

# MICHAILIDIS Georgios

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Born on: April 10, 1984 (40 years old)  
Nationality: Greek,French



## PROFESSIONAL EXPERIENCE

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<b>Lead R&amp;D Engineer</b> <i>ANSYS Inc.</i> Structural Optimization team (Topology/Shape/Topography/Lattice Optimization).	02/2017-present
<b>Research Engineer</b> <i>SIMaP, University of Grenoble</i> Collaborators: Professors BRÉCHET Yves, ESTEVEZ Rafael, ALLAIRE Grégoire	02/2015-02/2017
<b>X-UP: start-up acceleration program</b> <i>iOPTI S.A.S., Consulting and Design Optimization Group</i> École Polytechnique - PEI, Building "La Fibre Entrepreneur – Drahi-X Novation Center", Avenue Coriolis, 91120 Palaiseau Cedex	10/2015-04/2016
<b>Research Engineer</b> <i>CMAI, Ecole Polytechnique, 91128 Palaiseau, France</i> Structural optimization in vibration problems, algorithms for optimal design of materials microstructure and optimal materials selection.	02/2014-02/2015
<b>Engineer of Position I</b> <i>Renault, Direction de la recherche et des études avancées, 78280 Guyancourt, France</i> Manufacturing constraints in shape and topology optimization and implementation in Fortran in the finite element software SYSTUS of ESI-Group, thermal problems, multi-phase optimization, design of materials microstructure using inverse homogenization.	02/2011-02/2014
<b>Internship</b> <i>Renault, Direction de la recherche et des études avancées, 78280 Guyancourt, France</i> Mathematical formulation of main casting constraints, derivation with respect to shape variations and implementation in a 2d Scilab code for structural optimization.	06/2010-01/2011
<b>Military service</b> <i>(Mandatory)</i>	11/2008-11/2009

## TEACHING EXPERIENCE

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<b>Applied Mathematics</b> <i>Democritus University of Thrace (DUTH)</i> <i>Computer Science Department (School of Science)</i>	2022,2023,2025
<b>Linear Algebra</b> <i>Democritus University of Thrace (DUTH)</i> <i>Computer Science Department (School of Science)</i>	2024
<b>Optimization Algorithms</b> <i>Democritus University of Thrace (DUTH)</i> <i>Computer Science Department (School of Science)</i>	2022,2023,2024

## EDUCATIONAL BACKGROUND

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### Phd in Applied Mathematics

02/2011-02/2014

*Ecole Polytechnique-Renault Technocentre*

*RODIN project (Robust structural Optimization for Design in INdustry)*

Title: "Manufacturing constraints and multi-phase shape and topology optimization via a level-set method."

Supervisor: Prof. ALLAIRE Grégoire

### MSc. in Applied Mathematical Sciences

10/2009-11/2010

*National Technical University of Athens (NTUA), School of Applied Mathematical and Physical Sciences*

Grade: 9,20/10

### Diploma in Civil Engineering

2003-2008

*Aristotle University of Thessaloniki (AUTH), Department of Civil Engineering*

Grade: 9,01/10

Rank: 1<sup>st</sup>

## DISTINCTIONS

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### DUNOD Prize

2013

*Award for poster presentation during the conference: SMAI 2013, Seignosse, France, 27/05/2013.*

### Technical Chamber of Greece

2012

*Award for exceptional performance during the academic years 2003-2008.*

## FELLOWSHIPS OF EXCELLENCE

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### Papamichailidis Foundation

2005-2008

*36-months fellowship for exceptional performance during the academic studies.*

### State Fellowships Foundation (IKY)

2003,2004,2005

*Fellowship for exceptional performance during the academic year.*

## SCIENTIFIC PUBLICATIONS

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### Journal papers

P. Amanatidis, G. Michailidis, D. Karampatzakis, V. Kalenteridis, G. Iosifidis, T. Lagkas *Multi-Objective Reverse Offloading in Edge Computing for AI Tasks*, IEEE Open Journal of the Communications Society, 2025.

P. Amanatidis, D. Karampatzakis, G. Michailidis, T. Lagkas, G. Iosifidis. *Adaptive Reverse Task Offloading in Edge Computing for AI Processes*, International Journal of Computer and Telecommunications Networking, 2024.

P. Geoffroy-Donders, G. Allaire, G. Michailidis, O. Pantz. *Coupled optimization of macroscopic structures and lattice infill*, International Journal for Numerical Methods in Engineering, 2020.

N. Vermaak, G. Michailidis, A. Faure, G. Parry, R. Estevez, F. Jouve, G. Allaire, Y. Bréchet. *Topology Optimization with Interfaces*, Architected Materials in Nature and Engineering, Springer, pp. 173-193, 2019.

C. Dapogny, R. Estevez, A. Faure, G. Michailidis. *Shape and topology optimization considering anisotropic features induced by additive manufacturing processes*, CMAME, 344, pp. 626-665, 2019.

G. Allaire, C. Dapogny, R. Estevez, A. Faure, G. Michailidis. *Structural optimization under overhang constraints imposed by additive manufacturing technologies*, Journal of Computational Physics, 351, pp.295-328, 2017.

G. Allaire, C. Dapogny, A. Faure, G. Michailidis. *Shape optimization of a layer by layer mechanical constraint for additive manufacturing*, Comptes Rendus Mathématique, 355, pp.699-717, 2017.

J. Desai, A. Faure, G. Michailidis, G. Parry, R. Estevez. *Topology optimization in acoustics and elasto-acoustics via a level-set method*, Journal of Sound and Vibration, 420, pp.73-103,2018.

G. Allaire, G. Michailidis. *Modal basis approaches in shape and topology optimization of frequency response problems*, International Journal for Numerical Methods in Engineering, 113, pp.1258-1299, 2018.

C. Dapogny, A. Faure, G. Michailidis, G. Allaire, A. Couvelas, R. Estevez. *Geometric constraints for shape and topology optimization in architectural design*, Computational Mechanics, 59, pp.933-965, 2017.

A. Faure, G. Michailidis, G. Parry, N. Vermaak, R. Estevez. *Design of thermoelastic multi-material structures with graded interfaces using topology optimization*, Structural and Multidisciplinary Optimization, 56, pp.823-837, 2017.

- G. Allaire, F. Jouve, G. Michailidis. *Molding direction constraints in structural optimization via a level-set method*, Variational Analysis and Aerospace Engineering, pp.1-39, 2016.
- F. Feppon, G. Michailidis, M. A. Sidebottom, G. Allaire, B. A. Krick, N. Vermaak. *Introducing a level-set based shape optimization method for the wear of composite materials with geometric constraints*, SMO (Structural and Multi-disciplinary Optimization), pp.1-22, 2016.
- F. Feppon, M. A. Sidebottom, G. Michailidis, B. A. Krick, N. Vermaak. *Efficient steady-state computation for wear of multi-material composites*, Journal of Tribology, 138, pp.031602, 2016.
- G. Allaire, F. Jouve, G. Michailidis. *Thickness control in structural optimization via a level-set method*, SMO (Structural and Multi-disciplinary Optimization), 53, pp.1349-1382, 2016.
- N. Vermaak, G. Michailidis, G. Parry, R. Estevez, Y. Brechet, and G. Allaire. *Material interface effects on the topology optimization of multi-phase thermoelastic structures using a level set method*, SMO (Structural and Multi-disciplinary Optimization), 50, pp.623-644, 2014.
- G. Allaire, C. Dapogny, G. Delgado, G. Michailidis. *Multi-phase structural optimization via a level set method*. ESAIM: Control, Optimisation and Calculus of Variations, 20, pp. 576-611, 2014.

### **Conference proceedings**

- G. Allaire, G. Michailidis, N. Spillane. *Modal basis approaches in shape and topology optimization of frequency response problems*. XXIV ICTAM, Montreal, Canada, 2016.
- A. Faure, G. Michailidis, R. Estevez, G. Parry, G. Allaire. *Design of isotropic microstructures via a two-scale approach*. ECCOMAS Congress 2016, Crete, Greece, 2016.
- T. Abballe, M. Albertelli, G. Allaire, A. Caron, P. Conraux, L. Dall’Olio, C. Dapogny, C. Dobrzynski, B. Jeannin, F. Jouve, D. Lachouette, T. Le Sommer, K. Maquin, G. Michailidis, M. Siavelis, V. Srithammavanh. *RODIN project, Topology Optimization 2.0?*. SIA Conference, Montigny-le-Bretonneux, France, 2015.
- G. Allaire, F. Jouve, G. Michailidis. *Casting constraints in structural optimization via a level-set method*. 10th World Congress on Structural and Multidisciplinary Optimization, Orlando, Florida, USA, 2013.
- G. Allaire, F. Jouve, G. Michailidis. *Structural and multi-functional optimization using multiple phases and a level-set method*. SEECCM III, 3rd South-East European Conference on Computational Mechanics, Kos Island, Greece, 2013.

## **CONFERENCE TALKS**

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- WCCM-APCOM**, Yokohama, Japan, 02/08/2022
- XXIV ICTAM**, Montreal, Canada, 26/08/2016
- ECCOMAS Congress**, Crete, Greece, 06/06/2016
- EngOpt 2014**, Lisbon, Portugal, 08/09/2014
- OPT-i**, Kos, Greece, 04/06/2014
- PICO F 2014**, Hammamet, Tunisia, 07/05/2014
- SEECCM 2013**, Kos, Greece, 12/06/2013
- SMAI 2013**, Seignosse, France, 27/05/2013
- WCSMO-10**, Orlando, Florida, 19/05/2013
- ESMC 2012**, Graz, Austria, 09/07/2012
- EngOpt 2012**, Rio de Janeiro, Brasil, 01/07/2012
- PICO F 2012**, Palaiseau, France, 03/04/2012
- MMMM 2011** (Micromechanics and modeling of multifunctional materials), Thessaloniki, Greece, 14/07/2011

## **INVITED TALKS**

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- RICAM Institute**, Special Semester on New Trends in Calculus of Variations, Linz, Austria, 16/10/2014 (invited seminar by Prof. E. Oudet)
- McGill University**, Department of Mechanical Engineering, Montreal, Canada, 03/10/2014 (invited seminar by Prof. D. Pasini)
- University of Toronto**, UTIAS, Toronto, Canada, 30/09/2014 (invited seminar by Prof. C. Steeves)

**LEHIGH University**, Department of Industrial and Systems Engineering, Bethlehem, USA, 26/09/2014 (invited seminar by N. Vermaak)

**University of Erlangen-Nürnberg**, Department of Mathematics, Erlangen, Germany, 18/06/2014 (invited seminar by Prof. Dr. G. Leugering)

**College de France**, "Filling Gaps in Materials Space: Methods and Applications", Paris, France, 14-15/10/2013 (invited seminar by Yves Bréchet, "Chaire d'Innovation technologique 2012-2013")

**College de France**, "Cours Architectures hiérarchisées : les leçons du vivant", Paris, France, 15/03/2013 (invited seminar by Yves Bréchet, "Chaire d'Innovation technologique 2012-2013")

## **GENERAL SKILLS & PROJECTS**

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*MorphoGenesis* Generative Design techniques in the design of furniture.  
CREA CENTERS KAVALA(<https://creacenters.eu/kavala-great-club/>)

*Programming* C++, PYTHON, FORTRAN, C#, C, MATLAB, SCILAB, FREEFEM++, L<sup>A</sup>T<sub>E</sub>X

*Optimization* Shape and Topology Optimization using the level-set method  
SIMP method (DCAMM summer school, DTU University of Denmark, Copenhagen)  
Metaheuristic Optimization (neural networks, EAs, GAs)

*Meshing* M2 Course in Meshing, UPMC, Laboratoire Jacques Louis Lions  
Title: "Méthodes avancées pour la simulation numérique", Professor: Pascal Frey  
Class assignment: Development in C of a 2d code for the generation and quality amelioration of a mesh adapted to an implicit function.

*Languages* Greek (mother tongue)  
English (proficiency)  
French (proficiency)  
German (Mittelstufe diplom)

## **MISCELLANEOUS**

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Reviewer in Journals: SMO (Structural and Multi-disciplinary Optimization), CMAME (Computer Methods in Applied Mechanics and Engineering), IJNME (International Journal for Numerical Methods in Engineering), JVC (Journal of Vibration and Control), JSV (Journal of Sound and Vibration), JBE (Journal of Building Engineering), OPTE (Optimization and Engineering), HMT (International Journal of Heat and Mass Transfer)

Deputy Mayor for Planning-Development, Digital Services and Youth, Municipality of Kavala, Greece (2019-2023).

Member of the General Assembly of the Department of Civil Engineering (2004-2008).

Member of the Committee of Internal Regulation of the Department of Civil Engineering (2007-2008).

Other interests: literature, billard, gym.