BRIEF CURRICULUM VITA

Prof. DIMITRIS VALOUGEORGIS

1. PERSONAL

Born in Thessaloniki, Greece
Date of birth: October 23, 1956
Marital status: married with one child
Work address: University of Thessaly (UTH), Dept. of Mechanical Engineering, Pedion Areos, 38334, Volos, Greece
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2. EDUCATION

Diploma in Mechanical Engineering (1975 - 1980)
Aristotelion University of Thessaloniki (AUT)
Title of Diploma thesis: Salt removal of sea water using flashing evaporators
Master of Science in Mechanical Engineering (1981 – 1982)
Virginia Polytechnic Institute and State University (VPI&SU)
Title of M.S. thesis: Spectroscopic measurements of NO_X in a diffusion flame
Doctor of Philosophy in Mechanical Engineering (1982 – 1985)
Virginia Polytechnic Institute and State University (VPI&SU)
Title of Ph.D. thesis: The F_N method in kinetic theory and rarefied gas dynamics

3. PROFESSIONAL EMPLOYMENT

Graduate Research Assistant, Combustion Laboratory, Department of Mechanical Engineering, VPI&SU, Jan. 1981 – May 1982
Graduate Research Assistant, Division of Thermal Science, Department of Mechanical Engineering, VPI&SU, June 1982 – May 1985
Visiting Assistant Professor, Department of Mathematics and Center of Transport Theory, VPI&SU, June 1985 – Aug. 1987
Special Scientist, Laboratory of Fluid Mechanics and Turbomachinery, Department of Mechanical Engineering, AUT, Sept. 1988 – June 1992
Project Engineer, Hellenic Petroleum – Thessaloniki Industrial Complex, March 1989 – Aug. 1998
Assistant Professor, Department of Mechanical and Industrial Engineering, UTH, Sept. 1998 – Jan. 2002
Assistant Professor with Tenure, Department of Mechanical Engineering, UTH, Feb. 2002 – July 2004
Associate Professor, Department of Mechanical Engineering, UTH, Aug. 2004 – Dec. 2008
Professor, Department of Mechanical Engineering, UTH, Jan. 2009 – today

4. RESEARCH FIELDS AND INTERESTS

The research interests of D. Valougeorgis are in the broad area of analytical and computational methods in thermal-fluid sciences. More specifically, his research work is in the following fields:

- Kinetic theory of gases and rarefied gas dynamics
- Non-equilibrium gas flows and transport phenomena
- Vacuum gas dynamics with applications in fusion reactors
- Microfluidics and vacuum technology
- Analytical and numerical solutions of integral-differential equations (Boltzmann and kinetic model equations)

5. TEACHING

From 1985 until 1992 and from 1998 until today D. Valougeorgis has taught at VPI&SU, AUT and UTH undergraduate and graduate courses in applied and computational mathematics and thermal science. Some of these courses are: Calculus, Linear Algebra, Differential equations, Heat transfer, Numerical analysis, Computational methods, Computational fluid dynamics, Kinetic theory and Microfluidics, Solar thermal systems.

He has supervised many Diploma thesis, several Master of Science thesis and eight (8) Ph.D. dissertations; he has been in the Examining Committee of many Ph.D. thesis in Greece as well as abroad (University of Toulouse, University of Marseille, Polytechnic School of Milano, Strathclyde University, etc.)

Member of several committees responsible for the restructuring of the Undergraduate and Graduate Programs of Study of the Department of Mechanical Engineering of UTH.

6. RESEARCH PROGRAMS and COLLABORATIONS

He has participated as a researcher or as the principal investigator or as scientific manager in many projects (selective list):

- Kinetic mechanisms of NO_X production in diffusion flames (NSF, USA, 1980-82)
- Linear analysis of strong evaporation: thermal – mechanical properties of high temperature structural materials (NSF, USA, 1982-85)
- Computational methods in neutron transport theory (Department of Defense, USA, 1986-87)
- Aerodynamic loading on the blades of wind turbines, (GSRT, PENED, 1990-91)
- Optimization of transport phenomena in impingement jets, (GSRT, PENED, 1994-95)
- Specifications of advanced industrial equipment (Asprofos Engineering S.A., 1999-2000)
- A balkan and eastern european network of excellence for the diffusion of mathematics in industry (European Union, Program IST, 2001-03)
- Damage identification in water pipe networks (Greek General Secretariat of Research and Technology, Program PAVET, 2001-03)
- The Lattice Boltzmann in computational fluid dynamics (Program Hrakleitos, Greek Ministry of Education, 2004-06)
- Flows and transport phenomena of gas mixtures in nano and micro elecrto-mechanical systems (Program Pythagoras, Greek Ministry of Education, 2005-06)
- Gas flows in nano and micro fluidics devices with applications in biotechnology (France – Greece: Projects communs de recherche et de technologie 2006-2008)
- Gas flows in Microsystems (EE, PEOPLE, Initial training of researchers, 2008-12)
- Numerical simulation of end effects in the Windowless Tritium Gas Source (WGTS) unit of the KATRIN experimental facility (Karlsruhe Institute of Technology 7/2010-12/2011)
- Vacuum technology and pumping – VACUTEC (EFDA Goal Oriented Training Programme, 11/2010-10/2013)
- Vacuum metrology for production environments (EMRP Research Excellence Grant: IND12-REG12, 1/4/2013-31/3-2014)
- Research and training network on miniaturized gas flow for applications with enhanced thermal effects – MIGRATE (Horizon 2020, MSCA-ITN-ETN, 11/2015-10/2019)
- Industrial standards in the intermediate pressure to vacuum – 14IND06 pres2vac (European Metrology Programme for Innovation and Research, 1/6/2015-31/5/2018)
- Controlled thermonuclear fusion (EUROFUSION 2014-2020)

Over the years there has been a very close collaboration with many scholars in universities and research centers (indicative list):

- University of Parana, Department of Physics, Brazil (Prof. Felix Sharipov)
- INSA, Toulouse, Dept. of Mechanical Engineering (Prof. Stephane Colin)
- Bulgarian Academy of Science, Institute of Mechanics, Sofia (Prof. Stefan Stefanov)
- Polytechnic School of Milano, Dept. of Aerospace Eng. (Prof. Aldo Frezzotti)
- North Carolina State University, Dept. of Mathematics, USA (Prof. C. E. Siewert)
- Karlsruhe Institute of Technology (KIT), Germany (Dr. Christian Day)

7. SCIENTIFIC JOURNALS and EVENTS

Member of the Editorial Board of the scientific journal *VACUUM* published by Elsevier.

Reviewer in many journals (indicative list):

- European Journal of Mechanics B/Fluids
- Fusion Engineering and Design
- Journal of Applied Mathematics and Physics (ZAMP)
- Journal of Computational Physics
- Journal of Physics D: Applied Physics
- Microfluidics and Nanofluidics
- Nuclear Science and Engineering
- Physica A: Statistical Mechanics and its Applications
- Physics of Fluids
- Physical Review E

He has organized or co-organized or he has been in the scientific committees of the following events:

- European Conference in Microfluidics (Bologna 12/2008; Toulouse 12/2010; Karlsruhe 12/2012; Ireland 12/2014)
- Micro and Nano Flow Conference (West London 2009; Thessaloniki 2011; London 9/2014)
- GASMEMS Workshop and Summer School (Eindhoven 9/2009; Marseille 7/2010; Bologna 7/2011)
- 8th GRACM International Congress on Computational Mechaniics (Volos, Greece 7/2015)
- 1st European Conference in Gas Microflows (Skiathos, Greece 6/2012)
- School on Vacuum Gas Dynamics, Volos, Greece (5/2012)
- Flow 2012, Volos, Greece (11/2012)
- IUVSTA 13th School on Vacuum Gas Dynamics, Thessaloniki (5/2015)
- 2nd European Conference on Non-equilibrium Gas Flows, Eindhoven (12/2015)
- 1st, 2nd and 3rd MIGRATE Workshops and Summer Schools (Strasbourg 6/2016; Sofia 6/2017; Bastia-Corsica 6/2018)
- 3rd European Conference on Non-equilibrium Gas Flows, Strasbourg (2/2018)

8. INDUSTRIAL EXPERIENCE

As Project Engineer at the Hellenic Petroleum (Feb. 1989 – Aug. 1998), D. Valougeorgis was responsible for the efficient implementation of all phases of a project (engineering, materials and equipment procurement, construction), for the coordination of all involved parties and for the technical supervision and completion of the investment.

9. PUBLICATIONS in SCIENTIFIC JOURNALS

1. J. R. Thomas and D. Valougeorgis, "The F_N method in kinetic theory: I. Half space problems", **Transport Theory and Statistical Physics**, 14, 485-496, (1985).
2. J. R. Thomas and D. Valougeorgis, "The F_N method in kinetic theory: II. Heat transfer between parallel plates", **Transport Theory and Statistical Physics**, 14, 497-512, (1985).

3. D. Valougeorgis and J. R. Thomas, “Exact numerical results for Poiseuille and thermal creep flow in a cylindrical tube”, **Physics of Fluids**, 29, 423-429, (1986).
4. D. Valougeorgis, “A concise solution for shear flow problems in cylindrical geometry”, **Journal of Applied Mathematics and Physics (ZAMP)**, 37, 797-800, (1986).
5. D. Valougeorgis, “Couette flow of a binary gas mixture”, **Physics of Fluids**, 31, 521-524, (1988).
6. D. Valougeorgis, M. Williams and E. W. Larsen, “Stability analysis of synthetic acceleration methods with anisotropic scattering”, **Nuclear Science and Engineering**, 99, 91-98, (1988).
7. D. Valougeorgis, “Boundary treatment of the diffusion synthetic acceleration method for fixed-source discrete-ordinates problems in x-y geometry”, **Nuclear Science and Engineering**, 100, 142-148, (1988).
8. G. Breyannis, V. Bondozoglou, D. Valougeorgis and A. Goulas, “Large amplitude interfacial waves on a linear shear flow in the presence of a current”, **Journal of Fluid Mechanics**, 249, 499-519, (1993).
9. G. Breyannis, D. Valougeorgis, V. Bondozoglou and A. Goulas, “An inviscid investigation of the initiation of roll waves in horizontal gas-liquid flows”, **International Journal of Multiphase Flow**, 20, 5, 957-967, (1994).
10. C. E. Siewert and D. Valougeorgis, “The temperature jump problem for a mixture of two gases”, **Journal of Quantitative Spectroscopy and Radiative Transfer**, 70, 307-319, (2001).
11. M. Ballas and D. Valougeorgis, “Surface tension effects on the nonlinear behavior of long waves in a two layer flow”, **Computational Mechanics**, 27, 3, 265-269, (2001).
12. C. E. Siewert and D. Valougeorgis, “An analytical discrete-ordinates solution of the S-model kinetic equations for flow in a cylindrical tube”, **Journal of Quantitative Spectroscopy and Radiative Transfer**, 72, 531-550, (2002).
13. G. Theodoridis, V. Karayiannis and D. Valougeorgis, “Dispersion characteristics in an urban area based on grid refinement and various turbulence models”, **Water Air and Soil Pollution: Focus**, 2, 525-539, (2002).
14. D. Valougeorgis, “An analytical solution of the S-model kinetic equations”, **Journal of Applied Mathematics and Physics (ZAMP)**, 54, 112-124, (2003).
15. D. Valougeorgis and S. Naris “Analytical Lattice Boltzmann solutions for thermal flow problems”, **Transport Theory and Statistical Physics**, 32, 5-7, 639-650, (2003).
16. S. Papaspyrou, D. Valougeorgis, and S. A. Karamanos, “Refined solutions of externally induced sloshing in half-full spherical containers”, **Journal of Engineering Mechanics, ASCE**, 129, 12, 1369-1379, (2003).
17. Z. Poulakis, D. Valougeorgis and K. Papadimitriou, “Leakage detection in water pipe networks using a probabilistic framework”, **Probabilistic Engineering Mechanics**, 18, 4, 315-327, (2003).
18. D. Valougeorgis and S. Naris, “Acceleration schemes of the discrete velocity method: Gaseous flows in rectangular microchannels”, **SIAM Journal of Scientific Computing**, 25, 2, 534-552, (2003).
19. S. Papaspyrou, D. Valougeorgis, and S. A. Karamanos, “Sloshing effects in half-full horizontal cylindrical vessels under longitudinal excitation”, **Journal of Applied Mechanics, ASME**, 71, 255-265, (2004).
20. C. E. Siewert and D. Valougeorgis, “Concise and accurate solutions to half-space binary-gas flow problems defined by the McCormack model and specular-diffuse wall conditions”, **European Journal of Mechanics B/Fluids**, 23, 709-726, (2004).
21. S. Naris, D. Valougeorgis, D. Kalempa and F. Sharipov, “Gaseous mixture flow between two parallel plates in the whole range of the gas rarefaction”, **Physica A: Statistical Mechanics and its Applications**, 336, (3-4), 294-318, (2004).
22. S. Naris, D. Valougeorgis, F. Sharipov and D. Kalempa, “Discrete velocity modelling of gaseous mixture flows in MEMS”, **Superlattices and Microstructures**, 35, 3-6, 629-643, (2004).
23. S. Papaspyrou, S. A. Karamanos and D. Valougeorgis, “Response of half-full horizontal cylinders under transverse excitation”, **Journal of Fluids and Structures**, 19, 7, 985-1003, (2004).
24. G. Breyiannis and D. Valougeorgis, “Lattice Boltzmann simulations in 3-D magnetohydrodynamics”, **Physical Review E**, 69, 065702.1-065702.4, (2004).
25. C. E. Siewert and D. Valougeorgis, “The McCormack model: Channel flow of a binary gas mixture driven by temperature, pressure and concentration gradients”, **European Journal of Mechanics B/Fluids**, 23, 645-664, (2004).
26. S. Naris and D. Valougeorgis, “The driven cavity flow over the whole range of the Knudsen number, **Physics of Fluids**, 17 (9), 907106.1-907106.12, (2005).
27. S. Naris, D. Valougeorgis, D. Kalempa and F. Sharipov, “Pressure, temperature and density driven micro flows of gas mixtures in rectangular ducts”, **Physics of Fluids**, 17 (10), 100607.1-100607.12, (2005).
28. G. Breyiannis and D. Valougeorgis, “Lattice kinetic simulations in 3D MHD turbulence”, **Computer and Fluids**,35 (8-9), 920-925, (2006).
29. S. Naris and D. Valougeorgis, “Shear driven micro-flows of gaseous mixtures”, **Sensor Letters**, 4, 46-52, (2006).
30. S. Naris and D. Valougeorgis, “Boundary driven non-equilibrium gas flow in a grooved channel via kinetic theory”, **Physics of Fluids**, 19 (6), 067103.1-067103.15, (2007).
31. D. Valougeorgis, “A study on the friction factor of a rarefied gas flow in a circular tube”, **Physics of Fluids**, 19 (9), 091702.1-091702.4, (2007).
32. J. Lihnaropoulos, S. Naris and D. Valougeorgis, Formulation and stability analysis of rapidly convergent iteration schemes for 2D discrete velocity calculations, **Transport Theory and Statistical Physics**, 36 (4-6), 513-528, (2007).
33. D. Valougeorgis, “Results on the viscous and slip coefficients for binary gas mixtures”, **International Journal of Heat and Technology**, 26 (1), 117-123, (2008).

34. G. Breyiannis, S. Varoutis and D. Valougeorgis, “Rarefied gas flow in concentric annular tube: Estimation of the Poiseuille number and the exact hydraulic diameter”, **European Journal of Mechanics B/Fluids**, 27, 609-622, (2008).
35. S. Varoutis, Oleg Sazhin, D. Valougeorgis and F. Sharipov, “Flow of a rarefied gas into vacuum through a tube of finite length”, **Journal of Vacuum Science and Technology – A**, 26 (2), 228-238, (2008).
36. S. Naris and D. Valougeorgis, “Rarefied gas flow in a triangular duct based on a boundary fitted lattice”, **European Journal of Mechanics B/Fluids**, 27, 810-822, (2008).
37. S. Varoutis, D. Valougeorgis and F. Sharipov, “Application of the integro-moment method to steady-state two-dimensional rarefied flows subject to boundary induced discontinuities”, **Journal of Computational Physics**, 227, 6272-6287, (2008).
38. S. Varoutis, S. Naris, V. Hauer, C. Day and D. Valougeorgis, “Experimental and computational investigation of gas flows through long channels of various cross sections in the whole range of the Knudsen number”, **Journal of Vacuum Science and Technology – A**, 27 (1), 89-100, (2009).
39. S. Varoutis, D. Valougeorgis and F. Sharipov, “Gas flow through tubes of finite length over the whole range of rarefaction for various pressure drop ratios”, **Journal of Vacuum Science and Technology – A**, 27 (6), 1377-1391, (2009).
40. J. Pitakarnnop, S. Varoutis, D. Valougeorgis, S. Geoffroy, L. Baldas, S. Colin. “A novel experimental setup for gas microflows”, **Microfluidics and Nanofluidics**, 8 (1), 57-72, (2010).
41. L. Szalmas and D. Valougeorgis, “A fast iterative model for discrete velocity calculations on triangular grids”, **Journal of Computational Physics**, 229, 4315-4326, (2010).
42. L. Szalmas and D. Valougeorgis, “Rarefied gas flow of binary mixtures through long channels with triangular and trapezoidal cross sections”, **Microfluidics and Nanofluidics**, 9 (2-3), 471-487, (2010).
43. L. Szalmas, J. Pitakarnnop, S. Geoffroy, S. Colin and D. Valougeorgis, “Comparative study between computational and experimental results for binary rarefied gas flows through long microchannels”, **Microfluidics and Nanofluidics**, 9 (6), 1103–1114, (2010).
44. S. Pantazis and D. Valougeorgis. “Non-linear heat transfer through rarefied gases between coaxial cylindrical surfaces at different temperatures”, **European Journal of Mechanics B/Fluids**, 29, 494-509, (2010).
45. S. Varoutis, V. Hauer, C. Day, S. Pantazis and D. Valougeorgis, “Experimental and numerical investigation in flow configurations related to the vacuum systems of fusion reactors”, **Fusion Engineering and Design**, 85, 1798-1802, (2010).
46. K. Ritos, J. Lihnaropoulos, S. Naris and D. Valougeorgis, “Pressure and temperature driven flows through triangular and trapezoidal microchannels”, **Heat Transfer Engineering**, 32 (13-14), 1101-1107, (2011).
47. S. Pantazis, S. Varoutis, Chr. Day and D. Valougeorgis, “Gas – surface scattering effect on vacuum gas flows through rectangular channels”, **Vacuum**, 85, 1161-1164, (2011).
48. J. Lihnaropoulos and D. Valougeorgis, “Unsteady vacuum gas flow in cylindrical tubes”, **Fusion Engineering and Design**, 86, 2139–2142, (2011).
49. S. Misdanitis and D. Valougeorgis, “Design of steady-state isothermal gas distribution systems consisting of long tubes in the whole range of the Knudsen number”, **Journal of Vacuum Science and Technology – A**, 29 (6), 061602-1 - 061602-7, (2011).
50. S. Misdanitis, S. Pantazis and D. Valougeorgis, “Pressure driven rarefied gas flow through a slit and an orifice”, accepted to **Vacuum** (to appear in 2012).
51. S. Pantazis and D. Valougeorgis, “Rarefied gas flow through a cylindrical tube due to a small pressure difference”, submitted to **Physics of Fluids** (Nov. 30, 2011).
52. S. Pantazis, S. Naris, C. Tantos, D. Valougeorgis, J. Andre, F. Millet and J. P. Perin, “Nonlinear vacuum gas flow through a short tube due to pressure and temperature gradients”, **Fusion Engineering and Design**, 88, 2384-2387, (2013).
53. S. Misdanitis and D. Valougeorgis, “Modeling of ITER related vacuum gas pumping distribution systems”, **Fusion Engineering and Design**, 88, 2352–2356, (2013).
54. S. Pantazis, D. Valougeorgis and F. Sharipov, “End corrections for rarefied gas flows through capillaries of finite length”, **Vacuum**, 97, 26-29, (2013).
55. S. Pantazis, D. Valougeorgis and F. Sharipov, “End corrections for rarefied gas flows through circular tubes of finite length”, **Vacuum**, 101, 306-312, (2014).
56. M. Vargas, S. Naris, D. Valougeorgis, S. Pantazis and K. Jousten, “Hybrid modeling of time-dependent rarefied gas expansion”, **Journal of Vacuum Science and Technology – A**, 32 (2), 021602.1-11, (2014).
57. M. Vargas, G. Tatsios, D. Valougeorgis and S. Stefanov, “Rarefied gas flow in a rectangular enclosure induced by non-isothermal walls”, **Physics of Fluids**, 26, 057101, (2014).
58. S. Naris, C. Tantos and D. Valougeorgis, “Kinetic modeling of a tapered Holweck pump”, **Vacuum**, 109, 341-348, (2014).
59. M. Vargas, S. Naris, D. Valougeorgis, S. Pantazis and K. Jousten, “Time-dependent rarefied gas flow of single gases and binary gas mixtures into vacuum”, **Vacuum**, 109, 385-396, (2014).
60. C. Tantos, D. Valougeorgis, A. Frezzotti, M. Pannuzzo and G. L. Morini, “Conductive heat transfer in a rarefied polyatomic gas confined between coaxial cylinders”, **International Journal of Heat and Mass Transfer**, 79, 378-389, (2014).
61. C. Tantos, D. Valougeorgis and A. Frezzotti, “Conductive heat transfer in rarefied polyatomic gases confined between parallel plates via various kinetic models and the DSMC method”, **International Journal of Heat and Mass Transfer**, 88, 636-651, (2015).
62. G. Tatsios, S. Stefanov and D. Valougeorgis, “Predicting the Knudsen paradox in long capillaries by decomposing the flow into ballistic and collision parts”, **Physical Review E**, 91, 061001(R), (2015).

63. G. Tatsios, M. Vargas, D. Valougeorgis and S. Stefanov, “Non-equilibrium gas flow and heat transfer in a heated square microcavity”, **Heat Transfer Engineering**, 37 (13-14), 1085-1095, (2016).
64. N. Vasileiadis, G. Tatsios, S. Misdanitis and D. Valougeorgis, “Modeling of complex gas distribution systems operating under any vacuum conditions: Simulations of the ITER divertor pumping system”, **Fusion Engineering and Design**, 103, 125-135, (2016).
65. C. Tantos, S. Naris and D. Valougeorgis, “Gas flow towards an adsorbing planar wall subject to partial gas-surface thermal accommodation”, **Vacuum**, 125, 65-74, (2016).
66. D. Valougeorgis, M. Vargas and S. Naris, “Analysis and guidelines on gas separation, conductance and equivalent single gas approach for binary gas mixture expansion through a short tube into vacuum, **Vacuum**, 128, 1-8, (2016).
67. C. Tantos, G. P. Ghiroldi, D. Valougeorgis and A. Frezzotti, “Effect of vibrational degrees of freedom on the heat transfer in polyatomic gases confined between parallel plates”, **International Journal of Heat and Mass Transfer**, 102, 162-173, (2016).
68. D. Valougeorgis, N. Vasileiadis and V. Titarev, “Range of validity of linear kinetic modeling in pressure driven rarefied gas flows through short tubes”, **European Journal of Mechanics B/Fluids**, 64, 2-7, (2017).
69. A. J. H. Frijns, D. Valougeorgis and S. Colin, Editorial for the special issue on non-equilibrium gas flows, **European Journal of Mechanics B/Fluids**, 64, 1, (2017).
70. G. Tatsios, G. Lopez Quesada, M. Rojas Cardenas, L. Baldas, S. Colin and D. Valougeorgis, “Computational investigation and parametrization of the pumping effect in temperature driven flows through long tapered channels”, **Microfluidics and Nanofluidics**, 21:99, (2017).
71. C. Tantos and D. Valougeorgis, “Conductive heat transfer in rarefied binary gas mixtures confined between parallel plates based on kinetic modeling”, **International Journal of Heat and Mass Transfer**, 117, 846-860, (2017).
72. A. Tsimpoukis and D. Valougeorgis, “Rarefied gas flow in a circular tube due to oscillating pressure gradient”, **Microfluidics and Nanofluidics**, 22:5, (2018).
73. A. Tsimpoukis and D. Valougeorgis, “Pulsatile pressure driven rarefied gas flow in long rectangular ducts”, **Physics of Fluids**, 30, 047104, (2018).
74. S. Naris, N. Vasileiadis, D. Valougeorgis, A. S. Hashad and W. Sabuga, “Computation of the effective area and associated uncertainties of non-rotating piston gauges FPG and FRS”, **Metrologia**, *in press,* (2018).
75. G. Tatsios, D. Valougeorgis and S. Stefanov, “Reconsideration of the implicit boundary conditions in pressure driven rarefied gas flows through capillaries”, **Vacuum**, 160, 114-122, (2019).
76. S. Meskos, S. Stefanov and D. Valougeorgis, “Gas mixing and final mixture composition control in simple geometry micro-mixers via DSMC analysis”, **Micromachines**, 10, 178, doi:10.3390/mi10030178, (2019).
77. G. López Quesada, G. Tatsios, D. Valougeorgis, M. Rojas-Cárdenas, L. Baldas, C. Barrot and S. Colin, “Design guidelines for thermally driven micro-pumps of different architectures based on target applications”, **Micromachines**, 10, 249, doi:10.3390/mi10040249, (2019).
78. A. Tsimpoukis, N. Vasileiadis, G. Tatsios and D. Valougeorgis, Nonlinear oscillatory fully-developed rarefied gas flow in plane geometry**, Physics of Fluids** Special Topic: DSMC – The Legacy of Graeme A. Bird, 31, 067108, doi:10.10631/1.5099051, (2019).
79. G. Tatsios and D. Valougeorgis, “Uncertainty propagation analysis of the computed flow rates and pressure differences in rarefied pressure and temperature driven gas flows through long capillaries”. **European Journal of Mechanics /B Fluids**, 79, 190-201, (2019).
80. N. Vasileiadis and D. Valougeorgis, “Modeling of time-dependent gas pumping networks in the whole range of the Knudsen number: Simulations of the ITER dwell phase”, **Fusion Engineering and Design**, in press, (2019).

Note 1: D. Valougeorgis has also authored or co-authored more than one hundred conference papers and has delivered about twenty five invited lectures at European Universities and Research Institutes.

Note 2: Number of citations (scholar google): more than 2200; h-index: 22