

## CURRICULUM VITA

First name	Demetri
Family name	Mathioulakis
Nationality	Greek

### EDUCATION

1974-1979	Diploma of Mechanical Engineering, National Technical University of Athens (NTUA), Greece
Sep.1980-June1982	Master of Science in Fluid Mechanics, Virginia Polytechnic Institute and State University (VPI & SU), U.S.A. Study of rotating stall.
Sep.1982-Mar.1985	Phd in Fluid Mechanics (VPI & SU), U.S.A. Study of unsteady laminar flow separation.

### PROFESSIONAL EXPERIENCE

Sep.1980-June 1984	Graduate assistant in the Department of Engineering Science and Mechanics, VPI & SU.
Sep.1987-Mar.1988	Aerodynamics Laboratory (NTUA). Participation in a research programme concerning the improvement of lignite burners (CFD work).
Mar 1988-Feb.1992	Public Power Corporation, Greece. Engineer in the sector of wind turbines and photovoltaics. Major tasks: procurement, installation, maintenance and efficiency assessment of wind turbines and photovoltaic stations.
Feb.1992-today	NTUA, School of Mechanical Engineering, Fluids Section. Currently, Associate Professor.
2008-2011	Director of the Aerodynamics Laboratory at NTUA
2010-2011	Head of the Fluids Section at NTUA

### TEACHING EXPERIENCE

\* **Graduate Assistant at VPI & SU** during the years 1980-1984, participating in undergraduate courses as assistant.

\* I have taught in **seminars**, concerning the following subjects:

- Control System of wind turbines
- Aerodynamics and control system of wind turbines
- Bioclimate design of buildings

\* **The last twenty years I have taught the following undergraduate courses:**

Fluid Mechanics I, 2<sup>nd</sup> year  
Fluid mechanics II, 4<sup>th</sup> year

Industrial Fluid Mechanics, 3<sup>rd</sup> year  
Experimental Fluid Mechanics, 3<sup>rd</sup> year

and **I have participated in the following graduate programs of NTUA** covering fluid mechanics courses:

- . Bioengineering technology
- . Design and construction of underground projects
- . Micro and nano systems
- . Energy production and management

### **NOTES FOR UNDERGRADUATE STUDENTS**

I have written the following notes for undergraduate students:

#### **1) Basic elements of wind turbines**

This is about the aerodynamics of wind turbines, their electromechanical and control system.

#### **2) Fluid Mechanics II**

This is about the theory of Joukowski airfoils, one dimensional analysis of compressible fluids, turbulent flow fields, theory of open ducts, lubrication theory, analytical solutions of jets, slender body wakes, natural convection.

#### **3) Experimental Fluid Mechanics**

This includes various experimental techniques with regard to velocity, pressure and flow rate measurements, as well as flow visualization techniques.

#### **4) Industrial Fluid Mechanics**

It covers the theory of thin airfoils, the theory of body vibrations of circular and rectangular cross section exposed to steady and unsteady free streams, and the theory of road tunnel ventilation.

#### **5) Fluid Mechanics for mining engineering students**

This covers the basic laws of mass and momentum conservation, basic elements of pumps theory and theory of multiphase flows in porous media applied on oil exploitation.

### **RESEARCH TOPICS**

My research has been mainly on the following subjects:

Flow about an axisymmetric body at high angles of attack with and without the presence of a cavity, flow about a delta wing, a UAV, a square cross section fuselage, a pitching airfoil, mixing of two air streams, flow control by pulsating air jets, flow about a biplane, about self oscillating bodies (circular and square cross section), heat transfer measurements, flow in microchannels, force measurements of swim fins.

Biological flows (in aneurysms, flows in tube bifurcations, self oscillating flexible tubes, artificial heart valves, valveless pumps, intra-aortic counter pulsating pump, steady and time varying asymmetric stenosis, a heated stenosis, flow in capillary tubes, droplet deformation, voice production, flow in tubes simulating stents).

My work has been published in about 90 papers in international scientific journals and the proceedings of international and national conferences.

### **JOURNAL PUBLICATIONS**

1. Velocity and vorticity distributions in periodic separating flow”, D. S. Mathioulakis and D. P. Telionis, Journal of Fluid Mechanics, Vol. 184, pp. 303-333, 1987.
2. “Pulsating flow over an ellipse at an angle of attack”, D. S. Mathioulakis and D. P. Telionis, Journal of Fluid Mechanics, Vol.201,pp. 99-121, 1989.
- 3) “The formation and internal structure of coherent vortices in the wake of a pitching airfoil”, M. C. Wilder, D. S. Mathioulakis, D. R. Poling and D. P. Telionis, Journal of Fluids and Structures, vol. 10, pp.3-20, 1996.
- 4) “Digital image analysis as a means for determination of urodynamic parameters”, D. S. Mathioulakis, A. Fidas, P. Dik, S.Tsangaris, Journal of Medical and Biological Engineering and Computing, pp. 181-184, 1996.
- 5) “An experimental and numerical study of a  $90^0$  bifurcation”, D. S. Mathioulakis, Th. Pappou and S. Tsangaris, Journal of Fluid Dynamics Research, 19, pp.1-26, 1997.
- 6) “Experimental flow study within a self-oscillating collapsible tube” K.Kounanis and D.S.Mathioulakis, Journal of Fluids and structures, vol.13, pp.61-73, 1999.
- 7) “Microscope PIV for velocity-field measurement of particle suspensions flowing inside glass capillaries”, A. G. Koutsiaris, D. S. Mathioulakis and S. Tsangaris, Measurement Science and Technology, Vol.10, pp.1037-1046, 1999.
- 8) “Pulsating flow in a 90 degree bifurcation”, D. Schinas and D. S. Mathioulakis, Journal of Fluids Engineering, Vol. 122, pp.1-7, 2000.
- 9) “Axial and secondary flow study in a 90 deg bifurcation under pulsating conditions using PIV”, N .M. Nikolaidis and D. S. Mathioulakis, Journal of Fluids Engineering, vol. 124, pp. 505-511, 2002.
- 10) “Arterial compliance is a main variable determining the effectiveness of intra-aortic balloon counterpulsation”, T. G. Papaioannou, D. S. Mathioulakis, J. N. Nanas, S. G. Tsangaris, S. F. Stamatelopoulos, S. D. Mouloupoulos, Medical Engineering & Physics, 24, pp. 279- 284, 2002.
- 11) “Simulation of systolic and diastolic left ventricular dysfunction in a mock circulation: the effect of arterial compliance”, T. G. Papaioannou, D. S. Mathioulakis and S. G. Tsangaris, Journal of Medical Engineering and Technology, vol.27, Nr.2, pp. 85 – 90, 2003.

- 12) “Viscous flow in oscillating angulated tubes”, S.Tsangaris, D. Mathioulakis, G. Marinakis and C. Kolyva, *Acta Mechanica*, 160, pp. 61 – 70, 2003.
- 13) “A flow study around a time-dependent 3-D asymmetric constriction”, J. Anagnostopoulos and D. S. Mathioulakis, *Journal of Fluids and Structures*, 19, pp. 49 – 62, 2004.
- 14) “New aspects on the role of blood pressure and arterial stiffness on mechanical assistance by intra-aortic balloon pump: In – vitro data and their application in clinical practice”, T. G. Papaioannou, D. S. Mathioulakis, K. S. Stamatelopoulos, E. J. Gialafos, J. P. Lekakis, J. Nanas, S. F. Stamatelopoulos and S. G. Tsangaris, *Journal of Artificial Organs*, 28 (8) 717-727 AUG, 2004.
- 15) “Experimental flow study over a blunt-nosed axisymmetric body at incidence”, D. K. Pantelatos and D. S. Mathioulakis, *Journal of Fluids and Structures*, 19 (8), 1103-1115, Nov2004.
- 16) “Unsteady flow field in a square tube T-junction”, J. Anagnostopoulos and D. S. Mathioulakis, *Journal of Physics of Fluids*, 16 (11), 3900-3910, Nov. 2004.
- 17) “Experimental and clinical study of the combined effect of arterial stiffness and heart rate on pulse pressure: differences between central and peripheral arteries”, Th. G. Papaioannou, A. Protogerou, Ch. Papamichael, D. Mathioulakis, S. Tsangaris, E. Karatzis, S. Toumanidis, n, Zacopoulos and J. Lekakis, *Clinical and Experimental Pharmacology and Physiology*, 32 (3), 210-217, Mar. 2005
- 18) “One dimensional model of valveless pumping in a closed loop and a numerical solution”, Ch. Manopoulos, D.S. Mathioulakis and S. G. Tsangaris, *Journal of Physics of Fluids*, 18(1),17106, (p.16), Jan. 2006.
- 19) “A novel design of a non-cylindric stent with beneficial effects on flow characteristics: an experimental and numerical flow study in an axisymmetric arterial model with sequential mild stenoses”, TG. Papaioannou, Ch. Christofidis, D. Mathioulakis and Cl. Stefanadis, *Journal of Artificial Organs*, 31(8):627-638, 2007.
- 20) “Two non circular cross-section bodies at incidence and a high wing-body configuration in a low subsonic free stream”, D.Pantelatos, D. C. Tzotzolakis, D.S.Mathioulakis, *Journal of Fluids and Structures*, Vol.24, issue 6, pg.778-798, 2008.
- 21) “Study of an integrated thermal sensor in different operational modes, under laminar, transitional and turbulent flow regimes”, Ch. Stamatopoulos, A.Petropoulos, D.S.Mathioulakis, G.Kaltsas, *Experimental Thermal and Fluid Science*, vol.32, issue8, pg. 1687-1693, 2008.
- 22) “Steady and unsteady flow within an axisymmetric tube dilatation”, Ch. Stamatopoulos, Y.Papaharilaou, D.S.Mathioulakis, A.Katsamouris, *Experimental Thermal and Fluid Science*, 34, 915-927, 2010.

23) “Experimental unsteady flow study in a patient specific abdominal aortic aneurysm model”, Ch. Stamatopoulos, D.S. Mathioulakis, I. Papaharilaou, A. Katsamouris, Experiments in Fluids, Vol. 50, 1695-1709, 2011.

24) “Mixed convection flow investigation in a rectangular horizontal tube stenosis via liquid crystal thermography and planar PIV”, Ch. Stamatopoulos, D. S. Mathioulakis, A. Katsamouris, Experimental Thermal and Fluid Science, vol.35, 375-386, 2011.

25) “Performance Evaluation of Swim Fins under Zero Translation Speed”, P. Bardis, D.S. Mathioulakis, International Journal of Sports Science and Coaching, Vol.6, Nr. 2, 253-268, 2011.

### CONFERENCE PAPERS

1) “Modeling rotating stall by vortex dynamics”, D.S.Mathioulakis and D.P.Telionis, AIAA paper 83-0002, Jan 10-13, Reno, Nevada, 1983.

2) “On the shedding of vorticity at separation”, D.P.Telionis and D.Mathioulakis, Workshop on unsteady separated flow, AFOSR-FJSRL-Univ. Colorado, Francis and Luttges (eds), pp.106-116, 1984.

3) “Velocity and Vorticity measurements around laminar separation in periodic flows” D.S.Mathioulakis and D.P.Telionis, 3<sup>rd</sup> Symposium on Numerical and Physical Aspects of Aerodynamic Flows, Long Beach California, Jan 1985.

4) “On the wake of a pitching airfoil”, D.S.Mathioulakis, M.J.Kim, D.P.Telionis and D.T.Mook, paper 85-1621, AIAA 18<sup>th</sup> Fluid Dynamics and Plasmadynamics and Lasers Conference, Cincinnati, Ohio, July 16-18, 1985.

5) “Pulsating flow over an ellipse at an angle of attack”, D.S.Mathioulakis and D.P.Telionis, AIAA paper 86-1106, AIAA-ASME 4<sup>th</sup> Fluid Mechanics, Plasma Dynamics and Lasers Conference, Atlanta, Georgia, May 12-14, 1986.

6) “Unsteady shear layers separating from smooth and sharp surfaces”, D.P.Telionis, N.T.Hoang, D.R.Poling and D.S.Mathioulakis, Workshop II on unsteady separated flows, Colorado Springs, pp.249-254, 1988.

7) “Collection and processing of P.P.C. demonstration photovoltaic and wind units operational data”, A.Koronidis, P. Pligoropoulos, A. Androutsos, D.S.Mathioulakis, Hellenic Committee of CIGRE, Conf. 89, 19-20 Oct., 1989.

8) “Technical specifications of wind turbines and wind parks: PPC’s contribution to prototyping”, A.I.Androutsos, G. Vergos, H. Lignos, D.S. Mathioulakis, E. Bakis, P. Pligoropoulos, 4th National Conference for Renewable Energy sources, 6-8 Oct., Xanthi, 1992.

- 9) "LDA flow field measurements on a BANKI (cross-flow) water turbine", D.S. Mathioulakis and D.E. Papantonis, 5<sup>th</sup> International Conference on Laser Anemometry, 23-27 Aug., pp.745-752, 1993.
- 10) "Digital image analysis as a means for determination of urodynamic parameters", D.S.Mathioulakis, C.Fidas, C.Farmakis, P.Dik, T.Boon, S.Tsangaris, 3<sup>rd</sup> Panhellenic Congress on Medical informatics, May 13-15, Thessalonica, 1994.
- 11) "LDV investigation of a 90 degree square duct bifurcation", D.Lytras and D.S.Mathioulakis, 2<sup>nd</sup> International Conference on Experimental Fluid Mechanics, Torino, 4-8 July, 1994.
- 12) "Study of vortical structures by means of particle image velocimetry", A.Kostis and D.S.Mathioulakis, 2<sup>nd</sup> GR-I International Conference on New Laser Technologies and Applications, Proceedings of SBIE, pp.286-290, 1-4 June, Olympia, Greece, 1997.
- 13) "Study of the flow field within a self oscillating flexible tube", K. Grigoropoulos and D.S. Mathioulakis, 1<sup>st</sup> Panhellenic Conference of Bioengineering Technology, Athens, 20-21 March, 1998.
- 14) "Study of a balloon pump", Ch. Zygopoulou and D.S.Mathioulakis, 1<sup>st</sup> Panhellenic Conference of Bioengineering Technology, Athens, 20-21 March, 1998.
- 15) "An experimental study of a balloon pump" Ch. Zygopoulou, T.G.Papaioannou and D.S.Mathioulakis, 3<sup>rd</sup> International Conference on Engineering Aero-Hydroelasticity, 30 August-3 September, 1999, Prague, Czech Republic.
- 16) "Experimental study of a pulsating air jet", A.Panorgias and D.S.Mathioulakis, 6<sup>th</sup> National Conference of Renewable Energy Sources, Volos, 3-5Nov., 1999.
- 17) "Influence of the wake of a pitching flat plate on a downstream stationary plate", I.Noussis and D.S. MATHioulakis, 6<sup>th</sup> National Conference of Renewable Energy Sources, Volos, 3-5Nov., 1999.
- 18) "Use of LDA and PIV for the flow study in a time dependent stenosis", K. Maras, S. Tzouanakis and D.S.Mathioulakis, 6<sup>th</sup> National Conference of Renewable Energy Sources, Volos, 3-5Nov., 1999.
- 19) "In vitro study of the efficiency of an intra aortic counterpulsating pump in a system simulating the arterial circulation" Th. Papaioannou, D. Mathioulakis, S.Stamatelopoulos, I. Nanas and S. Tsangaris. 2<sup>nd</sup> Panhellenic Conference of Bioengineering Technology, 5-6 Nov., Athens, 1999.
- 20) "Effect of arterial compliance on blood flow during counterpulsation with intra-aortic balloon pump: Numerical and in-vitro model" Th.Papaioannou, D.Mathioulakis, S.Stamatelopoulos, S.Tsangaris, 12<sup>th</sup> Conference of the European Society of Biomechanics, Dublin, Ireland, 27-30 Aug. 2000.

- 21) "Study of Unsteady flow in a 90 degree bifurcation using P.I.V." N.M.Nikolaidis and D.S.Mathioulakis, 12<sup>th</sup> Conference of the European Society of Biomechanics, Dublin, Ireland, 27-30 Aug., 2000.
- 22) "Theoretical and experimental study of non linear pumping effects in the peripheral vessels, based on the concept of valveless pumps" Ch.G.Manopoulos, D.S.Mathioulakis and S.Tsangaris, 4<sup>th</sup> Euromech Fluid Mechanics Conference, Eindhoven, Holland 19-23 Nov., 2000.
- 23) "Experimental study of aortic blood flow in counterpulsation with intra aortic balloon pump in a mock circulatory system", T. Papaioannou, D. Mathioulakis, S. Tsangaris, J. Nanas, S. Stamatelopoulos, S. Mouloupoulos, 1<sup>st</sup> World Conference on Intraortic Counterpulsation, Athens, 31 Aug-2 Sep, 2000.
- 24) "The effect of arterial compliance on the hemodynamic effectiveness of intraaortic balloon pumping", T. Papaioannou, A. Dagle, J. Lekakis, J. Nanas, J. Kanakakis, K. Stamatelopoulos, E. Gialafos, J. Terrovitis, D. Mathioulakis, S. Tsangaris, S. Stamatelopoulos, S. Mouloupoulos, 1<sup>st</sup> World Conference on Intraortic Counterpulsation, Athens, 31 Aug-2 Sep, 2000.
- 25) "Theoretical and experimental study of non-linear pumping effects of a balloon pump, based on the concept of valveless pumping", Ch. G. Manopoulos, D. Mathioulakis, S. Tsangaris, 2<sup>nd</sup> European Symposium and Third TEMPERE Workshop on Biomedical Engineering and Medical Physics, Patras, Greece, 6-8 Oct., 2000.
- 26) "Experimental study of time dependent flow in a tube bifurcation using LDV", D.Schinas and D. S. Mathioulakis, 2<sup>nd</sup> Symposium of Experimental activities on flow phenomena in Greece, Volos, Greece, 22 May, 2000.
- 27) "Experimental flow study about an axisymmetric body at a high angle of attack", D.K. Pantelatos and D.S.Mathioulakis, 2<sup>nd</sup> Symposium of Experimental activities on flow phenomena in Greece, Volos, Greece, 22 May, 2000.
- 28) "Theoretical models and an experimental study of valveless pumping in the circulatory system", Ch. G. Manopoulos, Th. Pappou, D. Mathioulakis and S. Tsangaris, International Society of Biomechanics, XVIII<sup>th</sup> Congress, Swiss Federal Institute of Technology 8-13 July, 2001.
- 29) "An experimental study of the flow around an axisymmetric body at high angles of attack", D. K. Pantelatos, D. S. Mathioulakis, RTO AVT Symposium on Advanced Flow Management, Loen, Norway, 7-11 May, 2001.
- 30) "The independent quantitative effect of arterial compliance, heart rate and blood pressure on acute hemodynamic effectiveness of IABC", T. Papaioannou, J. Nanas, J. Lekakis, D. Mathioulakis, J. Kanakakis, S. Tsangaris, S. Stamatelopoulos, S. Mouloupoulos, XIV<sup>th</sup> World Congress of Cardiology, Sydney, Australia, May 5-9, 2002.

- 31) “Theoretical and experimental study of valveless pumping through impedance induced flow system of tubes formed in a closed loop”, Ch. G. Manopoulos, D. Mathioulakis, S. Tsangaris, 3<sup>rd</sup> European Symposium on Biomedical Engineering and Medical Physics, Dept. of Medical Physics, 30 Aug. -1 Sep., , University of Patras, Greece, 2002.
- 32) “Study of the flow field in a droplet using PIV”, A.Aggelaki and D.S.Mathioulakis, Flow 2002, Experimental activities on flow phenomena in Greece, Patras, 2-3 Oct., 2002.
- 33) “Pressure, wall shear stress and stream lines distribution on the surface of an axisymmetric body at high angles of attack”, D. Pantelatos, D. Tsonis and D.S.Mathioulakis, Flow 2002, Experimental activities on flow phenomena in Greece, Patras, 2-3 Oct., 2002.
- 34) “In vitro study of flow characteristics during intra-aortic balloon pumping: The effect of heart rate, arterial compliance and pressure”, Th. Papaioannou, D. Mathioulakis, S. Tsangaris, J. Nanas, S. Stamatelopoulos, 12<sup>th</sup> International Conference on Mechanics in Medicine and Biology, 9-13 Sep., Lemnos, 2002.
- 35) “Steady and unsteady flow study in a tube stenosis”, A. Diamandis and D. S. Mathioulakis, International Conference on Computational and Experimental Engineering & Sciences, Corfu, Greece, 24-29 July 2003.
- 36) “Experimental flow study on axisymmetric body released from a UAV cavity, at low Reynolds numbers and high angles of incidence”, D. K. Pantelatos and D. S. Mathioulakis, 19<sup>th</sup> Bristol International Conference on Unmanned Air Vehicle systems, Bristol, England, 29 Mar-31 Mar, 2004.
- 37) “Experimental flow study within deformable elastic tubes of constant and varying thickness”, A. Laskari and D. S. Mathioulakis, 7<sup>th</sup> National Congress on Mechanics, , Chania, Greece, June 24- 26, 2004.
- 38) “Flow control through pulsating jets”, M. Kynigalakis, D.S.Mathioulakis, 7<sup>th</sup> National Congress on Mechanics, Chania, Greece, June 24- 26, 2004.
- 39) “Droplet deformation in an unsteady flow field: An experimental study”, D.S. Mathioulakis, 1<sup>st</sup> International Conference on Experiments/Process/System Modelling/Simulation/Optimization - 1st IC-EpsMsO , Athens, 6 - 9 July, 2005.
- 40) “Flow study in a flexible circular tube with internal cavities”, Ch. Christofidis & D.S. Mathioulakis, 1<sup>st</sup> International Conference on Experiments/Process/System Modelling/Simulation/Optimization - 1st IC-EpsMsO, Athens, 6 - 9 July, 2005.
- 41) “Experimental flow study about a square cross-section fuselage at incidence”, A. Skiadopoulou & D.S. Mathioulakis, 1<sup>st</sup> International Conference on Experiments/Process/System Modelling/Simulation/Optimization - 1st IC-EpsMsO, Athens, 6- 9, 2005.



- 42) “Numerical simulation and hydrodynamic design optimization of a Tesla-Type valve for micropumps”, J.S.Anagnostopoulos and D.S.Mathioulakis, 3<sup>rd</sup> IASME/WSEAS International Conference on Fluid Mechanics and Aerodynamics”, 20-22 August, Corfu, 2005.
- 43) “Pulsating flow around a stationary cylinder: An experimental study”, A. Douni and D.S.mathioulakis, 3<sup>rd</sup> IASME/WSEAS International Conference on Fluid Mechanics and Aerodynamics”, 20-22 August, Corfu, 2005
- 44) “Experimental study of valveless pumping in a closed loop configuration”, M.Pilou, Ch.Manopoulos, D.S.Mathioulakis and S.Tsangaris, 3<sup>rd</sup> IASME/WSEAS International Conference on Fluid Mechanics and Aerodynamics”, 20-22 August, Corfu, 2005
- 45) “Theoretical study of the influence of a new type, non cylindrical stent on the local flow characteristics under the presence of multiple stenoses”, Ch. Christofidis, Th.Papaioannou, A.Lazopoulos, D.Mathioulakis, S. Tsangaris, Ch. Stefanadis, 26<sup>th</sup> Panhellenic Heart Conference, Athens, 3-5 Nov., 2005.
- 46) “An experimental study of the flow temperature and velocity field in a heated stenosis”, Ch. G. Stamatopoulos and D. S. Mathioulakis, 5<sup>th</sup> World Congress of Biomechanics”, Munich, Germany, July 29<sup>th</sup>-August 4<sup>th</sup>, 2006.
- 47) “The influence of a convergent nozzle on the flow field of a mild stenosis located in a T-junction”, Ch. Ch. Christofidis, T. G. Papaioannou and D. S. Mathioulakis, 5<sup>th</sup> World Congress of Biomechanics”, Munich, Germany, July 29<sup>th</sup>-August 4<sup>th</sup>, 2006.
- 48) “The influence of a convergent nozzle on the flow field of downstream located mild stenoses”, Ch. Ch. Christofidis, T. G. Papaioannou and D. S. Mathioulakis, ASME PVP 06 Conference, Vancouver, Canada, 23-27 July, 2006.
- 49) “Flow control using time dependent jets”, Hantziaras V., Mathioulakis D., Kaltsas G., 2<sup>nd</sup> International Conference from Scientific Computing to Computational Engineering, 5-8 July, Athens, Greece, 2006.
- 50) “Nano- and Micro- flows of single gases and binary mixtures through tubes and orthogonal ducts via kinetic theory”, S. Varoutis, D. Mathioulakis, D. Valougeorgis, Micro and nanoscale flows, Glasgow, England, 7-8 Dec., 2006
- 51) “Flow study in stent models”, Ch. Christofidis, Th. Papaioannou, D.Mathioulakis, 2<sup>nd</sup> Panhellenic Conference of Technical Chamber of Greece, Athens, 16-18 May, 2007.
- 52) “Experimental study in a symmetric aneurysm model with elastic walls», Ch. Stamatopoulos, D. Mathioulakis, 2<sup>nd</sup> ELEMbio, Olymbia, 4-6 May, 2007.
- 53) “Experimental and numerical flow simulation in vessels with stents”, Ch. Christofidis, Th. Papaioannou, D. Mathioulakis, S. Tsangaris and Ch. Stefanadis,

Conference for the scientific research in the National Technical University of Athens, Plomari, Lesvos, 5-8 July, 2007.

54) “Temperature and velocity measurements within blood vessel models of pathophysiological characteristics”, Ch. Stamatopoulos and D.S.Mathioulakis, 7<sup>th</sup> International Symposium on Particle Image Velocimetry, Rome, Italy, 11-14 Sep., 2007.

55) “Particle Image Velocimetry Measurements in an Abdominal Aortic Aneurysm Model”, Stamatopoulos Ch., Papaharilaou Y., Georgakarakos E., Mathioulakis D.S., Katsamouris A.N. , Proceedings, Bioengineering 08, London, September, 2008.

56) Stamatopoulos Ch., Papaharilaou Y., Georgakarakos E., Mathioulakis D.S., Katsamouris A.N. (2008) “Experimental study of the flow regime in a realistic model of abdominal aortic aneurysm” Proceedings, 3<sup>rd</sup> Conference of the Hellenic Society of Biomechanics, Athens, Sep. , 2008.

57) “Flow velocity measurements inside a self-oscillating collapsible tube”, D. Kounadis and D.S.Mathioulakis, 3<sup>rd</sup> IC-EpsMsO Conference, Athens, July, 2009.

58) “Aerodynamic loading of a box-type biplane configuration”, J. Asproulas, Th. Lekas and D.S.Mathioulakis, 3<sup>rd</sup> IC-EpsMsO Conference, Athens, July, 2009.

59) “A vowel production study, using cylindrical tubes: a static and dynamic case”, A.Mouzakitis, Ch.Touliatos, D.S.mathioulakis, 3<sup>rd</sup> IC-EpsMsO Conference, Athens, July, 2009.

60) “Non Newtonian flow study in an axisymmetric tube stenosis”, J. Zissis and D. S. Mathioulakis, The 10th IEEE International Conference on Information Technology and Applications in Biomedicine, Corfu, Greece, 2 -5 November, 2010.

61) “Gas flow in micro channels in the slip and early transition regimes: measurements and comparisons with kinetic theory of gases”, G.Kaparianos, S.Misdanitis, D. Mathioulakis, D. Valougeorgis, 4<sup>th</sup> IC-EpsMsO Conference, Athens, July, 2011.

62) “Experimental investigation of the flow field of a backward facing step under forced flow conditions via PIV and POD analysis”, P.Kapiris, D.Mathioulakis, 4<sup>th</sup> IC-EpsMsO Conference, Athens, July, 2011.

63) “Flow reattachment point detection via thermal sensors - PIV evaluation”, P.G. Kapiris, D.S. Mathioulakis, A. Petropoulos, G. Kaltsas, Eurosenors XXV, Athens, Greece, September 4-7, 2011.