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Education

Ph.D. Engineering Mechanics, University of Florida, 1982
M.Sc. Engineering Science, University of Florida, 1979
Dipl. Ing. Civil Engineering, Aristotle University of Thessaloniki, 1977

Professional Experience

Director, Hydromechanics and Environmental Engineering Laboratory, 2004- present
Chairman, Department of Civil Engineering, University of Thessaly, 2002- 2006
Acting chairman, Department of Civil Engineering, University of Thessaly, 1998- 2000
Professor, Department of Civil Engineering, University of Thessaly, 1998- present
Professor of Mechanical Engineering and Mechanics, Lehigh University, 1998
Associate Professor of Mechanical Engineering and Mechanics, Lehigh University, 1992-1998
Assistant Professor of Mechanical Engineering and Mechanics, Lehigh University, 1988-1992
CFD Group Leader, System Dynamics, 1987-1988
Research Engineer, System Dynamics, 1983-1987
Visiting Assistant Professor, University of Florida, 1982-1983

Honors

CEAS Award, Lehigh University, 1997
ASME Curriculum Innovation Award, 1996
Ruth and Joel Spira Award, Lehigh University, 1991
Excellence in Teaching Award, University of Florida, 1983
Hellenic Mathematical Society Award, 1972

Biographical Sketch

Dr. A. Liakopoulos is Professor at the University of Thessaly in Greece, and director of the Hydromechanics and Environmental Engineering Laboratory. Before joining University of Thessaly, Dr. Liakopoulos served as Professor of Mechanical Engineering and Mechanics at Lehigh University, in Pennsylvania, USA. His primary research interests are: transition to turbulence, nonlinear dynamics, modeling of complex environmental processes and applications of nano-science and nano-technology to environmental problems.

Dr. Liakopoulos received his undergraduate degree at the Aristotle University of Thessaloniki, Greece, and his graduate degrees at the University of Florida, Gainesville, Florida. After graduation, Dr. Liakopoulos joined System Dynamics (SDI) as a research engineer responsible for aerodynamic modeling, computational fluid dynamics, stochastic modeling, and computational aspects of simulations. He became SDI's Computational Fluid Dynamics Group Leader and, in this capacity, he supervised projects on computational methods for high Reynolds number external and internal flows, numerical grid generation, vectorization of computer codes, and development of parallel processing algorithms. Since joining Lehigh University, he has conducted research on transitional flows, interfacial instabilities, Galerkin methods for computational fluid dynamics, and application of image processing to fluid dynamics. His research has been funded by NSF, NASA, AT&T, GSRT (Greece), Ministry of Education (Greece) and industrial consortia.

Dr. Liakopoulos is the author of over hundred technical publications and co-editor of a volume on the Stability of Convective Flows published by the American Society of Mechanical Engineers. He is the recipient of five awards from the American Society of Mechanical Engineers, Lehigh University, University of Florida, and the Hellenic Mathematical Society. Nineteen graduate students have graduated with Dr. Liakopoulos as their major professor. He currently advises four Ph.D. students. Dr. Liakopoulos is a reviewer for *Physics of Fluids*, the *International Journal of Heat and Mass Transfer*, the *ASME Journal of Heat Transfer*, the *AIAA Journal*, and the *Journal of Fluids and Structures*. He served in visiting positions at Brown University, Providence, RI, and at University of Florida, Gainesville, FL, in the USA.

He is a member of the American Society of Civil Engineers, the American Society of Mechanical Engineers, the American Physical Society, the International Union of Theoretical and Applied Mechanics, the International Association for Hydraulic Research, Sigma Xi, Pi Tau Sigma, and Phi Kappa Phi.

RESEARCH PROJECTS (Principal Investigator)

1. «Numerical Simulation and experimental study of flows in micro and nano-conduits», General Secretariat for Research & Development, Greece, 15/11/05-30/6/09, 120.420€
2. «Analysis and Modeling of chaotic behavior in fluid systems: from microscale to design», Greek Ministry of Education, Pythagoras Program, 1/3/04-31/12/07, 85.000€
3. «Bringing the OpenMI to Life», European Commission, DG ENV. D.1, Responsible for the research conducted at the University of Thessaly, 1/10/06-30/9/09, 143.000€
4. COST F2 Electrochemical sensors for flow measurements, 1999- 2004
5. Low-Dimensional Models for Thermocapillary Convective Flows in Crystal Growth Processes, NASA, 06/24/94 – 08/22/96, \$98647.
6. Wavelet Techniques in Data Compression and Dynamic Model Identification, Center for Process Modeling and Control, 01/01/94 – 12/31/96, \$128972.
7. Stability Analysis of Interfaces, National Science Foundation, 08/01/91 – 01/31/95, \$80000.
8. Instrumentation for research on convective cooling of electronic equipment, AT&T Foundation, 1991-1993, \$38000.
9. Thermal Design and Optimization of Multichip Modules, Center for Manufacturing Systems Engineering, 1990-1992, \$37000.
10. Cooling Methods for Second Level Electronic Packages, Alcoa Foundation, 1990-1991, \$15000.
11. Wavelet-based Methods in Image Processing and Scientific Computing, Martin Marietta, 1990, \$10000.
12. Development and testing of parallel processing system, 01/07/00-30/06/01, 6.000€

RESEARCH PROJECTS (Senior Investigator)

1. Acronym: FaMaVaSu: Fatigue of Materials Used in Vascular Surgery, 19/2/2014-31/7/2015, 246000€

2. Συμβολή στην Μελέτη της Υδραυλικής Μηχανικής και Υδροδυναμικής Συμπεριφοράς των Αρχιμήδειων Κοχλιωτών Υδροτροχών για Ανάκτηση του Υδροδυναμικού Φυσικών και Τεχνητών Υδατορευμάτων, Θαλάσσιων Ρευμάτων και Παλιρροιών.

RESEARCH INFRASTRUCTURE DEVELOPMENT PROJECTS (P.I.)

1. University of Thessaly Laboratory Equipment Procurement Program, 2005-2007, 401.000€
2. Curriculum Development ΕΠΕΑΕΚ-II, University of Thessaly, 2004-2008, 248.000€
3. Departmental Laboratory Equipment Procurement & Fellowships, 01/01/05-31/12/05, 8.400€

TEACHING

Undergraduate courses:

Fluid Mechanics (University of Florida, Lehigh University, University of Thessaly),
Environmental Fluid Mechanics (University of Thessaly),
Thermodynamics (Lehigh University),
Hydraulics (University of Thessaly),
Computational Hydraulics (University of Thessaly),
Ordinary Differential Equations (University of Florida)

Postgraduate courses:

Convective Heat Transfer (Lehigh University),
Boundary Layer Theory (Lehigh University),
Dynamical Systems and Simulation (University of Thessaly),
Applied Mathematics-Partial Differential Equations (University of Thessaly),
Spectral Methods (Lehigh University).

M.S. Theses Supervision

Completed (12): F. Alfriti, T.-H. Huang, D. Rakos, M. Muhammad, H. Gunes, G. Brown, X. Chen, M. Levine, T. Marquette, Y. Kim, M. Watson, D. Kasiteropoulou, P. Kalyva.

Ph. D. Dissertation Supervision

Completed (7): X. Huang, A. Pinarabasi, H. Gunes, R. Sahan, Y. Kim, Ph. Sofos, D. Kasiteropoulou.

In progress (4): Z. Papavasiliou, A. Paresidou, H. Theloura, K. Tserdani

Member of Ph. D. Dissertation Examination Committees

16 Ph.D. Committees (1989-2001), Lehigh University.

10 Ph.D. Committees (1998-2011), University of Thessaly, Aristotle University of Thessaloniki, Democritus University of Thrace.

V. Kanakoudis	Aristotle University of Thessaloniki (1998)
E. Kolokitha	Aristotle University of Thessaloniki (1999)
Al. Mentis	Aristotle University of Thessaloniki (2001)
CH. Naris	University of Thessaly (2006)

A.A. Sassos	Democritus University of Thrace (2010)
Ch. Boutsoukis	Aristotle University of Thessaloniki (2010)
S. Pantazis	University of Thessaly) (2011)
N. Darivianakis	Aristotle University of Thessaloniki (2011)
O. Zogou	University of Thessaly (2011)
E. Axarli	Aristotle University of Thessaloniki (2013)

SERVICE

University of Thessaly

Member of the University Senate (2001 - 2006)

Member of the University Academic Development Committee (2002- 2008)

Member of the University Research Committee (2003-2008)

Member of the University Rules and Procedures Committee (2013-2014)

Lehigh University

Graduate Research Committee, Member (1996-1998)

Ph.D. Qualifying Examination Committee (1992-1996)

Representative to University Forum (1990- 1993)

Departmental Computer Equipment Committee, Member.

Technical Society Membership

Member of the American Society of Mechanical Engineers, American Society of Civil Engineers, International Association for Hydraulic Research, Hellenic Hydrotechnical Association, Technical Chamber of Greece.

Technical Committee Membership

Fluid Mechanics Committee ASME (1992-1996)

Environmental Heat Transfer Committee (ASME, K - 19 committee, 1992-1996).

Reviewer for the following journals:

Physics of Fluids, International Journal of Heat and Mass Transfer, AIAA Journal, Journal of Fluids and Structures, ASME Journal of Heat Transfer, ASME Journal of Electronic Packaging, Journal of Thermophysics, ASME Journal of Engineering for Industry, Mathematical and Computer Modelling, ASCE Journal of Hydraulics, ASME Journal of Pipelines.

Reviewer of research proposals for:

National Science Foundation (USA), National Technical University of Athens, Technical University of Crete, University of Patras.

Representative Invited Lectures/ Seminars

Low-dimensional Models of Transitional Convective Flows, Cornell University, Ithaca, New York, October 22, 1996.

Low-dimensional Models of Transitional Flows, University of Maryland, College Park, April 26, 1996

Wavelet Techniques in Data Compression, DuPont Headquarters, Wilmington, Delaware, November 22, 1994

Convective Flows in Cavities and Vertical Channels, University of Pennsylvania, Philadelphia, November 4, 1993

Instabilities in Extended Systems, Lehigh University, Physics Department, 1992.

Convective Flows in Cavities, Seminar, The Levich Institute, City University of New York, New York, December 10, 1991

Thermally Driven Flows in Enclosures, Polytechnic University, Brooklyn, New York, April 11, 1991

Thermally Driven Flows in Enclosures, Aluminium Company of America Technical Center, December 3, 1990

Wavelets in Signal Processing and Computational Fluid Dynamics, University of Tennessee at Knoxville, November 12, 1990

Models of Thermal Convection: Boussinesq, Anelastic and Low Mach Number, Brown University, Providence, Rhode Island, USA, November 28 2014

Rayleigh Benard Convection, Brown University, Rhode Island, USA, December 5 2014

PUBLICATIONS

BOOKS

B-1 A. Liakopoulos: “Fluid Mechanics”, Tziolas Publications (in greek), 2010. ISBN 978-960-418-324-1

B-2 A. Liakopoulos: “Hydraulics. Flow in closed conduits. Hydraulic Machinery” (in greek), (2nd edition) Tziolas Publications, 2014. ISBN 978-960-418-450-7

LECTURE NOTES

LN-1 A. Liakopoulos: “Computational Fluid Dynamics”, Lecture Notes, University of Thessaly, 2009.

EDITORSHIPS

E-1 P.G. Simpkins and A. Liakopoulos: “Stability of Convective Flows”, ASME Press, 1992.

E-2 A. Kungolos, A. Liakopoulos, et al.: “Proceedings, International Conference Protection and Restoration of the Environment VI”, Skiathos, Greece, July 1-5, 2002, Greece, Volumes I, II, III.

E-3 A. B. Liakopoulos, A.G. Kungolos, G.P. Korfiatis: “Protection and Restoration of the Environment”, special issue “*Water, Air & Soil Pollution: Focus*” (WAFO), Kluwer Publications, 2003.

E-4 A. Liakopoulos, B. Kanakoudis, et al.: “Proceedings of the First Joint Conference EYE-EEDYP”, Volumes I,II, Volos, May 17-30, 2009.

E-5 A. Liakopoulos, A. Kungolos, C. Christodoulatos, A. Koutsospyros: “Proceedings, International Conference Protection and Restoration of the Environment XII”, Skiathos, Greece, June 29 to July 3, 2014, Greece, ISBN 978-960-88490-6-8.

E-6 A. Liakopoulos, E. Mystakidis, A. Giannakopoulos: “Advances in Civil Engineering Research”, Grafima Publications, 2014, ISBN: 978-960-88490-4-4.

BOOK CHAPTERS

T.E. Karakasidis and A. Liakopoulos, “Understanding slip at the nanoscale in fluid flows using atomistic simulations”, in “*Detection of pathogens using micro- and nano-technology*”, G. Zuccheri, N. Asproulis (eds.), International Water Association, IWA Publishing, 2012.

JOURNAL ARTICLES

J-1 A. Liakopoulos and C.C. Hsu: “On a Class of Compressible Laminar Boundary - Layer Flows and the Solution Behaviour Near Separation”, *Journal of Fluid Mechanics*, Vol. 149, pp. 339-353, December (1984).

J-2 A. Liakopoulos: “Explicit Representations of the Complete Velocity Profile in a Turbulent Boundary Layer”, *AIAA Journal*, Vol. 22, No. 6, pp. 844-846, June (1984).

J-3 A. Liakopoulos: “Computation of High Speed Turbulent Boundary - Layer Flows Using the $k-\epsilon$ Turbulence Model”, *International Journal for Numerical Methods in Fluids*, Vol. 5, No. 1, pp. 81-97, January (1985).

J-4 A. Liakopoulos and W. H. Boykin: “Singular Perturbation Analysis of Speed Controlled Reciprocating Compressors”, the *Transactions of the ASME, Journal of Dynamic Systems, Measurement and Control*, Vol. 111, No. 2, pp. 313 – 321, June (1989).

J-5 D. Brzakovic, A. Liakopoulos and L. Hong: “Spline Models for Boundary Detection/Description: Formulation and Performance Evaluation”, *CGVIP: Graphical Models and Image Processing*, Vol. 53, No. 4, pp. 392-401, July (1991).

J-6 P. A. Blythe and A. Liakopoulos, E. Haruta: “Thermally Driven Flows at Low Prandtl Numbers: An Extension of the Prandtl-Batchelor Theorem”, *International Journal of Engineering Science*, Vol. 33, No. 12, pp. 1699-1711, (1995).

J-7 A. Pinarbasi and A. Liakopoulos: “The Role of Variable Viscosity in the Stability of the Channel Flow”, *International Communications in Heat and Mass Transfer*, Vol. 22, No. 6, pp. 837-847, (1995).

J-8 A. Pinarbasi and A. Liakopoulos: “Stability of Two-Layer Poiseuille Flow of Carreau-Yasuda and Bingham-Like Fluids”, *Journal of Non-Newtonian Fluid Mechanics*, Vol. 57, pp. 227-241, (1995).

J-9 A. Pinarbasi and A. Liakopoulos: “The Effect of Variable Viscosity on the Interfacial Stability of Two-Layer Poiseuille Flow”, *Physics of Fluids*, Vol. 7, No. 6, June, pp. 1318-1324, (1995).

J-10 A. Pinarbasi and A. Liakopoulos: “On the Influence of Temperature and Viscosity Fluctuations on Interfacial Instability”, *International Communications in Heat and Mass Transfer*, Vol. 23, No. 4, pp. 485-493, (1996).

J-11 P. G. Simpkins and A. Liakopoulos: “Eddy Structures in a Slot with Periodic Heating”, *Journal of Heat Transfer*, Vol. 119, No. 2, pp. 203-237, (1997).

J-12 H. Gunes, A. Liakopoulos, and R. A. Sahan: “Low-Dimensional Description of Oscillatory Thermal Convection: The Small Prandtl Number Limit”, *Theoretical and Computational Fluid Dynamics*, Vol. 9, No. 1, pp. 1-16, (1997).

J-13 H. Gunes, R. A. Sahan, and A. Liakopoulos: “Spatio-Temporal Structures of Buoyancy-Induced Flow in a Vertical Channel”, *Numerical Heat Transfer, Part A*, Vol. 32, No. 1, pp. 51-62, (1997).

J-14 A. Liakopoulos, P. A. Blythe, and H. Gunes: “A Reduced Dynamical Model of Convective Flows in Tall Laterally Heated Cavities”, *Proceedings of the Royal Society of London A*, Vol. 453, pp. 663-672, (1997).

J-15 R. A. Sahan, A. Liakopoulos, and H. Gunes: “Reduced Dynamical Models of Nonisothermal Grooved Channel Flow”, *Physics of Fluids*, Vol. 9, No. 3, pp. 551-565, (1997).

J-16 M. Watson, A. Liakopoulos, D. Brzakovic, and C. Georgakis: “A Practical Assessment of Process Data Compression Techniques”, *Industrial and Engineering Chemistry Research*, Vol. 37, No. 1, pp. 267-274, (1998).

J-17 R. A. Sahan, H. Gunes, and A. Liakopoulos: “A Modeling Approach to Transitional Channel Flow”, *Computers and Fluids*, Vol. 27, No. 1, pp. 121-136, (1998).

J-18 K. Cipolla, A. Liakopoulos, and D. O. Rockwell: “Quantitative Imaging in Proper Orthogonal Decomposition of Flow Past a Delta Wing”, *AIAA Journal*, Vol. 36, No. 7, pp. 1247-1255, (1998).

J-19 A. Oztekin, L. J. Cumbo, A. Liakopoulos: “Temporal Stability of Boundary-Free Shear Flows: The Effect of Diffusion”, *Theoretical and Computational Fluid Dynamics*, Vol. 13, No. 2, pp. 77-90, (1999).

J-20 H. Gunes and A. Liakopoulos: “Three – dimensional convective cooling in a vertical channel with flush – mounted heat sources”, *International Journal of Heat and Mass Transfer*, Vol. 46(5), pp 791-808, (2003).

J-21 T. E. Karakasidis and A. B. Liakopoulos: “Two-regime dynamical behavior in Lennard-Jones systems: Spectral and Rescaled Range Analysis”, *Physica A: Statistical Mechanics and its Applications*. Vol. 333, pp.225-240, (2004).

J-22 T. E. Karakasidis, N. Cholevas, A. B. Liakopoulos: “Parallel Short Range Molecular Dynamics Simulations on Computer Clusters: Performance Evaluation and Modeling”, *Mathematical and Computer Modelling*, Vol. 42, pp. 783-798, (2005).

J-23 Y. Kim, D. Rockwell and A. Liakopoulos: “Quantitative flow interpretation of vortex buffeting on an aircraft tail via proper orthogonal decomposition (POD)”, *AIAA Journal*, Vol. 43(3) pp.550-559, (2005).

J-24 T.E. Karakasidis, A. Fragkou, A. Liakopoulos: “System dynamics revealed by recurrence quantification analysis: Application to molecular dynamics simulations”, *Physical Review E* 76 (2): Art. No. 021120 Part 1 Aug. (2007).

J-25 Filippou Sofos, Theodoros Karakasidis, Antonios Liakopoulos: “Transport properties of liquid argon in krypton nanochannels: Anisotropy and non-homogeneity introduced by the solid walls”, *International Journal of Heat and Mass Transfer*, 52, pp. 735-743, (2009).

J-26 T. Karakasidis, F. Sofos, A. Liakopoulos: “Non- equilibrium molecular dynamics investigation of parameters affecting planer nanochannel flows”, *Contemporary Engineering Sciences*, Vol. 2, no. 6. pp. 283-298, (2009).

J-27 T. Karakasidis, A. Liakopoulos, A. Fragou, P. Papanicolaou: “Recurrence quantification analysis of temperature fluctuations in a horizontal round heated turbulent jet”, *International Journal of Bifurcation and Chaos*, Vol. 19, No. 8, pp. 2487-2498, (2009).

J-28 F. Sofos, T. E. Karakasidis, A. Liakopoulos, “Effects of wall roughness on flow in nanochannels”, *Physical Review E*, 79, 026305, (2009).

J-29 F. Sofos, T. E. Karakasidis, A. Liakopoulos, “Effect of wall roughness on shear viscosity and diffusion in nanochannels”, *International Journal of Heat & Mass Transfer*, 53, pp. 3839-3846, (2010).

J-30 D. Kasiteropoulou, T. E. Karakasidis, and A. Liakopoulos, “Dissipative Particle Dynamics: Investigation of Parameters Affecting Planar Nanochannel Flows”, *Materials Science and Engineering B*, Vol.. 176, no. 19, pp. 1574-1579, (2011).

J-31 F. Sofos, T. E. Karakasidis, A. Liakopoulos, “Surface wettability effects on flow in rough wall nanochannels”, *Microfluidics and Nanofluidics*, Vol.12, pp. 25-31, (2012).

J-32 D. Kasiteropoulou, T.E. Karakasidis, and A. Liakopoulos, “Dissipative Particle Dynamics study of flow in periodically grooved nanochannels”, *International Journal for Numerical Methods in Fluids*, Vol. 68, Issue 9, pp. 1156–1172, (2012).

J-33 A.E. Giannakopoulos, F. Sofos, T.E. Karakasidis, A. Liakopoulos, “Unified description of size effects of transport properties of liquids flowing in nanochannels”, *International Journal of Heat and Mass Transfer*, Vol. 55, pp. 5087-5092, (2012).

J-34 F. Sofos, T. Karakasidis, A. Liakopoulos, “Fluid flow at the nanoscale: How fluid properties deviate from the bulk”, *Nanoscience & Nanotechnology Letters*, Vol. 5, pp. 457-460, (2013).

J-35 F. Sofos, T. Karakasidis, A. Liakopoulos, “Parameters affecting slip length at the nanoscale”, *Journal of Computational & Theoretical Nanoscience*, Vol. 10, pp.1-3, (2013).

J-36 F. Sofos, T.E. Karakasidis, and A. Liakopoulos, “How wall properties control diffusion in grooved nanochannels: a molecular dynamics study”, *Heat and Mass Transfer*, Vol. 49, 8, pp.1081-1088, (2013).

J-37 D. Kasiteropoulou, T.E. Karakasidis, A. Liakopoulos, “Mesoscopic simulation of fluid flow in periodically grooved microchannels”, *Computers and Fluids*, Vol. 74, pp. 91–101, (2013).

J-38 A.E. Giannakopoulos, F. Sofos, T.E. Karakasidis, A. Liakopoulos, “A quasi-continuum multi-scale theory for self-diffusion and fluid ordering in nanochannel flows”, *Microfluidics Nanofluidics*, Vol. 17, pp. 1011-1023, (2014). Doi: 10.1007/s10404-014-1390-2.

J-39 A. Charakopoulos, T.E. Karakasidis, P. Papanicolaou, A Liakopoulos, “The application of complex network time series analysis in turbulent heated jets”, *Chaos*, 24(2):024408, (2014). DOI: 10.1063/1.4875040.

J-40 A. Charakopoulos, T.E. Karakasidis, P. Papanicolaou, A Liakopoulos, “Non-linear time series analysis and clustering for jet axis identification in vertical turbulent heated jets”, *Physical Review E* 89, 032913, (2014).

J-41 C.S. Lapidou, M. Spiliotopoulos, A. Liakopoulos, “Erosion probability for biofilm modeling: analysis of trends”, *Desalination and Water Treatment*, Vol. 52, Issue 34-36, (2014).

J-42 F. Sofos, T. E. Karakasidis, A. Liakopoulos, “Fluid structure and system dynamics in nanodevices for water desalination”, *Desalination and Water Treatment Journal*, (2015). <http://dx.doi.org/10.1080/19443994.2015.1049966>

J-43 A.K. Charakopoulos, T.E. Karakasidis, A. Liakopoulos, “Spatiotemporal Analysis of Seawatch Buoy Meteorological Observations”, *Journal: Environmental Processes*, (2015). DOI: 10.1007/s40710-015-0088-0

J-44 A. Fragkou, T.E. Karakasidis, I. Sarris, A. Liakopoulos, “Spatiotemporal Time Series Analysis Methods for the Study of Turbulent Magnetohydrodynamic Channel Flows”, *Journal: Environmental Processes*, (2015). DOI: 10.1007/s40710-0-015-0095-1.

J-45 F. Sofos, T. E. Karakasidis, A.E. Giannakopoulos, A. Liakopoulos, “Molecular dynamics simulation on flows in nano-ribbed and nano-grooved channels”, *Heat Mass Transfer*, (2015). DOI: 10.1007/S00231-015-1601-8.

J-46 A. Liakopoulos, F. Sofos, T. E. Karakasidis “Friction factor in nanochannel flows”, *Microfluidics Nanofluidics*, accepted for publication (2015).

J-47 D. Kasiteropoulou, T. E. Karakasidis, A. Liakopoulos, “Study of fluid flow in grooved micro and nano-channels via dissipative particle dynamic: a tool for desalination membrane design”, submitted for publication.

PAPERS IN INTERNATIONAL CONFERENCE PROCEEDINGS

CP-1. C.C. Hsu and A. Liakopoulos: “A Finite Element-Differential Method for a Class of Compressible Laminar Boundary-Layer Flows”, in *Numerical Methods in Laminar and Turbulent Flow*, C. Taylor and B.A. Schrefler, eds., Pineridge Press, Swansea, U.K., 1981, pp. 497-504.

CP-2. C.C. Hsu and A. Liakopoulos: “Nonsimilar Solution of Compressible Laminar Boundary-Layer Flows by a Semi-Discretization Method”, in *Finite Element Flow Analysis*, T. Kawai, ed., University of Tokyo Press, Tokyo, Japan, 1982, pp. 395-401.

CP-3. A. Liakopoulos and C.C. Hsu: “Prediction of Turbulent Boundary-Layer Flows with a $k-\epsilon$ Closure Model by a Semi-Discretization Method”, in *Recent Advances in Engineering Mechanics and their Impact on Civil Engineering Practice*, W. F. Chen and A.D.M. Lewis, eds., ASCE 1983, pp. 1202-1205.

CP-4. A. Liakopoulos and C.C. Hsu: “On a Class of Compressible Laminar Boundary-Layer Flows”, 16th International Congress of Theoretical and Applied Mechanics, Lyngby, Denmark, August 19-25, 1984.

CP-5. A. Liakopoulos and D. Brzakovic: "Spline Based Sequential Estimation of Boundaries in Digital Images", Proc. of the 22nd Annual Allerton Conference, University of Illinois, Urbana, Illinois, October 3-5, 1984, pp. 792-793.

CP-6. D. Brzakovic and A. Liakopoulos: "Measurement Models for Sequential Estimation of Boundaries in Digital Images", Proc. of IASTED International Symposium on Applied Signal Processing and Digital Filtering, Paris, France, June 19-21, 1985, pp. 168-171.

CP-7. D. Brzakovic and A. Liakopoulos: "Estimation Theory Based Segmentation of Texture Images," in Advances in Image Processing and Pattern Recognition, V. Cappellini and R. Marconi, eds., North Holland, Amsterdam, 1986, pp. 234-238.

CP-8. D. Brzakovic and A. Liakopoulos: "Sequential Estimation of Boundaries in Texture Images", Proc. of Vision Interface '86, Vancouver, Canada, May 27-30, 1986, pp. 366-369.

CP-9. L. Hong, D. Brzakovic and A. Liakopoulos: "Boundary Detection in a Texture-based Vision System," Proc. of IECON '87, Cambridge, Mass., 1987, pp. 676-681.

CP-10. L. Hong, D. Brzakovic and A. Liakopoulos: "Boundary Detection in Digital Images Based on Spline Functions and Estimation Theory", Proc. of the 26th IEEE Conference on Decision and Control, Los Angeles, Cal., 1987, pp. 1048-1049.

CP-11. A. Liakopoulos: "Pseudospectral Solutions of Separated Flows", Proc. of the First National Fluid Dynamics Congress (NFDC), Cincinnati, Ohio, July 24-28, 1988, pp. 207-214.

CP-12. A. Liakopoulos: "A Spectral Collocation Solution Algorithm for the Unsteady, Incompressible Navier-Stokes Equations - An Artificial Compressibility Formulation", Fifth Annual Forum on Unsteady Flow at the ASME Winter Annual Meeting, Chicago, Illinois, November 28-December 2, 1988, pp. 43-46.

CP-13. A. Liakopoulos: "Spectral Methods for Attached and Separated Compressible Boundary-Layer Flows", Seventh International Conference on Finite Element Methods in Flow Problems, Huntsville, Alabama, April 3-7, 1989, pp. 1440-1445.

CP-14. A. Liakopoulos: “Unsteady Separation at High Reynolds Numbers”, Β' Εθνικό Συνέδριο Μηχανικής, Αθήνα, Ιούνιος 1989, pp. 782-789.

CP-15. A. Liakopoulos, P.A. Blythe and P.G. Simpkins: “Convective Flows in Tall Cavities”, in Simulation and Numerical Methods in Heat Transfer, HTD - Vol. 157, A. F. Emery, ed., ASME 1990, pp. 81 - 87.

CP-16. A. Liakopoulos, X. Huang and P.A. Blythe: “Buoyancy Driven Motions Due to a Vertical Array of Heat Sources”, in Heat Transfer in Electronic Equipment, HDT - Vol. 171, ASME Press, 1991, pp. 63-69.

CP-17. H. Gunes and A. Liakopoulos: “Three-dimensional Convective Cooling in a Vertical Channel with Protruding Heat Sources”, in Advances in Electronic Packaging, EEP-vol.4-2, ASME Press, 1993, pp. 755-767.

CP-18. X. Huang and A. Liakopoulos: “Convective Flow and Heat Transfer in Tall Enclosures with Flush-Mounted Heat Sources”, in Advances in Electronics Packaging, EEP-vol. 4-2, ASME Press, 1993, pp. 769-778.

CP-19. A. Liakopoulos and G.W. Brown: “Thermocapillary and Natural Convection in a Square Cavity”, AMD - vol. 170, in Surfaces-Tension-Driven Flows, ASME Press, 1993, pp. 57-74.

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