journal of Computer Methods in Applied Mechanics and Engineering, Vol. 195(44-47), pp. 6312-6329, 2006.
- J3. **D.I. Papadimitriou**, K.C.Giannakoglou, "A Continuous Adjoint Method with Objective Function Derivatives Based on Boundary Integrals for Inviscid and Viscous Flows", Journal of Computers & Fluids, Vol. 36, pp. 325-341, 2007.
- J4. **D.I. Papadimitriou**, K.C. Giannakoglou: "Total Pressure Losses Minimization in Turbomachinery Cascades, using a New Continuous Adjoint Formulation", Journal of Power and Energy: Special Issue on Turbomachinery, Vol. 221(A6), pp. 865-872, 2007.
- J5. **D.I. Papadimitriou**, K.C. Giannakoglou: 'Direct, Adjoint and Mixed Approaches for the Computation of Hessian in Airfoil Design Problems', International Journal for Numerical Methods in Fluids, Vol. 56, pp. 1929-1943, 2008.
- J6. V.G. Asouti, A.S. Zymaris, **D.I. Papadimitriou**, K.C. Giannakoglou: 'Continuous and Discrete Adjoint Approaches for Aerodynamic Shape Optimization with Low Number preconditioning', International Journal for Numerical Methods in Fluids, Vol. 57, pp. 1485-1504, 2007.
- J7. **D.I. Papadimitriou**, K.C. Giannakoglou: 'Computation of the Hessian Matrix in Aerodynamic Inverse Design using Continuous Adjoint Formulations', Computers & Fluids, Vol. 37, pp. 1029-1039, 2008.
- J8. **D.I. Papadimitriou**, K.C. Giannakoglou: 'Aerodynamic shape optimization using first and second order adjoint and direct approaches', Archives of Computational Methods in Engineering, (State of the Art Reviews), Vol. 15(4), pp. 447-488, Dec. 2008.
- J9. A.S. Zymaris, **D.I. Papadimitriou**, K.C. Giannakoglou: 'Continuous Adjoint Approach to the Spalart Allmaras Turbulence Model, for Incompressible Flows', Computers & Fluids, Vol. 38, pp. 1528-1538, 2009.
- J10. **D.I. Papadimitriou**, K.C. Giannakoglou: 'The Continuous Direct-Adjoint Approach for Second Order Sensitivities in Viscous Aerodynamic Inverse Design Problems', Computers & Fluids, Vol 38, pp. 1539-1548, 2009.
- J11. A.S. Zymaris, **D.I. Papadimitriou**, K.C. Giannakoglou, C. Othmer: 'Adjoint wall functions: A new concept for use in aerodynamic shape optimization', Journal of Computational Physics, Vol. 229(13), pp. 5228-5245, July 2010.

- J12. T. Zervogiannis, **D.I. Papadimitriou**, K.C. Giannakoglou: “Total Pressure Losses Minimization in Turbomachinery Cascades using the Exact Hessian”, *Journal of Computer Methods in Applied Mechanics and Engineering*, Vol. 199(41-44), pp. 2697-2708, 2010.
- J13. **D.I. Papadimitriou**, K.C. Giannakoglou: “Aerodynamic Design using the Truncated Newton Algorithm and the Continuous Adjoint Approach”, *International Journal for Numerical Methods in Fluids*, Vol. 68(6), pp. 724–739, February 2012.
- J14. E.M. Papoutsis-Kiachagias, **D.I. Papadimitriou**, K.C. Giannakoglou: “Robust design in aerodynamics using third-order sensitivity analysis based on discrete adjoint. Application to quasi-1D flows”, *International Journal for Numerical Methods in Fluids*, Vol. 69(3), pp. 691-709, May 2012.
- J15. **D.I. Papadimitriou**, K.C. Giannakoglou: “Third-Order Sensitivity Analysis for Robust Aerodynamic Design using Continuous Adjoint”, *International Journal for Numerical Methods in Fluids*, Vol. 71(5), pp. 652–670, February 2013.
- J16. E.M. Papoutsis-Kiachagias, E.A. Kontoleontos, A.S.Zymaris, **D.I. Papadimitriou**, K.C. Giannakoglou: “Adjoint-based Constrained Topology Optimization for Viscous Flows, including Heat Transfer”, *Engineering Optimization*, 2013.
- J17. N.K. Lampropoulos, **D.I. Papadimitriou**, T. Zervogiannis: “A New Wall Function Model for RANS Equations Based on Overlapping Grids”, *International Journal for Computational Methods in Engineering Science and Mechanics*, Vol. 14(3), 195-211, 2013.
- J18. A.S. Zymaris, **D.I. Papadimitriou**, E.M. Papoutsis-Kiachagias, K.C. Giannakoglou: “The continuous adjoint method as a guide for the design of flow control systems based on jets”, *Engineering Computations*, Vol. 30(4), 494-520, 2014.
- J19. E.M. Papoutsis-Kiachagias, A.S. Zymaris, I.S. Kavvadias, **D.I. Papadimitriou**, K.C. Giannakoglou: “The continuous adjoint approach to the  $k-\epsilon$  turbulence model for shape optimization and optimal active control of turbulent flows”, *Engineering Optimization*, Vol. 47(3), pp. 370-389, 2015.
- J20. **D.I. Papadimitriou**, C. Papadimitriou: “Bayesian uncertainty quantification of turbulence models based on high-order adjoint”. *Computers & Fluids*, 120, 82-97, 2015.
- J21. **D.I. Papadimitriou**, C. Papadimitriou: “Optimal Sensor Placement for the Estimation of Turbulence Model Parameters in CFD”. *International Journal for Uncertainty Quantification*, 5(6), 2015.
- J22. **D.I. Papadimitriou**, C. Papadimitriou: “Robust and Reliability-Based Structural Topology Optimization using a Continuous Adjoint Method”, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, accepted for publication, 2016.

### *Invited Lectures*

11. **D.I. Papadimitriou**, “On the forward in time solution of the unsteady adjoint equations”, Keynote Lecture, ECCOMAS Conference, July 20–25, 2014, Barcelona, Spain.

### *Publications in International Conferences*

- C1. I.C. Kampolis, **D.I. Papadimitriou**, K.C. Giannakoglou: ‘Evolutionary Optimization Using a New Radial Basis Function Network and the Adjoint Formulation’, *Inverse Problems, Design and Optimization (IPDO) Symposium*, Rio de Janeiro, Brazil, March 17-19, 2004.

- C2. **D.I. Papadimitriou**, I.C. Kampolis, K.C. Giannakoglou: ‘Stochastic and Deterministic Optimization in Turbomachinery Applications based on the Adjoint Formulation’, ERCOFTAC Design Optimization: Methods & Applications, Athens, Greece, March 31-April 2, 2004.
- C3. **D.I. Papadimitriou**, K.C. Giannakoglou, E. Carelas, I. Triantafyllos, G. Freskos: ‘Automated Parallel CFD Analysis of Internally Cooled Turbine Blades’, 1st International Conference “From Scientific Computing to Computational Engineering”, Athens, Greece, September 8-10, 2004.
- C4. V.G. Asouti, **D.I. Papadimitriou**, D.G. Koubogiannis, K.C. Giannakoglou: “Low Mach Number Preconditioning for 2D and 3D Upwind Flow Solution Schemes on Unstructured Grids”, 5<sup>th</sup> GRACM International Congress on Computational Mechanics, Limassol, June 29- July 1, 2005.
- C5. K.N. Gkagkas, **D.I. Papadimitriou**, K.C. Giannakoglou: “Optimal Grid Adaptation through A Posteriori Error Analysis”, 5<sup>th</sup> GRACM International Congress on Computational Mechanics, Limassol, June 29- July 1, 2005.
- C6. **D.I. Papadimitriou**, K.C. Giannakoglou: “A Continuous Adjoint Method for the Minimization of Losses in Cascade Viscous Flows”, AIAA Paper 2006-0049, Reno-Nevada, 2006.
- C7. **D.I. Papadimitriou**, K.C. Giannakoglou, A.S. Zymaris, “Discrete and Continuous Adjoint Formulations for Turbomachinery Applications”, EUROGEN Conference 2005, Munich.
- C8. **D.I. Papadimitriou**, K.C. Giannakoglou: “Compressor Blade Optimization Using a Continuous Adjoint Formulation”, ASME TURBO EXPO, GT2006/90466, 8-11 May 2006, Barcelona, Spain.
- C9. **D.I. Papadimitriou**, K.C. Giannakoglou: “A Continuous Adjoint Formulation with Emphasis to Aerodynamic-Turbomachinery Optimization”, ECCOMAS CFD Conference 2006.
- C10. **D.I. Papadimitriou**, K.C. Giannakoglou: “Total Pressure Losses Minimization in Turbomachinery Cascades, using a New Continuous Adjoint Formulation”, EUROTURBO Conference 2007.
- C11. T. Zervogiannis, P.I.K.D. Liakopoulos, **D.I. Papadimitriou**, K.C. Giannakoglou: “A Grid Adaptation and Movement Strategy for a Posteriori Error Analysis in VISCOUS FLOWS”, EUROTURBO Conference 2007.
- C12. K.C. Giannakoglou, **D.I. Papadimitriou**, “Adjoint Methods for Gradient and Hessian Based Aerodynamic Shape Optimization”, EUROGEN Conference 2007, Jyvaskyla.
- C13. V.G. Asouti, **D.I. Papadimitriou**, K.C. Giannakoglou, “Continuous Adjoint Method with Low-Mach Number Preconditioning”, EUROGEN Conference 2007, Jyvaskyla.
- C14. K.C. Giannakoglou, I.C. Kampolis, P.I.K. Liakopoulos, M.K. Karakasis, **D.I. Papadimitriou**, V.G. Asouti, T. Zervogiannis: ‘Aerodynamic Shape Optimization Methods on Multiprocessor Platforms’, ParCFD 2007, Antalya, Turkey, May 21-24, 2007.
- C15. T. Zervogiannis, **D.I. Papadimitriou**, K.C. Giannakoglou: “Computation of Second-Order Sensitivities of the Total Pressure Losses Functional in Cascade Flows”, ISABE 2009, 19th ISABE Conference, Montreal, Canada, September 7-11, 2009.

- C16. A.S. Zymaris, **D.I. Papadimitriou**, K.C. Giannakoglou, C. Othmer: “Optimal Location of suction or blowing jets using the continuous adjoint approach”, Fifth European Conference on Computational Fluid Dynamics – ECCOMAS CFD 2010, June 2010, Lisbon, Portugal.
- C17. **D.I. Papadimitriou**, K.C. Giannakoglou: “One-Shot Shape Optimization using the Exact Hessian”, Fifth European Conference on Computational Fluid Dynamics – ECCOMAS CFD 2010, June 2010, Lisbon, Portugal.
- C18. E.M. Papoutsis-Kiachagias, **D.I. Papadimitriou**, K.C. Giannakoglou: “On the Optimal Use of Adjoint Methods in Aerodynamic Robust Design Problems”, CFD and OPTIMIZATION 2011, ECCOMAS Thematic Conference, Antalya, Turkey, 2011.
- C19. E.M. Papoutsis-Kiachagias, E.A. Kontoleontos, A.S.Zymaris, **D.I. Papadimitriou**, K.C. Giannakoglou: “Constrained Topology Optimization for Laminar and Turbulent Flows, including Heat Transfer”, EUROGEN Conference 2011, Capua, Italy.
- C20. K.C. Giannakoglou, **D.I. Papadimitriou**, E.M. Papoutsis-Kiachagias, C. Othmer: “Adjoint Methods in Cfd-based Optimization - Gradient Computation & Beyond”, ECCOMAS CFD 2012, September 2012, Vienna, Austria.
- C21. **D.I. Papadimitriou**, E.M. Papoutsis-Kiachagias, K.C. Giannakoglou: “Topology Optimization in Fluid Dynamics using Adjoint-Based Truncated Newton”, ECCOMAS CFD 2012, September 2012, Vienna, Austria.
- C22. K.C. Giannakoglou, **D.I. Papadimitriou**, E.M. Papoutsis-Kiachagias, I.S. Kavvadias, C. Othmer: “Continuous adjoint methods in shape, topology, flow-control and robust optimization”, Open Source CFD International Conference, London 2012.
- C23. I.S. Kavvadias, G.K. Karpouzas, E.M. Papoutsis-Kiachagias, **D.I. Papadimitriou**, K.C. Giannakoglou, “Optimal flow control and topology optimization using the continuous adjoint method in unsteady flows”, Evolutionary and Deterministic Methods for Design, Optimization and Control, EUROGEN 2013, Las Palmas, Gran Canaria, Spain 2013.
- C24. **D.I. Papadimitriou**, C. Papadimitriou: “Bayesian estimation of turbulence model parameters using high-order sensitivity analysis”, 4th International Congress on Computational Engineering and Sciences (FEMTEC), 19-24 May 2013, Las Vegas.
- C25. **D.I. Papadimitriou**, C. Papadimitriou: “Optimal sensor location for model parameter estimation in CFD”, 21<sup>st</sup> AIAA Computational Fluid Dynamics Conference, 24-27 June 2013, San Diego, California.
- C26. C. Papadimitriou, **D.I. Papadimitriou**: “Bayesian uncertainty quantification and propagation using adjoint techniques”, 5th European Conference on Computational Mechanics (ECCM V), July 20–25, 2014, Barcelona, Spain.
- C27. **D.I. Papadimitriou**, C. Papadimitriou: “Uncertainty propagation for robust aerodynamic shape optimization”, 32nd AIAA Applied Aerodynamics Conference, June 2014, Atlanta, Georgia.
- C28. **D.I. Papadimitriou**, C. Papadimitriou: “Robust reliability-based aerodynamic shape optimization”, 4<sup>th</sup> International Conference on Engineering Optimization, 8-11 September 2014, Lisbon, Portugal.
- C29. **D.I. Papadimitriou**, C. Papadimitriou: “Sensitivity Analysis for Uncertainty Propagation and Robust Design, "AIAA Science and Technology Forum and Exposition (SciTech 2015)", Kissimmee, Florida, 5-9 January 2015.

- C30. **D.I. Papadimitriou**, C. Papadimitriou: “Structural optimization of a wing body with uncertain aerodynamic loads”, VI International Conference on Coupled Problems in Science and Engineering, San Servolo Island, Venice, May 18-20, 2015.
- C31. **D.I. Papadimitriou**, C. Papadimitriou: “Posterior robust optimization for design update based on measurements”, 1<sup>st</sup> International Conference on Uncertainty Quantification in Computational Sciences and Engineering, UNCECOMP 2015, Crete Island, Greece, 25-27 May, 2015.
- C32. **D.I. Papadimitriou**, C. Papadimitriou: “Robust and reliability-based topology optimization of wing bodies”, AIAA Aviation, June 2015, Dallas, Texas.
- C33. N.K. Lampropoulos, E.G. Karvelas, **D.I. Papadimitriou**, I.E. Sarris, “Computational study of the optimum gradient magnetic field for the navigation of spherical particles into targeted areas”, Journal of Physics: Conference Series (Vol. 637, No. 1, p. 012038). IOP Publishing, 2015.

### ***Publications in Lecture Series***

- L1. K.C. Giannakoglou, **D.I. Papadimitriou**, I.C. Kampolis,: “Coupling Evolutionary Algorithms, Surrogate Models and Adjoint Methods in Inverse Design and Optimization Problems”, von Karman Institute Lectures Series on Numerical Optimization Methods & Tools for Multi-criteria /Multi-Disciplinary Design with applications to Aeronautics and Turbomachinery", 2004.
- L2. K.C. Giannakoglou, **D.I. Papadimitriou**: “Formulation and Application of the Continuous Adjoint Method in Aerodynamics and Turbomachinery”, von Karman Institute Lectures Series on ‘Introduction to Optimization and Multidisciplinary Design- Applications to Aeronautics and Turbomachinery”, 2006.
- L3. K.C.Giannakoglou, **D.I. Papadimitriou**, I.C. Kampolis: “Hybridized Adjoint Methods/ Evolutionary Algorithms & Applications to Turbomachinery”, von Karman Institute Lectures Series on ‘Introduction to Optimization and Multidisciplinary Design in Aeronautics and Turbomachinery”, 2008.
- L4. K.C. Giannakoglou, **D.I. Papadimitriou**, A.S. Zymaris: “The Continuous Adjoint Method for First and Second-Order Sensitivities in Aerodynamic Shape Optimization”, von Karman Institute Lectures Series on “Introduction to Optimization and Multidisciplinary Design in Aeronautics and Turbomachinery” , 2010.
- L5. K.C. Giannakoglou, **D.I. Papadimitriou**, E.M. Papoutsis-Kiachagias: “The Continuous Adjoint Method: Theory and Industrial Applications”, von Karman Institute Lectures Series on “Introduction to Optimization and Multidisciplinary Design in Aeronautics and Turbomachinery”, 2012.
- L6. K.C. Giannakoglou, E.M. Papoutsis-Kiachagias, **D.I. Papadimitriou**, I.S. Kavvadias: “The continuous adjoint method in shape, flow control and topology optimization”, von Karman Institute Lecture Series, 2014.

### ***Book Chapters***

- B1. K.C. Giannakoglou, **D.I. Papadimitriou**, “Chapter 4: Adjoint Methods for Shape Optimization”, in Optimization and Computational Fluid Dynamics, Editors: D. Thevenin, G. Janiga, Springer-Verlag Berlin Heidelberg, 2008 (ISBN 978-3-540-72152-9).
- B2. I.S. Kavvadias, G.K. Karpouzas, E.M. Papoutsis-Kiachagias, **D.I. Papadimitriou**, K.C. Giannakoglou, “Chapter 10: Optimal flow control and topology optimization using the continuous adjoint method in unsteady flows”, Advances in Evolutionary

and Deterministic Methods for Design, Optimization and Control in Engineering and Sciences, Springer International Publishing, Vol. 36, 2015, pp 159-173, 2015.

- B3. K.C. Giannakoglou, **D.I. Papadimitriou**, E.M. Papoutsis-Kiachagias, I.S. Kavvadias, “Chapter 23: Aerodynamic Shape Optimization Using “Turbulent” Adjoint and Robust Design in Fluid Mechanics”, Engineering and Applied Sciences Optimization: Volume 1-Dedicated to the memory of Professor M.G. Karlaftis.

***Other Publications***

- O1. K.C. Giannakoglou, A.P. Giotis, M.K. Karakasis, **D.I. Papadimitriou**, I.C. Kampolis: “Design Optimization Tools Based on Evolutionary Algorithms, Computational Intelligence and the Adjoint Method, ERCOFTAC Bulletin 66.