Andreas G. Boudouvis
Professor

School of Chemical Engineering, National Technical University of Athens

CURRICULUM VITAE
September 2019

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

Address: School of Chemical Engineering,
National Technical University of Athens (**NTUA**), Athens 15780, Greece
Tel: +30 10 7723241, FAX: +30 10 7723155, Email: boudouvi@chemeng.ntua.gr, Web: http://www.chemeng.ntua.gr/dep/boudouvis/

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

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	-	present	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 *21 PhD theses* - 18 completed, 3 under way.
Advisor in *46 Masters' theses*.
Undergraduate student supervision: Advisor of *113 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 Assistant Professor at Univ. of Cyprus) received an ERC grant in 2014.

HONORS AND AWARDS

2017	Best NTUA Doctoral Thesis Award of the year 2012, by the Sarafis Foundation, to Nikos Cheimarios (thesis advisor A. G. Boudouvis).
2016	The *Léopold Escande 2016 Award* 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	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 3rd prize for Best Diploma Thesis of the year (2008); by the School of Chemical Engineering (2009, 2010, 2011, 2012, 2014, 2015, 2016, 2017); First Prize for Diploma thesis oral presentation at the 9th 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 2nd 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

- Member of the Editorial Board of *Coatings*, 2019-

- 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

INVITED TALKS (recent)

"Computational analysis of ferrofluid surface phenomena." 12th European Magnetic Sensors and Actuators Conference (EMSA), Athens, Greece, 1-4 July 2018.

"*Multiscale analysis of CVD processes: modeling, computations, experiments*." School of Engineering, The University of Edinburgh, Edinburgh, UK, 28 June 2018.

"*A multiscale analysis framework for connecting chemical vapor deposition process conditions with product features and properties*." Laboratoire de Génie Chimique, Centre National de la Recherche Scientifique (CNRS) and Institut National Polytechnique de Toulouse, Toulouse, France, 19 April 2017.

"*Getting the most out of commercial CFD codes in process engineering analysis.*" The European Community on Computational Methods in Applied Sciences (ECCOMAS) Congress 2016, Chania, Crete Island, Greece, 5-10 June 2016.

"*Multiscale analysis of CVD processes: modeling, computations, experiments*." 20th European Conference on Chemical Vapor Deposition (EuroCVD 20), Sempach, Switzerland, 13-17 July 2015. "*Coupling macro- and micro-scale reactive transport in deposition process simulation*." Institute of Chemical Engineering Sciences (FORTH/ICE-HT), Rio/Patras, Greece, 24 November 2014.

"*Wetting phenomena on phobic surfaces*." Institute Carnot, Centre Inter-universitaire de Recherche et d'Ingénierie des Matériaux (CIRIMAT), Toulouse, France, 8 July 2014

"*Computer-aided process scale-up and multiscale analysis*." Fondation de Cooperation Scientifique Sciences et Technologies pour l'Aéronautique et l'Espace, Toulouse, France, 4 July 2014.

RESEARCH PUBLICATIONS

- 133 publications in peer-reviewed international journals
- 100 publications and presentations in international conferences

PUBLICATIONS, 2009-present

In journals (2009 – present; numbering starts from 66)

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*, in press (2019).

132. G. P. Gakis, H. Vergnes, F. Cristiano, Y. Tison, C. Vahlas, B. Caussat, A. G. Boudouvis and E. Scheid "In situ N_2-NH_3 plasma pre-treatment of silicon substrate enhances the initial growth and restricts the substrate oxidation during alumina ALD." *Journal of Applied Physics*, accepted for publication (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) Al_2O_3 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 H_2O 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-$Al_{13}Fe_4$ 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. Papadopoulos, 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 Buldings* **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 κinetics 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. Samelor, 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).

75. T. C. Xenidou, N. Prud'homme, C. Vahlas, N. C. Markatos and A. G. Boudouvis "Reaction and transport interplay in Al MOCVD investigated through experiments and computational fluid dynamic analysis." *Journal of the Electrochemical Society* **157**, D633 (2010).

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