

Andreas G. Boudouvis
Professor
School of Chemical Engineering
&
Rector
National Technical University of Athens

CURRICULUM VITAE

August 2021

Born 28 January 1959, in the city of Pyrgos, Peloponnese, Greece. Married, father of a son and a daughter.

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EDUCATION

- 1987 PhD Chemical Engineering University of Minnesota, Minneapolis, USA
PhD Thesis title: *Mechanisms of surface instabilities and pattern formation in ferromagnetic liquids*. Thesis Advisor: Prof. L. E. Scriven
- 1982 Diploma Chemical Engineering National Technical University of Athens, Greece

EMPLOYMENT

- 9/2018 - 1/2019 *Visiting Professor*, Department of Chemical and Biomolecular Engineering, Johns Hopkins University, Baltimore, Maryland, USA
- 9-10/2016 *Visiting Professor*, Institut National Polytechnique de Toulouse, France
- 6-7/ 2014 *Invited Senior Researcher*, Ecole Nationale Supérieure des Ingénieurs en Arts Chimiques et Technologiques & Fondation de Cooperation Scientifique Sciences et Technologies pour l'Aéronautique et l'Espace, Toulouse, France
- 6-7/2012 *Visiting Professor*, Faculté des Sciences et Technologies, Université de Lorraine, Nancy, France
- 6/2005 - present *Professor*, School of Chemical Engineering, NTUA
- 6/2000 - 6/2005 *Associate Professor*, School of Chemical Engineering, NTUA
- 6/1998 - 6/2000 *Assistant Professor with tenure*, School of Chemical Engineering, NTUA
- 10/1994 - 6/1998 *Assistant Professor*, School of Chemical Engineering, NTUA
- 1/1991 - 10/1994 *Lecturer*, School of Chemical Engineering, NTUA
- 7/1991 - 9/1991 *Senior Visiting Research Fellow*, Army High Performance Computing Research Center, University of Minnesota, USA
- 11/1989 - 7/1990 *Postdoctoral Fellow*, Minnesota Supercomputer Institute, University of Minnesota, USA
- 3/1988 - 10/1989 *Engineering Scientist*, on duty in the Greek Army
- 8/1981 - 12/1987 *Graduate Research Assistant*, Department of Chemical Engineering and Materials Science, University of Minnesota, USA

ADMINISTRATIVE POSITIONS

- 10/2019 - present Rector of the National Technical University of Athens

3/2013	- 8/2016	Dean of the School of Chemical Engineering, NTUA
9/2011	- 8/2018	Director, Inter-Departmental Graduate Studies Program "Computational Mechanics", NTUA
9/2009	- 10/2019	Director, Computer Center and PC Lab, School of Chemical Engineering, NTUA
9/2005	- 9/2007	Head, Department of Process Analysis & Plant Design, School of Chemical Engineering, NTUA

RESEARCH

Transport Phenomena, Interfacial Phenomena, Magneto-Electro-Fluid Mechanics, Nonlinear Phenomena, Large-Scale Scientific Computing

TEACHING

Undergraduate courses: Transport Phenomena, Computational Transport Phenomena, Advanced Fluid Mechanics, Computer Programming, Chemical Engineering Laboratory

Graduate courses: Computational Analysis with the Finite Element Method, Transport Phenomena, Advanced Transport Phenomena

STUDENT SUPERVISION

Graduate student supervision:

Advisor or co-advisor in 23 PhD theses - 19 completed, 4 under way

Advisor in 49 Masters' theses

Undergraduate student supervision: Advisor in 125 Diploma theses

- Among the supervised students, three became recipients of a *European Research Council (ERC) Starting Grant*: A. G. Papathanasiou (PhD 2000, now Associate Professor at NTUA) received an ERC grant in 2010; C. Tsogka (Diploma 1995, formerly Professor at Univ. of Crete, now at Univ. California) received an ERC grant in 2010; T. Stylianopoulos (Diploma 2003, now Associate Professor at Univ. of Cyprus) received an ERC grant in 2014.

HONORS AND AWARDS

2020	The <i>Léopold Escande 2019 Prize</i> for best doctoral theses of the Institut National Polytechnique de Toulouse (INPT), to Giorgos Gakis (thesis advisors A. G. Boudouvis and Prof. B. Caussat).
2017	Best NTUA Doctoral Thesis Award of the year 2012, by the Sarafis Foundation, to Nikos Cheimarios (thesis advisor A. G. Boudouvis).
2016	The <i>Léopold Escande 2016 Prize</i> for best doctoral theses of the Institut National Polytechnique de Toulouse (INPT), to Ioannis Aviziotis (thesis advisors A. G. Boudouvis, Dr. C. Vahlas and Dr. T. Duguet).

1995, 1999, 2004, 2008, 2009, 2010, 2011, 2012, 2013, 2015, 2016, 2017, 2019	Awards to diploma theses completed under A. G. Boudouvis' supervision: by the Technical Chamber of Greece (1995, 2004); by the Hellenic Society for Theoretical and Applied Mechanics (1999); by the National Technical University of Athens with the Thomaidis Foundation Distinction (2005); by the Thomaidis Foundation (NTUA) with the 3 rd prize for Best Diploma Thesis of the year (2008); by the School of Chemical Engineering (2009, 2010, 2011, 2012, 2014, 2015, 2016, 2017, 2019); First Prize for Diploma thesis oral presentation at the 9 th Panhellenic Conference in Chemical Engineering (2013).
2010	Best Doctoral Thesis Award of the year 2007, by the Thomaidis Foundation (NTUA), to Nikos Vourdas (thesis advisor A. G. Boudouvis).
1995	The 2 nd Prize for best presentation in "Research and Technology Days '95", National Technical University of Athens
1984-1985	Doctoral Dissertation Fellowship, University of Minnesota
1979-1980	Fellowship, State Scholarship Foundation (IKY)
1976-1981	Fellowship, "I. S. Latsis" Foundation
1976	The First National Prize, Panhellenic Student Competition of the Hellenic Mathematical Society

MEMBER

American Institute of Chemical Engineers, Society for Industrial and Applied Mathematics, American Mathematical Society, International Association for Hydromagnetic Phenomena and Applications, European Community on Computational Methods in Applied Sciences (ECCOMAS), European Mechanics Society (EUROMECH), International Association for Computational Mechanics (IACM), Hellenic Mathematical Society, Hellenic Society for Theoretical and Applied Mechanics, Greek Association of Computational Mechanics, Greek Association of Chemical Engineers, Technical Chamber of Greece

PROFESSIONAL ACTIVITIES

a) International Conference Organization (recent & selected)

- 45th International Conference on Micro & Nano Engineering (MNE 2019), Rhodes, Greece, 23-26 September 2019. Member of the International Advisory Committee.
- 12th Hellenic Chemical Engineering Conference, Athens, Greece, 29-31 May 2019. Member of the Scientific Committee.
- The 6th European Conference on Computational Mechanics- ECCM 6 and the 7th European Conference on Computational Fluid Dynamics-ECFD 7, Glasgow, UK, 11-15 June 2018. Member of the Scientific Committee.
- 9th GRACM International Congress on Computational Mechanics, Chania, Greece, 4-6 June 2018. Member of the Organizing and Scientific Committee.
- C-MAC Days 2017, Athens, Greece, 20 - 23 November 2017. Chairman of the Organizing Committee.
- 1st International Conference on Computational Methods and Algorithms on HPC Platforms and Accelerators (CompHPC 2017), Athens, Greece, 18 - 20 September 2017. Member of the Scientific Committee.
- 11th Hellenic Chemical Engineering Conference, Thessaloniki, Greece, 25-27 May 2017. Member of the Scientific Committee.
- 12th World Congress on Computational Mechanics (WCCM XII) and 6th Asia-Pacific Congress on Computational Mechanics (APCOM VI) Congress 2016, Seoul, Korea, 24-29 July 2016. Member of the International Scientific Committee.
- The European Community on Computational Methods in Applied Sciences (ECCOMAS) Congress 2016, Chania, Crete Island, Greece, 5-10 June 2016. Member of the Local Organizing Committee and the Scientific Committee.

- 8th GRACM International Congress on Computational Mechanics, Volos, Greece, 12-15 July 2015. Member of the Scientific Committee.
- Sixth Conference in Numerical Analysis (NumAn 2014): Recent Approaches to Numerical Analysis: Theory, Methods and Applications, Chania, Crete, Greece, 2-5 September 2014. Member of the Scientific Committee.
- 11th World Congress on Computational Mechanics (WCCM XI), Barcelona, Spain, 20-25 July 2014. Member of the International Scientific Committee.
- Fifth Conference in Numerical Analysis (NumAn 2012): Recent Approaches to Numerical Analysis: Theory, Methods and Applications, Ioannina, Greece, 5-8 September 2012. Member of the Scientific Committee.
- 6th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2012), Vienna, Austria, 10-14 September 2012. Member of the Scientific Committee.
- 10th World Congress on Computational Mechanics (WCCM 2012), São Paulo, Brazil, 8–13 July 2012 . Member of the International Scientific Committee.
- Simulation and Modeling of Biological Flows (SIMBIO 2011), Vrije Universiteit Brussel, Brussels, 21-23 September 2011. Member of the Scientific Committee.
- Eurosensors XXV, Athens, Greece, 4- 7 September 2011. Member of the Local Organizing Committee.
- 7th GRACM International Congress on Computational Mechanics, Athens, Greece, 30 June - 2 July 2011. Conference Chairman.
- Conference in Numerical Analysis (NumAn 2010): Recent Approaches to Numerical Analysis: Theory, Methods and Applications, Chania, Crete, Greece, 15-18 September 2010. Member of the Scientific Committee.
- 9th World Congress on Computational Mechanics and 4th Asian-Pacific Congress on Computational Mechanics (WCCM/APCOM 2010), Sidney, Australia, 19-23 July 2010. Member of the International Scientific Committee.
- 5th European Conference on Computational Fluid Dynamics (ECCOMAS CFD 2010), Lisbon, Portugal, 14-17 June 2010. Member of the Organizing Committee and the Advisory Scientific Committee.

b) Professional Service

- Reviewer in the following journals: AIChE Journal; Applied Mathematical Modelling; Applied Numerical Mathematics; Applied Surface Science; Biomicrofluidics; Chemical Engineering Communications; Chemical Engineering Journal; Chemical Engineering Research and Design; Chemical Engineering Science; Coatings; Computational Mechanics; Computer Applications in Engineering Education; Computer Methods in Applied Mechanics and Engineering; Computers and Chemical Engineering; Education for Chemical Engineers; Environmental Fluid Mechanics; Fuel; Fuzzy Sets and Systems; Industrial & Engineering Chemistry Research; International Journal for Numerical Methods in Fluids; International Journal of Heat and Mass Transfer; Journal de Physique IV; Journal of Applied Physics; Journal of Chemical Physics; Journal of Colloid and Interface Science; Journal of Computational Physics; Journal of Crystal Growth; Journal of Engineering Mathematics; Journal of Fluid Mechanics; Journal of Food Science; Journal of Magnetism and Magnetic Materials; Journal of Materials Science; Journal of Mechanical Science and Technology; Journal of Membrane Science; Journal of Non-Newtonian Fluid Mechanics; Journal of Petroleum Science and Engineering; Journal of Physics: Condensed Matter; Journal of Physics D: Applied Physics; Langmuir; Materials Science in Semiconductor Processing; Mathematical Methods in the Applied Sciences; Microelectronic Engineering; Microfluidics and Nanofluidics; Parallel Computing; Physical Review E; Physical Review Letters; Physics of Fluids; Quarterly of Applied Mathematics; Sensors & Actuators: B. Chemical; Surface and Coatings Technology; The Journal of Membrane Biology; Thin Solid Films.
- Reviewer of research proposals to the *United States Department of Energy*
- Reviewer of research proposals to the *Agence Nationale de la Recherche*, France
- Reviewer of research proposals to the *Israel Science Foundation*, Israel
- Reviewer of research proposals to the *Technology Foundation STW*, The Netherlands
- Reviewer of research proposals to the *Qatar National Research Fund*, Qatar

- Reviewer of proposals to the *Leading Fellows Postdoc Programme*, Delft University of Technology, The Netherlands
- Reviewer of proposals to the *Cyprus Research Promotion Foundation*, Cyprus
- Member of the Executive Council, *Greek Association of Computational Mechanics*. 1995- President, 2007-2010
- Member of the Examinations Committee for Graduate Studies Scholarships, *State Scholarships Foundation*. 1996-2006
- Member of the International Council, *International Association for Hydromagnetic Phenomena and Applications*. 1996-2000
- Member of the Experts Committee for proposal evaluations for high-tech applications, *General Secretariat for Research and Technology*. 1997-present
- Member of the Experts Committee for proposal evaluations for the "Human Networks for R&D" Program, *General Secretariat for Research and Technology*. 1999
- Member of the Executive Council, *Scientific & Educational Center of Chemical Engineers S.A.* 2000-2006
- Member of the Management Committee, *Program COST*, Action P6 of the European Commission. 2000-05
- Member of the Computational Fluid Dynamics Committee, *European Community on Computational Methods in Applied Sciences (ECCOMAS)*. 2001-present
- Member of the General Council, *International Association for Computational Mechanics (IACM)*. 2009-present
- Member of the Management Committee, *Program COST*, Action P17 of the European Commission. 2005-2009

RESEARCH PUBLICATIONS

- 140 publications in peer-reviewed international journals
- More than 150 publications and presentations in international conferences

PUBLICATIONS, 2011-present

In journals (2011 – present; numbering starts from 76)

140. A. Fytopoulos, M. Kavousanakis, T. Van Gerven, A. G. Boudouvis, G. Stefanidis and C. Xiouras "Crystal growth, dissolution and agglomeration kinetics of Sodium Chlorate." *Industrial & Engineering Chemistry Research* **60**, 7367 (2021).
139. N. Cheimarios, D. To, G. Kokkoris, G. Memos and A. G. Boudouvis "Monte Carlo & Kinetic Monte Carlo models for deposition processes: A review of recent works." *Frontiers in Physics* **9**, Art. 631918 (2021).
138. R. Spencer, P. Gkinis, E. D. Koronaki, D. I. Gerogiorgis, S. P. A. Bordas and A. G. Boudouvis "Investigation of the chemical vapor deposition of Cu from copper amidinate through data driven efficient CFD modelling." *Computers and Chemical Engineering* **149**, Art. 107289 (2021).
137. A. Hadjigeorgiou, A. G. Boudouvis and G. Kokkoris "Thorough computational analysis of the staggered herringbone mixer reveals transport mechanisms and enables mixing efficiency-based improved design." *Chemical Engineering Journal* **414**, Art. 128775 (2021).
136. T. N. Papapetrou, G. Lecrivain, M. Bieberle, A. G. Boudouvis and U. Hampel "An improved contact method for quantifying the mixing of a binary granular mixture." *Granular Matter* **23** Art. 15 (2021).
135. E. D. Koronaki, A. M. Nikas and A. G. Boudouvis "A data-driven reduced-order model of nonlinear processes based on Diffusion Maps and Artificial Neural Networks." *Chemical Engineering Journal* **397**, 125475 (2020).
134. N. Cheimarios, G. Kokkoris and A. G. Boudouvis "Multiscale modeling in chemical vapor deposition processes: Models and methodologies." *Archives of Computational Methods in Engineering*, in press (2020).
133. A. Dafnomilis, S. Diab, A. Rodman, A. G. Boudouvis and D. I. Gerogiorgis "Multi-objective dynamic optimization of ampicillin batch crystallization: Sensitivity analysis of attainable performance vs. product quality constraints." *Industrial & Engineering Chemistry Research* **58** (40) 18756 (2019).
132. G. P. Gakis, H. Vergnes, F. Cristiano, Y. Tison, C. Vahlas, B. Caussat, A. G. Boudouvis and E. Scheid "In situ N₂-NH₃ plasma pre-treatment of silicon substrate enhances the initial growth and restricts the substrate oxidation during alumina ALD." *Journal of Applied Physics* **126**, 125305 (2019).
131. D. Lentzou, A. G. Boudouvis, V. Karathanos and G. Xanthopoulos "A moving boundary model for fruit isothermal drying and shrinkage: An optimisation method for water diffusivity and peel resistance estimation." *Journal of Food Engineering* **263**, 299 (2019).
130. G. P. Gakis, C. Vahlas, H. Vergnes, S. Dourdain, Y. Tison, H. Martinez, J. Bour, D. Ruch, A. G. Boudouvis, B. Caussat and E. Scheid "Investigation of the initial deposition steps and the interfacial layer of Atomic Layer Deposited (ALD) Al₂O₃ on Si." *Applied Surface Science* **492**, 245 (2019).
129. N. Vourdas, G. Pashos, G. Kokkoris, E. Rizos, L. Tsampasis, E. Klouvidaki, A. G. Boudouvis and V. Stathopoulos "Plug actuation and active manipulation in closed monolithic fluidics using backpressure." *Microelectronic Engineering* **216**, 111046 (2019).
128. V. Krokos, G. Pashos, A. N. Spyropoulos, G. Kokkoris, A. G. Papathanasiou and A. G. Boudouvis "Optimization of patterned surfaces for improved superhydrophobicity through cost-effective large-scale computations." *Langmuir* **35**, 6793 (2019).
127. A. N. Spyropoulos, A. G. Papathanasiou and A. G. Boudouvis "2-3-4 spikes competition in the Rosensweig instability." *Journal of Fluid Mechanics* **870**, 389 (2019).
126. G. Xanthopoulos, A. Athanasiou, A. Sempou, D. Lentzou, Ch. Templalexis and A. G. Boudouvis "Study of the drying rate and colour kinetics during stepwise air-drying of apricot halves." *International Journal of Food Engineering* **15**, 20180372 (2019).
125. N. Cheimarios, M. E. Kavousanakis, G. Kokkoris and A. G. Boudouvis "Beware of symmetry breaking and periodic flow regimes in axisymmetric CVD reactor setups." *Computers & Chemical Engineering* **124**, 124 (2019).

124. P. A. Gkinis, E. D. Koronaki, A. Skouteris, I. G. Aviziotis and A. G. Boudouvis "Building a data-driven Reduced Order Model of a Chemical Vapor Deposition process from low-fidelity CFD simulations." *Chemical Engineering Science* **199**, 371 (2019).
123. S. Diab, N. Mytis, A. G. Boudouvis and D. I. Gerogiorgis "Process modelling, design and technoeconomic liquid-liquid extraction (LLE) optimisation for comparative evaluation of batch vs. continuous pharmaceutical manufacturing of atropine." *Computers & Chemical Engineering* **124**, 28 (2019).
122. E. D. Koronaki, P.A. Gkinis, L. Beex, S.P.A. Bordas, C. Theodoropoulos and A. G. Boudouvis "Classification of states and model order reduction of large scale Chemical Vapor Deposition processes with solution multiplicity." *Computers & Chemical Engineering* **121**, 148 (2019).
121. G. P. Gakis, H. Vergnes, E. Scheid, C. Vahlas, A. G. Boudouvis and B. Caussat "Detailed investigation of the surface mechanisms and their interplay with transport phenomena in alumina atomic layer deposition from TMA and water." *Chemical Engineering Science* **195**, 399 (2019).
120. P. Chrysinas, G. Pashos, N. Vourdas, G. Kokkoris, V. Stathopoulos and A. G. Boudouvis "Investigation of actuation mechanisms of droplets on porous air-permeable substrates." *Soft Matter* **14**, 6090 (2018).
119. C. Xiouras, A. A. Fytopoulos, J. H. Ter Horst, A. G. Boudouvis, T. Van Gerven and G. D. Stefanidis "Particle breakage kinetics and mechanisms in attrition-enhanced deracemization." *Crystal Growth & Design* **18**, 3051 (2018).
118. G. P. Gakis, H. Vergnes, E. Scheid, C. Vahlas, B. Caussat and A. G. Boudouvis "Computational Fluid Dynamics simulation of the ALD of alumina from TMA and H₂O in a commercial reactor." *Chemical Engineering Research and Design* **132**, 795 (2018).
117. C. Xiouras, A. Fytopoulos, J. Jordens, A. G. Boudouvis, T. Van Gerven and G. Stefanidis "Application of ultrasound to chiral crystallization, resolution and deracemization." *Ultrasonics Sonochemistry* **43**, 184 (2018).
116. P. Chrysinas, M. E. Kavousanakis and A. G. Boudouvis "Effect of cell heterogeneity on isogenic populations with the synthetic genetic toggle switch network: bifurcation analysis of two dimensional Cell Population Balance Models." *Computers & Chemical Engineering* **112**, 27 (2018).
115. I. Michalopoulos, T. Kamperidis, G. Seintis, G. Pashos, C. Lytras, K. Papadopoulou, A. G. Boudouvis and G. Lyberatos "Experimental and numerical assessment of the hydraulic behavior of a pilot-scale periodic anaerobic baffled reactor (PABR)." *Computers & Chemical Engineering* **111**, 278 (2018).
114. G. Psarellis, I. G. Aviziotis, T. Duguet, C. Vahlas, E. D. Koronaki and A. G. Boudouvis "Investigation of reaction mechanisms in the chemical vapor deposition of Al from DMEAA." *Chemical Engineering Science* **177**, 464 (2018).
113. I. G. Aviziotis, T. Duguet, K. Soussi, M. Heggen, M.-C. Lafont, F. Morfin, S. Mishra, S. Daniele, A. G. Boudouvis and C. Vahlas "Chemical Vapor Deposition of approximant m-Al₁₃Fe₄ films for the catalytic semi-hydrogenation of acetylene." *Physica Status Solidi A* **215**, 1700692 (2018).
112. I. G. Aviziotis, T. Duguet, C. Vahlas and A. G. Boudouvis "Combined macro-/nano-scale investigation of the CVD of Fe from Fe(CO)₅." *Advanced Materials Interfaces* **4**, 1601185 (2017).
111. N. M. Dimitriou, G. Tsekenis, E. C. Balanikas, A. Pavlopoulou, M. Mitsiogianni, T. Mantso, G. Pashos, A. G. Boudouvis, I. N. Lykakis, G. Tsigaridas, M. I. Panayiotidis, V. Yannopapas and A. G. Georgakilas "Gold nanoparticles, radiations and the immune system: Current insights into the physical mechanisms and the biological interactions of this new alliance towards cancer therapy." *Pharmacology & Therapeutics* **178**, 1 (2017).
110. P. A. Gkinis, I. G. Aviziotis, E. D. Koronaki, G. P. Gakis and A. G. Boudouvis "The effects of flow multiplicity on GaN deposition in a rotating disk CVD reactor." *Journal of Crystal Growth* **458**, 140 (2017).
109. A. Papadopoulou, T. Tsoutsos, M. Frangou, K. Kalaitzakis, N. Stefanakis and A. G. Boudouvis "Innovative optics for concentrating photovoltaic/thermal (CPVT) systems - The case of Proteas solar polygeneration system." *International Journal of Sustainable Energy* **36**, 775 (2016).
108. A. K. Karalis, N. Karkalos, N. Cheimarios, G. Antipas, A. Xenidis and A. G. Boudouvis "A CFD analysis of slag properties, electrode shape and immersion depth effects on electric submerged arc furnace heating in ferronickel processing." *Applied Mathematical Modelling* **40**, 9052 (2016).
107. I. G. Aviziotis, N. Cheimarios, T. Duguet, C. Vahlas and A. G. Boudouvis "Multiscale modeling and experimental analysis of chemical vapor deposited aluminum films: linking reactor operating conditions with roughness evolution." *Chemical Engineering Science* **155**, 449 (2016).
106. N. Cheimarios, G. Kokkoris and A. G. Boudouvis "A multi-parallel multiscale computational framework for chemical vapor deposition processes." *Journal of Computational Science* **15**, 81 (2016).

105. N. Vourdas, G. Pashos, G. Kokkoris, A. G. Boudouvis and V. N. Stathopoulos "Droplet mobility manipulation on porous media using backpressure." *Langmuir* **32**, 5250 (2016).
104. E. D. Koronaki, G. P. Gakis, N. Cheimarios and A. G. Boudouvis "Efficient tracing and stability analysis of multiple stationary and periodic states with exploitation of commercial CFD software." *Chemical Engineering Science* **150**, 26 (2016).
103. G. N. Chamakos, M. E. Kavousanakis, A. G. Boudouvis and A. G. Papathanasiou "Droplet spreading on rough surfaces: tackling the contact line boundary condition." *Physics of Fluids* **28**, 022105 (2016).
102. G. Pashos, G. Kokkoris, A. G. Papathanasiou and A. G. Boudouvis "Wetting transitions on patterned surfaces with diffuse interaction potentials embedded in a Young-Laplace formulation." *Journal of Chemical Physics* **144**, 034105 (2016).
101. G. P. Gakis, E. D. Koronaki and A. G. Boudouvis "Numerical investigation of multiple stationary and time-periodic flow regimes in vertical rotating disk CVD reactors." *Journal of Crystal Growth* **432**, 152-159 (2015).
100. G. Pashos, G. Kokkoris and A. G. Boudouvis "Minimum energy paths of wetting transitions on grooved surfaces." *Langmuir* **31**, 3059 (2015).
99. I. G. Aviziotis, M. E. Kavousanakis and A. G. Boudouvis "Effect of intrinsic noise on the phenotype of cell populations featuring solution multiplicity: an artificial lac operon network paradigm." *PLOS ONE* **10**(7), e0132946 (2015).
98. I. G. Aviziotis, M. E. Kavousanakis, I. A. Bitsanis and A. G. Boudouvis "Coarse-grained analysis of stochastically simulated cell populations with a positive feedback genetic network architecture." *Journal of Mathematical Biology* **70**, 1457 (2015).
97. G. Pashos, G. Kokkoris and A. G. Boudouvis "A modified phase-field method for the investigation of wetting transitions of droplets on patterned surfaces." *Journal of Computational Physics* **283**, 258 (2015).
96. N. Kallikounis, G. Kokkoris, N. Cheimarios and A. G. Boudouvis "Designing non-uniform wafer micro-topography for macroscopic uniformity in multiscale chemical vapor deposition processes." *Chemical Vapor Deposition* **20**, 364 (2014).
95. G. Xanthopoulos, A. Athanasiou, D. Lentzou, A.G. Boudouvis and Gr. Lambrinos "Modelling of transpiration rate of grape tomatoes. Semi-empirical and theoretical approach." *Biosystems Engineering* **124**, 16 (2014).
94. G. Lecrivain, A. Vitsas, A. G. Boudouvis and U. Hampel "Simulation of multilayer particle resuspension in an obstructed channel flow." *Powder Technology* **263**, 142 (2014).
93. A. K. Ioannou, N. E. Stefanakis and A. G. Boudouvis "Design optimization of residential grid-connected photovoltaics on rooftops." *Energy and Buildings* **76**, 588 (2014).
92. E. D. Koronaki, N. Cheimarios, H. Laux and A. G. Boudouvis "Non-axisymmetric flow fields in axisymmetric CVD reactor setups revisited: Influence on the film's non-uniformity." *ECS Solid State Letters* **3**, P37 (2014).
91. G. Xanthopoulos, C. V. Nastas, A. G. Boudouvis and E. Aravantinos-Karlatos "Colour and mass transfer kinetics during air-drying of pre-treated Oyster mushrooms." *Drying Technology* **32**, 77 (2014).
90. I. G. Aviziotis, N. Cheimarios, C. Vahlas and A. G. Boudouvis "Experimental and computational investigation of chemical vapor deposition of Cu from Cu amidinate." *Surface & Coatings Technology* **230**, 273 (2013).
89. G. Kokkoris, P. Brault, A.-L. Thomann, A. Caillard, D. Samelot, A. G. Boudouvis and C. Vahlas "Ballistic and molecular dynamics simulations of Aluminum deposition in micro-trenches." *Thin Solid Films* **536**, 115 (2013).
88. N. Kalogeropoulos, I. Tzigounakis, E. A. Pavlatou and A. G. Boudouvis "Computer-based assessment of student performance in programming courses." *Computer Applications in Engineering Education* **21**, 671 (2013).
87. N. Cheimarios, G. Kokkoris and A. G. Boudouvis "Multiscale computational analysis of the interaction between the wafer micro-topography and the film growth regimes in chemical vapor deposition processes." *ECS Journal of Solid State Science and Technology* **1**, P197 (2012).
86. G. Xanthopoulos, S. Yanniotis and A. G. Boudouvis "Numerical simulation of variable water diffusivity during drying of peeled and unpeeled tomato." *Journal of Food Science* **77**, E287 (2012).
85. M. E. Kavousanakis, P. Liu, A. G. Boudouvis and I. G. Kevrekidis "Efficient coarse simulation of a growing tumor at its avascular stage." *Physical Review E* **85**, 031912 (2012).

84. G. Xanthopoulos, E. D. Koronaki and A. G. Boudouvis "Mass transport analysis in perforation - mediated modified atmosphere packaging of strawberries." *Journal of Food Engineering* **111**, 326 (2012)
83. E. P. Koumoulos, C. A. Charitidis, D. P. Papageorgiou, A. G. Papathanasiou and A. G. Boudouvis "Nanomechanical and nanotribological properties of hydrophobic fluorocarbon dielectric coating on tetraethoxysilane for electrowetting applications." *Surface & Coatings Technology* **206**, 3823 (2012).
82. N. Cheimarios, E. D. Koronaki and A. G. Boudouvis "Illuminating nonlinear dependence of film deposition rate in a CVD reactor on operating conditions." *Chemical Engineering Journal* **181-182**, 516 (2012).
81. D. P. Papageorgiou, A. Tserepi, A. G. Boudouvis, A. G. Papathanasiou "Superior performance of multilayered fluoropolymer films in low voltage electrowetting." *Journal of Colloid and Interface Science* **368**, 592 (2012).
80. A. K. Gnanappa, D. Papageorgiou, E. Gogolides, A. Tserepi, A. G. Papathanasiou, A. G. Boudouvis "Hierarchical, plasma nanotextured, robust superamphiphobic polymeric surfaces structurally stabilized through a wetting-drying cycle." *Plasma Processes and Polymers* **9**, 304 (2012).
79. N. Cheimarios, G. Kokkoris and A. G. Boudouvis "An efficient parallel iteration method for multiscale modeling of chemical vapor deposition processes." *Applied Numerical Mathematics* **67**, 78 (2013).
78. D. P. Papageorgiou, E. P. Koumoulos, C. A. Charitidis, A. G. Boudouvis and A. G. Papathanasiou "Evaluating the robustness of top coatings comprising plasma-deposited fluorocarbons in electrowetting systems." *Journal of Adhesion Science and Technology* **26**, 2001 (2012).
77. N. Cheimarios, S. Garnelis, G. Kokkoris and A. G. Boudouvis "Linking the operating parameters of CVD reactors with filling conformality and surface nano-morphology." *Journal of Nanoscience and Nanotechnology* **11**, 8132 (2011).
76. N. Cheimarios, E. D. Koronaki and A. G. Boudouvis "Enabling commercial computational fluid dynamics codes to perform certain nonlinear analysis tasks." *Computers & Chemical Engineering* **35**, 2632 (2011).

In international conference proceedings and books (2011 – present; numbering starts from 49)

54. S. Diab, N. Mytis, A. G. Boudouvis and D. I. Gerogiorgis "Technoeconomic MINLP Optimisation of Liquid-Liquid Extraction (LLE) Cascades for Continuous Pharmaceutical Manufacturing (CPM) of Atropine." *Computer-Aided Chemical Engineering* **46**, 211 (2019). [Proceedings of the 29th European Symposium on Computer Aided Process Engineering – ESCAPE 29, A. A. Kiss et al., Eds., Eindhoven, The Netherlands, 16 –19 June 2019.
53. I. G. Aviziotis, T. Duguet, K. Sussi, G. Kokkoris, N. Cheimarios, C. Vahlas and A. G. Boudouvis "Investigation of the kinetics of the chemical vapor deposition of aluminum from dimethylethylamine alane: experiments and computations." *Physica Status Solidi (c)* **12**, 923 (2015) -) - Proceedings of the 20th European Conference on Chemical Vapor Deposition (EuroCVD 20), Sempach, Switzerland, 13-17 July 2015.
52. N. Cheimarios, A. N. Spyropoulos, G. Kokkoris and A. G. Boudouvis "Parallel multiscale computations in Chemical Vapor Deposition processes." In CD-ROM Proceedings of the 7th GRACM International Congress on Computational Mechanics, Athens, Greece, 30 June-2 July 2011.
51. A. Trikouraki, N. Cheimarios, E. D. Koronaki and A. G. Boudouvis "Exploring the solution space of a mixed flow CVD reactor with a commercial computational code." In CD-ROM Proceedings of the 7th GRACM International Congress on Computational Mechanics, Athens, Greece, 30 June-2 July 2011.
50. S. Garnelis, N. Cheimarios, G. Kokkoris and A. G. Boudouvis "Multiscale computations in Chemical Vapor Deposition processes: Coupling a reactor with a feature scale model." In CD-ROM Proceedings of the 7th GRACM International Congress on Computational Mechanics, Athens, Greece, 30 June-2 July 2011.
49. N. Cheimarios, S. Garnelis, G. Kokkoris and A. G. Boudouvis "Multiscale modeling of chemical vapor deposition of silicon." *Computer-Aided Chemical Engineering* **29**, 131 (2011). [Proceedings of the 21st European Symposium on Computer Aided Process Engineering – ESCAPE 21, E. N. Pistikopoulos et al., Eds., Chalkidiki, Greece, 29 May – 1 June 2011]

Selected conference presentations (2011 – present; numbering starts from 60)

100. E. D. Koronaki, N. Evangelou, Y. Psarellis, A. G. Boudouvis and I. G. Kevrekidis "From partial data to out-of-sample parameter and observation estimation with Diffusion Maps and Geometric Harmonics." *2020 Virtual AIChE Annual Meeting*, 16-20 November 2020.

99. G. P. Gakis, H. Vergnes, F. Cristiano, C. Vahlas, B. Caussat, A. G. Boudouvis and E. Scheid "Reduction of the growth inhibition and substrate oxidation during the first steps of alumina ALD on Si by an *in situ* N₂-NH₃ plasma surface pre-treatment." *5th Réseau des Acteurs Français de l' Atomic Layer Deposition (RAFALD)*, Toulouse, France, 5-7 November 2019.
98. E. D. Koronaki, P. A. Gkinis and A. G. Boudouvis "A Reduced Order Modelling framework for CVD processes based on low-fidelity data." *Joint 22nd European Chemical Vapor Deposition & 16th Baltic Atomic Layer Deposition Conference (Euro CVD 22 – Baltic ALD 16)*, Luxembourg, 24-28 June 2019.
97. D. Davazoglou, K. Peloriadou, G. Papadimitropoulos, N. Vourdas, A. Soultati, M. Vasilopoulou, I. G. Aviziotis and A. G. Boudouvis "Chemical vapor deposition of Tin and of Erbium oxide and Er-doped SnO₂ films." *Joint 22nd European Chemical Vapor Deposition & 16th Baltic Atomic Layer Deposition Conference (Euro CVD 22 – Baltic ALD 16)*, Luxembourg, 24-28 June 2019.
96. A. N. Spyropoulos, A. G. Papathanasiou and A. G. Boudouvis "2-3-4 spikes competition in the normal field instability of ferrofluids." *9th International Meeting of the Hellenic Society of Rheology*, Pythagorion, Samos, Greece, 23-27 June 2019.
95. P. A. Gkinis, E. D. Koronaki and A. G. Boudouvis "Reduced order modeling of reactive transport: application in CVD processes." *ECMetAC Days 2018*, Poznan, Poland, 3-5 December 2018.
94. G.P. Gakis, H. Vergnes, E. Scheid, C. Vahlas, A. G. Boudouvis and B. Caussat "Initial growth of Alumina ALD: Effect of substrate pretreatment on nucleation period reduction. A computational mechanistic investigation." *4th Réseau des Acteurs Français de l' Atomic Layer Deposition (RAFALD)*, Lyon, France, 6-8 November 2018.
93. G.P. Gakis, H. Vergnes, E. Scheid, C. Vahlas, A. G. Boudouvis and B. Caussat "Alumina ALD from TMA and Water: Unravelling the surface mechanisms and linking transport phenomena with growth uniformity." *2018 Fall Meeting of the European Materials Research Society (EMRS)*, Warsaw, Poland, 17-20 September 2018.
92. A. A. Fytopoulos, C. Xiouras, M.E. Kavousanakis, T. Van Gerven, A. G. Boudouvis and G. D. Stefanidis "A population balance model for temperature cycling-enhanced deracemization." *25th International Workshop on Industrial Crystallization (BIWIC)*, Rouen, France, 5-7 September 2018.
91. P. A. Gkinis, A. Skouteris, E. D. Koronaki and A. G. Boudouvis "A reduced-order model for efficient CFD analysis of Chemical Vapor Deposition processes." *9th GRACM International Congress on Computational Mechanics*, Chania, Crete, Greece, 4-6 June 2018.
90. G.P. Gakis, H. Vergnes, E. Scheid, C. Vahlas, B. Caussat and A. G. Boudouvis "Experimental investigation and CFD-based analysis of an ALD reactor depositing alumina from TMA and water." *3rd Réseau des Acteurs Français de l' Atomic Layer Deposition (RAFALD)*, Montpellier, France, 7-9 November 2017.
89. I. G. Aviziotis, T. Duguet, C. Vahlas and A. G. Boudouvis "Multiscale analysis of reactive transport processes: A tool to monitor the microstructure and the properties of chemical vapor deposited films." *EUROMAT 2017*, Thessaloniki, Greece, 17-22 September 2017.
88. G.P. Gakis, H. Vergnes, E. Scheid, A. G. Boudouvis, C. Vahlas and B. Caussat "Experimental investigation and CFD-based analysis of an ALD reactor depositing alumina from TMA and water." *Joint 21st European Chemical Vapor Deposition & 15th Baltic Atomic Layer Deposition Conference (EuroCVD 21 – Baltic ALD 15)*, Linköping, Sweden, 11 – 14 June 2017.
87. I. G. Aviziotis, T. Duguet, C. Vahlas and A. G. Boudouvis "Chemical vapor deposition of Al, Fe and of the Al₁₃Fe₄ approximant intermetallic phase: Experiments and multiscale simulations." *C-MAC Days 2016*, Bratislava, Slovakia, 21-23 November 2016.
86. G.P. Gakis, H. Vergnes, E. Scheid, A. G. Boudouvis, C. Vahlas and B. Caussat "CFD analysis of an ALD reactor: gaseous species distribution and cycle time." *2nd Réseau des Acteurs Français de l' Atomic Layer Deposition (RAFALD)*, Chatou/Paris, France, 14-16 November 2016.
85. I. G. Aviziotis, T. Duguet, A. G. Boudouvis and C. Vahlas "Al₁₃Fe₄ intermetallic coatings processed by chemical vapor deposition." *13th International Conference on Nanoscience and Nanotechnologies (NN16)*, Thessaloniki, Greece, 5-8 July 2016.
84. G. Kasapidis, G. Pashos, G. Kokkoris and A.G. Boudouvis "Fast computations on GPUs for wetting phenomena." *The European Community on Computational Methods in Applied Sciences (ECCOMAS) Congress 2016*, Chania, Crete Island, Greece, 5-10 June 2016.

83. G. Pashos, G. Kokkoris and A.G. Boudouvis "Computations of wetting transitions on grooved surfaces." *11th Hellenic Society for Theoretical and Applied Mechanics (HSTAM) International Congress on Mechanics*, Athens, Greece, 27-30 May 2016.
82. I. G. Aviziotis, T. Duguet, A. G. Boudouvis and C. Vahlas "Al₁₃Fe₄ coatings obtained by chemical vapor deposition." *International Conference on Metallurgical Coatings and Thin Films (ICMCTF)*, San Diego, USA, 25-29 April 2016.
81. G. Pashos, G. Kokkoris and A. G. Boudouvis "Computation of wetting states on patterned surfaces with a modified phase-field method." *8th GRACM International Congress on Computational Mechanics*, Volos, Greece, 12-15 July 2015.
80. P. I. Giannatselis, N. Cheimarios, E. D. Koronaki and A. G. Boudouvis "Tracing axisymmetric and non axisymmetric states in chemical vapor deposition reactors." *8th GRACM International Congress on Computational Mechanics*, Volos, Greece, 12-15 July 2015.
79. G. Pashos, G. Kokkoris and A. G. Boudouvis "Fast computations of wetting transitions on GPUs." *International Computational Science and Engineering Conference (ICSEC15)*, Doha, Qatar, 11-12, May 2015.
78. N. Cheimarios, G. Kokkoris and A. G. Boudouvis "Multiscale analysis of reactive transport in thin film deposition processes." *International Computational Science and Engineering Conference (ICSEC15)*, Doha, Qatar, 11-12, May 2015.
77. I. G. Aviziotis, T. Duguet, A. G. Boudouvis and C. Vahlas "A model for the deposition of Aluminum by chemical vapor deposition: an experimentally supported theory." *JUNIOR EUROMAT 2014*, Lausanne, Switzerland, 21-25 July 2014.
76. N. Cheimarios, E.D. Koronaki, H. Laux and A. G. Boudouvis "Enabling CFD codes to perform systematic parameter continuation and stability analysis for realistic applications." *10th International Conference on CFD in Oil & Gas, Metallurgical and Process Industries*, SINTEF, Trondheim, Norway, 17-19 June 2014.
75. D. P. Papageorgiou, P. Dimitrakis, A. G. Boudouvis and A. Tserepi "Droplet mobility tuning on randomly rough superhydrophobic surfaces; accurately tracing metastable states through C-V curves." *1st International Conference on Micro & Nanofluidics Fundamentals and Applications*, University of Twente, The Netherlands, 18-21 May 2014.
74. D. P. Papageorgiou, G. Pashos, G. Kokkoris, A. G. Boudouvis, E. Gogolides and A. Tserepi "Drop evaporation on pre-infused plasma-nanotextured surfaces." *1st International Conference on Micro & Nanofluidics Fundamentals and Applications*, University of Twente, The Netherlands, 18-21 May 2014.
73. G. Pashos, G. Kokkoris and A. G. Boudouvis "Computational investigation of the wetting transitions on patterned surfaces between the Cassie-Baxter and Wenzel states." *1st International Conference on Micro & Nanofluidics Fundamentals and Applications*, University of Twente, The Netherlands, 18-21 May 2014.
72. N. Kallikounis, N. Cheimarios, G. Kokkoris and A.G. Boudouvis "Designing uniform films through multiscale computations." *EuroCVD 19*, Varna, Bulgaria, 1-6 September 2013.
71. D. Pozharskiy, N. Cheimarios, E. D. Koronaki, H. Laux and A. G. Boudouvis "On the multiplicity of states in chemical vapor deposition reactors: axisymmetric reactors give way to non-axisymmetric states." *EuroCVD 19*, Varna, Bulgaria, 1-6 September 2013.
70. I. G. Aviziotis, N. Cheimarios, C. Vahlas and A. G. Boudouvis "Experimental and computational investigation of chemical vapor deposition of Cu from Cu amidinate." *EuroCVD 19*, Varna, Bulgaria, 1-6 September 2013.
69. S. Garnelis, I. Aviziotis, N. Cheimarios, G. Kokkoris and A. G. Boudouvis "Designing a non-uniform wafer micro-topography for uniform films in chemical vapor deposition processes." *38th International Micro & Nano Engineering Conference (MNE 2012)*, Toulouse, France, 16-20 September 2012.
68. N. Cheimarios, E. D. Koronaki and A. G. Boudouvis "Wrapping recursive projection-type source codes around commercial CFD codes to perform nonlinear solution space analysis." *6th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2012)*, Vienna, Austria, 10-14 September 2012.

67. N. Cheimarios, I. Aviziotis, G. Kokkoris and A. G. Boudouvis "A crossbred multi-parallel method for accelerating multiscale computations in a chemical reactor analysis." *6th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2012)*, Vienna, Austria, 10-14 September 2012.
66. I. Aviziotis, L. Aloui, C. Vahlas and A. G. Boudouvis "Experimental and computational investigation of the chemical vapor deposition of copper from a novel precursor." *7th Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean Countries-EMCC7*, Corfu, Greece, 27 April - 1 May 2012.
65. E. I. Ioannidis, N. Cheimarios, A. N. Spyropoulos and A. G. Boudouvis "On the performance of various parallel GMRES implementations on CPU and GPU clusters." *5th Conference in Numerical Analysis (NumAn 2012)*, Ioannina, Greece, 5-8 September 2012.
64. G. Korakakis, A. G. Boudouvis, J. Palyvos and E. Pavlatou "The impact of 3D visualization types in instructional multimedia applications for teaching science." *2nd World Conference on Learning, Teaching and Administration*, Istanbul, Turkey, 28-30 October 2011.
63. M. Kavousanakis, N. Cheimarios and A.G. Boudouvis, "Accelerated simulation of a growing tumor at its avascular stage." *6th Conference of the Hellenic Society for Computational Biology & Bioinformatics – HSCBB11*, Patras, 7-9 October 2011.
62. N. Cheimarios, S. Garnelis, G. Kokkoris and A. G. Boudouvis "Linking the operating parameters of CVD reactors with filling conformality and surface nano-morphology." *EuroCVD 18*, Kinsale, Co. Cork, Ireland, 4-9 September 2011.
61. G. Xanthopoulos, E. D. Koronaki and A. G. Boudouvis "Mathematical modelling and computational analysis of mass transport in perforation-mediated modified atmosphere packaging of strawberries." *11th International Congress on Engineering and Food –ICEF11*, Athens, Greece, 22-26 May 2011.
60. A. N. Spyropoulos, A. G. Papathanasiou and A. G. Boudouvis "Competing spikes in the Rosensweig instability." *Euromech Colloquium 526 "Patterns in Soft Magnetic Matter"*, Dresden, Germany, 21-23 March 2011.