

Nikolaos (Nikos) Cheimarios

PERSONAL DATA	Born 28 May 1981 in Athens, Greece. Married, father of two daughters. Webpage: http://users.ntua.gr/nixeimar/	
RESEARCH INTERESTS	From a broad perspective, my research combines different models (PDEs, ballistic, MC/kMC, MD, ab initio) from multiple scales in an effort to understand how the physical/chemical phenomena - including their non-linear character - in engineering processes affect materials properties. A major part of my research is scientific software development in combination with high performance computing (HPC) in CPU and GPU architectures and more recently in Quantum computers.	
CURRENT EMPLOYMENT	Researcher Entelos Institute, Larnaca, Cyprus.	2023-Present
	Researcher NovaMechanics Ltd, Nicosia, Cyprus.	2020-Present
PROFESSIONAL EXPERIENCE	Postdoctoral Research Fellow - State Scholarships Foundation (IKY) National Technical University of Athens (NTUA), Athens, Greece.	2019-2021
	Senior Research Scientist Bioemtech, R&D department, NCSR 'Demokritos ', Athens, Greece	2019-2020
	Research Scientist Scienomics SARL, Paris, France.	2013-2019
	Postdoctoral researcher National Technical University of Athens, Greece OSRAM Opto Semiconductors GmbH, Germany	2012-2013
	Special Scientist - Military service Hellinic Army Aviation	June 2012 - February 2013
	Hellenic Petroleum SA , Athens, Greece Practical Training	4 June - 4 August, 2004
EDUCATION	NTUA , Athens, Greece PhD, School of Chemical Engineering Doctoral Thesis Title: "Multiscale simulation and systemic analysis of chemical vapor deposition processes." Supervisor: Andreas G. Boudouvis, Professor	2012
	NTUA , Athens, Greece Master of Science (MSc) in "Computational Mechanics",	2008

Graduate Thesis Title: “Analysis of prototype chemical vapor deposition processes with the computational code Fluent on parallel computing clusters”
Supervisor: Andreas G. Boudouvis, Professor

University of Patras, Patras, Greece

Undergraduate studies - Master of Engineering (MEng) in Chemical Engineering, 2006

Undergraduate Thesis Title: “Steady state flow computations around particles in Bingham fluids”
Supervisor: John A. Tsamopoulos, Professor

HONORS AND AWARDS

Best Doctoral Thesis Award in NTUA by the Sarafis foundation, 2017
Best Doctoral Thesis Award by the European Community on Computational Methods in Applied Sciences (ECCOMAS) (Nominated), 2013
Best Doctoral Thesis in Computational Mechanics in year 2012 by the Greek Association of Computational Mechanics, 2013
Graduate Research Scholarship - Awarded by the National Scholarship Foundation of Greece (IKY), 2009 - 2012
Thwmaidio award, 2009,2010,2011,2012
VRIκα! Fellowship - Awarded by the French Embassy in Greece, 2008

SCIENTIFIC SOFTWARE

Open source:
Apothesis: A kinetic Monte carlo based open source software for deposition processes.
Source code: <https://github.com/nixeimar/Apothesis>

Licensed:
Chameleon: A generalized, connectivity altering software for tackling properties of realistic polymer systems.
Details: <https://wires.onlinelibrary.wiley.com/doi/abs/10.1002/wcms.1414>

Web-applications:
Human exposure: <https://aerosol.cloud.nanosolveit.eu/>
Lung exposure: <https://lungexposure.cloud.nanosolveit.eu/>
Environmental exposure: <http://www.enalosccloud.novamechanics.com/beta/simplebox4nano/>
In vitro dosimetry application:
<http://www.enalosccloud.novamechanics.com/riskgone/InVitroDosimetry/>
Part of IATA: integration of PBPK and occupational exposure:
<https://exposurepbpk.cloud.nanosolveit.eu/>

COMPUTER KNOWLEDGE

- Languages: C++, C, Java, FORTRAN, Python, Assembly
- Libraries: Qt, boost, javafx, STL, mkl, libgdx, OpenGL
- HPC: MPI, POSIX thread, openMP, CUDA
- Mathematics specific software: Matlab/Octave, Maple, Mathematica
- Transport phenomena software: ANSYS/Fluent, COMSOL Multiphysics, ESI/CFD-ACE+, open-FOAM, Phoenix, Chemkin
- Molecular simulation software: Lammmps, Abinit, Quantum Espresso, NWChem
- Web development: zk, html, CSS, javascript, bootstrap
- Databases: MySQL
- Versioning: cvs, git
- OS: Unix/Linux, Windows

ACADEMIC SERVICE Co-administrator of “Andromeda” - A Hybrid CPU/GPU Computational Cluster
(<http://febui.chemeng.ntua.gr/andromeda.htm>)

PROFESSIONAL
SERVICE

Guest editor:

Frontiers in Physics - Soft Mater Physics. Special volume in scientific software development.
MDPI Coatings. Advances in Modelling and Simulation of Deposition and Plasma Etching Processes.

Reviewer:

Chemical Engineering Journal, Physics of Fluids, ECS Journal of Solid State Science and Technology, International Journal of Chemical Reactor Engineering, Surface and Coatings Technology, Coatings, Polymers, Materials, Journal of Molecular Modeling, Advanced Theory and Simulations, Scientific Reports, Physica status solidi (RRL) Rapid Research Letters, Crystal Research and Technology, Journal of Vacuum Science and Technology A.

JOURNAL
PUBLICATIONS

- J23. N. Cheimarios, “Insights into the effect of growth on the Ziff-Gulari-Barshad model and the film properties”, *Modelling and Simulation in Materials Science and Engineering*, **31**, 065007, (2023).
- J22. N. Cheimarios, B. Pem, A. Tsoumanis, K. Ilic, I. Vinkovic Vrcek, G. Melagraki, D. Bitounis, P. Isigonis, M. Dusinska, I. Lynch, P. Demokritou, A. Afantitis, “An in vitro dosimetry web application for the numerical transport modelling of engineered nanomaterials powered by the Enalos RiskGONE Cloud Platform”, *Nanomaterials*, **12**, 3935, (2022).
- J21. P. Tsiros, N. Cheimarios, A. Tsoumanis, A.C.O. Jensen, G. Melagraki, I. Lynch, H. Sarimveis, A. Afantitis, “Towards an in silico Integrated Approach for Testing and Assessment of nanomaterials: from predicted indoor air concentrations to lung dose and biodistribution”, *Environmental Science: Nano*, **9**, 1282, (2022).
- J20. M. Kavousanakis, N. Cheimarios, G. Kokkoris, A. G. Boudouvis, “On the effect of self-sustained periodic flows on film thickness non-uniformity during CVD”, *Computers & Chemical Engineering*, **161**, 107775, (2022).
- J19. E. Fysikopoulos, M. Rouchota, M. Georgiou, C. Sfyris, N. Cheimarios, S. Sarpaki, S. Kostopoulos, D. Glotsos, B. Larimer, C. Hunter, S. Lapi, H. Houson, A. V. F. Massicano, A. Sorace, E. Lamprou, G. Loudos, “ β -eye: a benchtop system for in vivo molecular screening of labeled compounds”, *Applied Radiation and Isotopes*, **180**, 110043 (2022).
- J18. 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**, 165 (2021).
- J17. **(invited - review article)** N. Cheimarios, G. Kokkoris and A. G. Boudouvis “Multiscale modeling in chemical vapor deposition processes: Models and methodologies”, *Archives of Computational Methods in Engineering*, **28**, 637 (2021).
- J16. O. Alexiadis, N. Cheimarios, L. D. Peristeras, A. Bick, V. G. Mavratzas, D. N. Theodorou, J. R. Hiill and X. Krokidis “Chameleon: A generalized, connectivity altering software for tackling properties of realistic polymer systems”, *WIREs Computational Molecular Science*, **9**, e1414 (2019).
- J15. 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).
- J14. K. Karalis, N. Karkalos, N. Cheimarios, G. S. E. Antipas, A. Xenidis and A. 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).

- J13. 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).
- J12. 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).
- J11. N. Cheimarios, G. Kokkoris and A. G. Boudouvis “A multi-parallel computational framework for chemical vapor deposition processes.” *Journal of Computational Science*, **15**, 81 (2016).
- J10. 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**, 364 (2016).
- J9. N. Kallikounis, G. Kokkoris, N. Cheimarios and A.G. Boudouvis “Designing uniform films through multiscale computations”, *Chemical Vapor Deposition*, **20**, 364 (2014).
- J8. 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).
- J7. 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)
- J6. 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).
- J5. 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**, P1 (2012).
- J4. N. Cheimarios, E.D. Koronaki and A. G. Boudouvis “Illuminating the nonlinear dependence of growth rate on operating conditions of a CVD reactor”, *Chemical Engineering Journal*, **181-182**, 516 (2012).
- J3. 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).
- J2. 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).
- J1. N. Cheimarios, G. Kokkoris and A. G. Boudouvis “Multiscale modeling in chemical vapor deposition processes: Coupling reactor scale with feature scale computations.” *Chemical Engineering Science* **65**, 5018 (2010).

BOOKS & BOOK
CHAPTERS

- B4. The art of game design. J. Shell, 3rd Edition, CRC Press, Boca Raton, 2023. Translation in Greek, N. Cheimarios. Copyright © for the Greek language Klidarithmos publishing co, *in progress*.
- B3. Foundations of materials science and engineering. W. Smith, J. Hashemi, 7th Edition, McGraw Hill, New York, 2023. Translation in Greek, N. Cheimarios. Copyright © for the Greek language Klidarithmos publishing co, *in progress*.

- B2. N. Cheimarios, S. Harrison, A.C.O. Jensen, P. Karatzas, A. Tsoumanis, P. Doganis, P. Tsiros, D.A. Winkler, S. Lofts, K.A.O Jensen, H. Sarimveis, A. Afantitis, I. Lynch, G. Melagraki, *NanoSolveIT integration of tools for assessment of human and environmental exposure to nanomaterials*. In “Handbook of Functionalized Nanomaterials: Environmental Health and Safety”, Chapter FOUR, pp. 81-120, Chaudhery & Vineet, Eds., Elsevier, 2021.
- B1. N. Cheimarios, S. Garnelis, G. Kokkoris, A. G. Boudouvis, *Multiscale modeling of chemical vapor deposition of silicon*. In “Computer Aided Chemical Engineering”, Vol.29, pp. 131-135, Pistikopoulos et al., Eds., Elsevier, 2011.
- B0. N. Cheimarios, G. Kokkoris and A.G. Boudouvis, *Multiscale modeling in chemical vapor deposition processes*. In “Honorary Volume dedicated to the memory of Professor N. Spyrellis”, pp. 87-95, Loizidou et al., Eds., NTUA, Athens, Greece, 2009 (in Greek).

OTHER
PUBLICATIONS

- O3. E.I. Ioannidis, N. Cheimarios, A.N. Spyropoulos, A.G. Boudouvis, “On the performance of various parallel GMRES implementations on CPU and GPU clusters”, arXiv:1906.04051 (2019) [<https://arxiv.org/abs/1906.04051>].
- O2. G.Kokkoris, N. Cheimarios, A.G. Boudouvis, “Computational Microscope” for chemical engineering processes, PROMITHEAS , NTUA, 2018 (in Greek).
- O1. N. Cheimarios, S. Garnelis, G.Kokkoris and A.G. Boudouvis, “A computational framework for multiscale analysis of chemical vapor deposition processes”. ECCOMAS Newsletter, pp. 5-9, November 2011.

CONFERENCE
PROCEEDINGS

- C13. N. Cheimarios, E.D. Koronaki, H. Laux, A. G. Boudouvis “Enabling CFD codes to perform systematic parameter continuation and stability analysis for realistic applications.” *In CD-ROM Proceedings of the 10th International Conference on CFD in Oil & Gas, Metallurgical and Process Industries*, SINTEF, Trondheim, Norway, 17-19 June 2014.
- C12. N. Cheimarios, E.D. Koronaki, H. Laux and A.G. Boudouvis, “Non-axisymmetric states in symmetric CVD reactor setups” *In CD-ROM Proceedings of the 9th Pan-Hellenic Scientific Conference on Chemical Engineering*, Athens, Greece, 23 - 25 May 2013.
- C11. N. Kallikounis, N. Cheimarios, G. Kokkoris and A.G. Boudouvis, “Designing uniform films through multiscale computations”, *In CD-ROM Proceedings of the 9th Pan-Hellenic Scientific Conference on Chemical Engineering*, Athens, Greece, 23 - 25 May 2013 (in Greek).
- C10. N. Cheimarios, A. N. Spyropoulos, G. Kokkoris and A. G. Boudouvis “Parallel multiscale computations in Chemical Vapor Deposition.” *In CD-ROM Proceedings of the 7th GRACM International Congress on Computational Mechanics*, Athens, Greece, 20 June - 2 July 2011.
- C9. S. Garnelis, N. Cheimarios, G. Kokkoris and A. G. Boudouvis “Multiscale computations in Chemical Vapor Deposition: Coupling a reactor with a feature scale model.” *In CD-ROM Proceedings of the 7th GRACM International Congress on Computational Mechanics*, Athens, Greece, 20 June - 2 July 2011.
- C8. K. Triamouraki, 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, 20 June - 2 July 2011.
- C7. N. Cheimarios, S. Garnelis, G. Kokkoris and A. G. Boudouvis “Multiscale modeling of chemical vapor deposition of silicon.” *In CD-ROM Proceedings of the 8th Pan-Hellenic Scientific Conference on Chemical Engineering*, Thessaloniki, Greece, 26-28 May 2011. (in Greek).
- C6. N. Cheimarios, G. Kokkoris and A. G. Boudouvis “An efficient parallel fixed point iteration method for multiscale modeling of chemical vapor deposition processes.” *In CD-ROM Proceedings of the Conference in Numerical Analysis (NumAn 2010) - Recent Approaches to Numerical Analysis: Theory, Methods and Applications*, Chania, Crete, Greece, 15-18 September 2010.

- C5. N. Cheimarios, G. Kokkoris and A.G. Boudouvis, “A computational framework for multiscale modeling in chemical vapor deposition processes.” *In CD-ROM Proceedings of the 5th European Conference on Computational Fluid Dynamics, ECCOMAS CFD*, Lisbon, Portugal, 14-17 June 2010.
- C4. G. Pashos, N. Cheimarios, E. D. Koronaki and A. G. Boudouvis “Acceleration of CFD computations through a subspace decomposition method”, *In CD-ROM Proceedings of the 5th European Conference on Computational Fluid Dynamics, ECCOMAS CFD*, Lisbon, Portugal, 14-17 June 2010.
- C3. A. Tzortzinis, N. Cheimarios, T. C. Xenidou, A. G. Boudouvis, F. Senocq, B. Sarapata, L. Aloui and C. Vahlas “On the growth of copper films with chemical vapor deposition from a novel precursor.” *In CD-ROM Proceedings of the 7th Pan-Hellenic Scientific Conference on Chemical Engineering*, Patras, Greece, 3-5 June 2009.
- C2. N. Cheimarios, G. Kokkoris and A.G. Boudouvis “Coupling micro- and macro scale: Implementation in Chemical Vapor Deposition Processes.” *In CD-ROM Proceedings of the 7th Pan-Hellenic Scientific Conference on Chemical Engineering*, Patras, Greece, 3-5 June 2009 (in Greek).
- C1. N. Cheimarios, A. N. Spyropoulos and A. G. Boudouvis “Simulation of chemical vapor deposition processes on high-performance computational clusters.” *In CD-ROM Proceedings of the 6th GRACM International Congress on Computational Mechanics*, Thessaloniki, Greece, 19-21 June 2008.

CONFERENCE &
INVITED
PRESENTATIONS

- CP30. N. Cheimarios, B. Pem, A. Tsoumanis, K. Ilic, I. Vinkovic Vrcek, G. Melagraki, D. Bitounis, M. Dusinska, I. Lynch, P. Demokritou, A. Afantitis “An in vitro dosimetry web application for the numerical transport modelling of engineered nanomaterials powered by the Enalos RiskGONE Cloud Platform.” *”Nano-week” and NanoCommons Final Conference*, Limassol, Cyprus, 20-24 June 2022.
- CP29. N. Cheimarios, P. Tsiros, A. Tsoumanis, A.C.?. Jensen, G. Melagraki, I. Lynch, H. Sarimveis, A. Afantitis “n in silico integrated approach for testing and assessment of Nanomaterials by NanoSolveIT project.” *”Nano-week” and NanoCommons Final Conference*, Limassol, Cyprus, 20-24 June 2022.
- CP28. N. Cheimarios, A. Tsoumanis, A.C.O. Jensen, K.A. Jensen, G. Melagraki, A. Afantitis “Estimation of nanomaterials deposition dose in human respiratory system.” *18th Hellenic Symposium on Medical Chemistry*, Online symposium, 25-27 February 2021.
- CP27. N. Cheimarios, A. Tsoumanis, A.C.O. Jensen, K.A. Jensen, G. Melagraki, A. Afantitis “NanoSolveIT showcasing human exposure assesment.” *nanoSAFE 20*, Digital Conference, 16-23 November 2020.
- CP26. N. Cheimarios, S. Harrison, A.C.O. Jensen, P. Karatzas, A. Tsoumanis, P. Doganis, P. Tsiros, D.A. Winkler, S. Lofts, K.A. Jensen, H. Sarimveis, A. Afantitis, I. Lynch, G. Melagraki, “NanoSolveIT integration of tools for assessment of human and environmental exposure to nanomaterials.”, *nanoSAFE 20*, Digital Conference, 16-23 November 2020 (poster).
- CP25. N. Cheimarios, A. Tsoumanis, A.C.O. Jensen, K.A. Jensen, G. Melagraki, A. Afantitis “NanoSolveIT showcasing human exposure assesment.” *nanoSAFE 20*, Digital Conference, 16-23 November 2020.
- CP24. **(invited)** N. Cheimarios “Novel product and process design through materials simulations in the quantum and atomistic scale.”, *Why Mathematics? Symposium*, Interdepartmental Postgraduate Program ‘Mathematical Modeling in Modern Technologies and Finance’, Athens, NTUA, 3 May 2017.
- CP23. **(invited)** N. Cheimarios “Employment opportunities for scientists in industry.” *51st Summer School Demokritos*, Athens, Demokritos, 4-15 July 2016.

- CP22. **(invited)** N. Cheimarios “Application of materials simulations for product and process design.” *51st Summer School Demokritos*, Athens, NCSR Demokritos, 4-15 July 2016.
- CP21. A. Bick, L. Subramanian, N. Cheimarios, O. Alexiadis “Property prediction of polymer systems through connectivity altering Monte Carlo moves: A comparison of Monte Carlo and Molecular Dynamics simulation.” *ACS Computer in Chemistry*, USA, 13-17 March 2016.
- CP20. **(invited)** N. Cheimarios “Model, Simulate, Analyze complex materials on a multiscale level.” *Workshop on Self Assembly in Soft Matter*, Patras, University of Patras, 1st September 2015.
- CP19. 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.
- CP18. **(invited)** N. Cheimarios “High performance computing: From multiscale modeling of materials to materials properties.” *1st Workshop in High Performance Computing*, Athens, NTUA, 7-9 June 2015.
- CP17. **(invited)** N. Cheimarios, “Scientific software development - *A multi-dimensional task.*” *Inter-Departmental Postgraduate Program “Mathematical Modeling in Modern Technologies and Finance”*, Athens, NTUA, 19 May 2015.
- CP16. 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.
- CP15. N. Cheimarios, E.D. Koronaki, H. Laux, 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.
- CP14. N. Cheimarios, X. Zianni, P. Chantrenne “The thermal conductivity of modulated nanowires by Monte Carlo estimation of the phonon free paths.” *European Materials Research Society (EMRS) 2014 Spring meeting*, Lille, France, 26-30 May 2014.
- CP13. 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.
- CP12. 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.
- CP11. N. Kallikounis, N. Cheimarios G. Kokkoris and A.G. Boudouvis “Designing uniform films through multiscale computations.” *EuroCVD 19*, Varna, Bulgaria, 1-6 September 2013 (poster).
- CP10. **(invited)** N. Cheimarios, “Multiscale modeling and systemic analysis of chemical vapor deposition processes” *2nd Second ECCOMAS Young Investigators Conference, YIC2013*, Bordeaux, France, 2-6 September 2013.
- CP9. N. Cheimarios, S. Garnelis, I. Aviziotis, 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.
- CP8. 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 science and engineering, ECCOMAS*, Vienna, Austria, 10-14 September 2012.
- CP7. 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 science and engineering, ECCOMAS*, Vienna, Austria, 10-14 September 2012.

- CP6. 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.
- CP5. 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*, Patras, Greece, 7 - 9 October 2011.
- CP4. 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.
- CP3. N. Cheimarios, S. Garnelis, G. Kokkoris and A. G. Boudouvis “Multiscale modeling of chemical vapor deposition of silicon.” *21st European Symposium on Computer Aided Process Engineering (ESCAPE 21)*, Thessaloniki, Greece, 29 May–1 June 2011.
- CP2. **(invited)** A.G. Boudouvis, N. Cheimarios and G. Kokkoris “Multiscale modeling of deposition processes.” *6th Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean Countries (EMCC-6)*, Belek, Antalya, Turkey, 7-12 March 2010.
- CP1. N. Cheimarios, S. Garnelis, G. Kokkoris and A. G. Boudouvis “Bridging micro- with macro-scale in chemical vapor deposition processes.” *4th International Conference “Micro & Nano2010” on Micro- Nanoelectronics, Nanotechnologies and MEMs*, NCSR Demokritos, Athens, Greece, 12-15 December 2010.

PARTICIPATION IN
SCIENTIFIC
PROJECTS

- SP8. “Mutiscale computational analysis of chemical vapor deposition process of copper” State Scholarships Foundation (IKY), Postdoctoral research funding program, 2019-2021.
- SP7. “Enabling commercial CFD codes to perform nonlinear tasks in CVD process analysis”, OSRAM Opto Semiconductors GmbH, Regensburg, Germany, 2012-13.
- SP6. “Modeling of CVD processes” L’Institut National Polytechnique de Toulouse, France, 2012-2013.
- SP5. “Hybrid coupling of nano-*on*-micro-*in*-macro-scales: Roughness development on films in micro-structures in chemical vapor deposition reactors” NTUA, Basic Research Program, 2012-2014.
- SP4. “Transient fluid - thermal analysis of a waveguide”, L’Institut National Polytechnique de Toulouse, France, 2011.
- SP3. “From the cell to the tumour: Effective simulation of macroscopically patterned biological systems with multiscale methods”, NTUA, Basic Research Program, 2009-2011.
- SP2. “Development of a computational framework for spatially multiscale problems: Combining macroscopic with micro- and nano-scopic models for predicting the interaction of the corresponding scales - Application in the simulation of vapor deposition processes”, NTUA, Basic Research Program, 2007-2009.
- SP1. “Interaction of mathematical modeling, experimental investigation and computational analysis in studying chemical vapor deposition reactors”, General Secretariat for Research and Technology, Program for Greece-France cooperation in Research and Technology, 2006-2008.

TEACHING
EXPERIENCE

- A. School of Chemical Engineering, NTUA
Undergraduate level
- Transport phenomena I (Fluid Mechanics) 2008 - 2012
 - Computer programming 2008 - 2012
 - Technical drawing with AUTOCAD 2008 - 2012
- B. National Center for Scientific Research (NCSR) “Demokritos”
Graduate level

- Co-teaching the course “Process and device simulation” in the Interdepartmental Program for Graduate Studies in “Microelectronics” 2009-2012
- C. Supervisor in the context of Google summer of Code (gsoc)
- Deifilia To, McGill University (currently at ETH) 2020-
 - Dr. Christianna Gatsiou, BIOEMTECH, 2022-
- D. Co-advising NTUA
- Afroditi Kourou Diploma 2022
 - Ioannis Lappas Diploma 2022 (expected)
- E. Assistance in the undergraduate diploma thesis supervision:
- Nikos Kallikounis Diploma 2014
 - Jim Pozharskii Diploma 2012
 - Katerina Triamouraki Diploma 2012
 - Andreas Stefadouros Diploma 2012
 - Yannis Aviziotis Diploma 2011
 - Thanasis Tzortzinis Diploma 2009
 - Androniki-Dionysia Inglezou Diploma 2009
- F. Assistance in the graduate diploma thesis supervision:
- Sokratis Garnelis Graduate Degree in Computational Mechanics 2010
 - Dimitris Mantzalis Graduate Degree in Computational Mechanics 2009
- G. Assistance in the doctoral thesis supervision:
- Yannis Aviziotis PhD, 2016
- H. Assistance in the training of foreign exchange (ERASMUS) students:
- Caroline Gardet, Institut National Polytechnique de Toulouse 2008
 - Solenn Chevalier, Institut National Polytechnique de Toulouse 2008

MEMBER Technical Chamber of Greece
Hellenic Society of Rheology

LANGUAGES English (C2), French (Basic), Greek (Native)