Dr. Antonis Gitsas

CURRICULUM VITAE

PERSONAL INFORMATION

Place of Birth	Volos, Greece
E-mail	antonis.gitsas@borealisgroup.com
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Address	Borealis Polyolefine GmbH St.-Peter-Straße 25, 4021 Linz, Austria

EDUCATION – RESEARCH EXPERIENCE

- 2011- Lead Scientist, Flexible Polymers, Borealis Polyolefine GmbH, Linz/Austria.
- 2009-2011 Postdoctoral researcher, AIT Austrian Institute of Technology, Vienna/Austria.
- 2003-2008 PhD Physics, University of Ioannina/Greece.
- 1999-2003 BSc Physics, Department of Physics, University of Ioannina/Greece.

RESEARCH INTERESTS

Polyolefins structure-property-processing relationships for advanced energy and infrastructure applications
Polymers under thermodynamic confinement; dynamics and self-assembly
Novel biomacromolecules and their hierarchical organization
Temperature- and pressure-dependent dielectric spectroscopy

PAPERS IN PEER-REVIEWED JOURNALS

[1] "Byproduct free curing of a highly insulating polyethylene copolymer blend: An alternative to peroxide crosslinking", Mauri, M.; Peterson, A.; Senol, A.; Elamin, K.; Gitsas, A.; Hjertberg, T.; Matic, A.; Gkourmpis, T.; Prieto O.; Müller, C. *Journal of Materials Chemistry C* **2018**, x, xxxx.

[2] "Effect of film structure and morphology on the dielectric breakdown characteristics of cast and biaxially oriented polypropylene films" Rytöluoto, I.; Gitsas, A.; Pasanen, S.; Lahti, K. *European Polymer Journal* **2017**, *95*, 606.

[3] "Nanostructuring polymeric materials by templating strategies" Knoll, W.; Caminade, A.-M.; Char, K.; Duran, H.; Feng, C. L.; Gitsas, A.; Kim, D. H.; Lau, A.; Lazzara, T. D.; Majoral, J.-P.; Steinhart, M.; Yameen, B.; Zhong, X. H. *Small* **2011**, *7*, 1384.

[4] "Designing polymeric nanorod arrays for optical waveguide-based biosensors" Gitsas, A.; Lazzara, T. D; Yameen, B.; Steinhart, M.; Knoll, W.; Duran, H. *Physica Status Solidi (c)* **2011**, *8*, 3179.

[5] "Polycyanurate nanorod arrays for optical-waveguide-based biosensing", Gitsas, A.; Yameen, B.; Lazzara, T. D.; Steinhart, M.; Duran, H.; Knoll, W. *Nano Letters* **2010**, *10*, 2173.

[6] "Effects of nanoscale confinement and pressure on the dynamics of pODMA-*b*-p*t*BA-*b*-pODMA triblock copolymers", Gitsas, A.; Floudas, G.; Butt, H.-J.; Pakula, T.; Matyjaszewski, K. *Macromolecules* **2010**, *43*, 2453.

[7] "Hierarchical self-assembly and dynamics of a miktoarm star *chimera* composed of poly(*γ*-benzyl-L-glutamate), polystyrene and polyisoprene", Gitsas, A.; Floudas, G.; Mondeshki, M.; Lieberwirth, I.; Spiess, H. W.; Iatrou, H.; Hadjichristidis, N.; Hirao, A. *Macromolecules* **2010**, *43*, 1874.

[8] "Effect of pressure on the phase bahavior and segmental dynamics in blends of polystyrene with poly(methylphenyl siloxane)", Gitsas, A.; Floudas, G.; White, R. P.; Lipson, J. E. G. *Macromolecules* **2009**, *42*, 5709.

[9] "Poly(*γ*-benzyl-L-glutamate) peptides confined to nanoporous alumina: pore diameter dependence of self-assembly and segmental dynamics", Duran, H.; Gitsas, A.; Floudas, G.; Mondeshki, M.; Steinhart, M.; Knoll, W. *Macromolecules* **2009,** *42*, 2881.

[10] "Pressure dependence of the glass transition in atactic and isotactic polypropylene", Gitsas, A.; Floudas, G.; *Macromolecules* **2008**, *41*, 9423.

[11] "Control of peptide secondary structure and dynamics in poly(*γ*-benzyl-L-glutamate)-*b*-polyalanine peptides", Gitsas, A.; Floudas, G.; Mondeshki, M.; Spiess, H. W.; Aliferis, T.; Iatrou, H.; Hadjichristidis, N. *Macromolecules* **2008**, *41*, 8072.

[12] "Effect of chain topology on the self-organization and dynamics of block copolypeptides: from diblock copolymers to stars", Gitsas, A.; Floudas, G.; Mondeshki, M.; Butt, H.-J.; Spiess, H. W.; Iatrou, H.; Hadjichristidis, N. *Biomacromolecules* **2008**, *9*, 1959.

[13] "Self-assembly and molecular dynamics of copolymers of *γ*-methyl-L-glutamate and stearyl-L-glutamate", Gitsas, A.; Floudas, G.; Dietz, M.; Mondeshki, M.; Spiess, H. W.; Wegner, G. *Macromolecules* **2007**, *40*, 8311.

[14] "Self-assembly and molecular dynamics of peptide functionalized polyphenylene dendrimers", Mondeshki, M.; Mihov, G.; Graf, R.; Spiess, H. W.; Müllen, K.; Papadopoulos, P.; Gitsas, A.; Floudas, G. *Macromolecules* **2006**, *39*, 9605.

[15] "Role of main chain rigidity and side chain substitution on the supramolecular organization of rigid-flexible polymers", Riala, P.; Andreopoulou, A. K.; Kallitsis, J. K.; Gitsas, A.; Floudas, G. *Polymer* **2006**, *47*, 7241.

[16] "Self-assembly of pODMA-*b*-p*t*BA-*b*-pODMA triblock copolymers in bulk and on surfaces. A quantitative SAXS/AFM comparison", Wu, W.; Huang, J.; Jia, S.; Kowalewski, T.; Matyjaszewski, K.; Pakula, T.; Gitsas, A.; Floudas, G. *Langmuir* **2005**, *21*, 9721.

[17] "Effects of temperature and pressure on the stability and mobility of phases in rigid rod poly(*p*-phenylenes)", Gitsas, A.; Floudas, G.; Wegner, G.; *Physical Review E* **2004**, *69*, 041802.

PATENTS

12/2017 Semiconductive polyolefin compositions comprising carbonaceous structures 17206398.4; 17206401.6; 17206402.4; 17206403.2
6/2016 Polymer composition for wire and cable applications with advantageous electrical properties 16175582.2
6/2016 SSC-PE modified XLPE with exceptionally low DC conductivity 16175585.5
5/2016 Soft PP composition for films and cable insulations from a non-phthalate ZN catalyst 16170186.7
10/2015 Biaxially oriented films made of propylene polymer compositions 15190159.2
9/2014 Heat-resistant BOPP film with improved processability and surface roughness for capacitor grades 14184408.4
12/2013 BOPP film with improved stiffness/toughness balance 13198134.2

BOOK CHAPTER

"Nanostructured optical waveguides for thin film characterization" Duran, H; Lau, K. H. A.; Cameron, P. J.; Gitsas, A.; Steinhart, M.; Knoll, W. in *Functional Polymer Films* vol. 2, Wiley-VCH, Weinheim **2011** ISBN: 978-3-527-32190-2.

PAPERS REVIEWER & PROPOSALS EVALUATOR

- Phys. Rev. Lett.; Soft Matter; Macromolecules; J. Mater. Chem; Phys. Chem. Chem. Phys; Nanotechnology; J. Polym. Sci. Part B Polym. Phys.; New J. Chem; J. Phys. D; Mater. Lett; J. Polym. Res., and others.
- EE FP7 NMP - Nanosciences, Nanotechnologies, Materials and new Production Technologies.
  National Science Foundation - DMR – Polymers (NSF, USA).

SELECTED CONFERENCE PRESENTATIONS

- 3/2017 5th International Conference on Multifunctional, Hybrid and Nanomaterials, Lisbon, Portugal.
- 6/2013 European Polymer Congress EPF 2013, Pisa, Italy.
- 4/2012; 9/2014 7th-8th Internat. Conf. on Nanostructured Polymers and Nanocomposites, Prague/Dresden.
- 7/2010 Macro2010 World Polymer Congress, Glasgow, UK.
- 2006; 2008; 2010 6th; 7th; 8th Hellenic Polymer Conference.
- 4/2006 2nd International Workshop on Dynamics in Viscous Liquids, Mainz, Germany.
- 2002-2007 Oral & poster presentations in the Panhellenic Conf. on Solid State Physics and Material Science.

INVITED LECTURES

4/10/2018 University of Ioannina, Department of Physics: "Advanced thermoplastics for the next generation power cables".
27/9/2010 National Hellenic Research Foundation, Athens: "Polymer nanorods for optical waveguide-based biosensors".
31/7/2007 Institute of Macromolecular Chemistry,Prague:"Self-assembly and dynamics of synthetic and biological copolymers".

AWARDS AND HONOURS

- 2011 Front cover of the Physica Status Solidi (c) November issue.
- 2008 Best Poster Award in the 7th Hellenic Polymer Conference.
- 2005-2008 Research Grant from the European Social Fund and the Greek Ministry of Development (PENED03ED856, in cooperation with Thrace Plastics Co. S.A.).
- 2003-2005 Scholarship, Foundation for Research and Technology-Hellas (FORTH).
- 2003 Graduated from the Physics Department 3rd among those entered in 1999 (about 130 students).
- 1997, 1999 Honours in the Greek National Student Astronomy Challenge.

ORGANIZATIONAL EXPERIENCE

2018- Agile software development experience (Product Owner)
2013- Deputy Secretary and IT responsible at the Ister Rowing Club.
1-2/10/2010 1st Hellenic Youth Astronomy Conference, Volos, Greece; Head of the organizing committee.

TEACHING EXPERIENCE

2013- Trainer at the Borealis Business Academy.
2004-2008 University of Ioannina. Teaching assistant in the undergraduate courses: *Thermodynamics; Solid State Physics; Mechanics Laboratory; Computers Laboratory*.

FOREIGN LANGUAGES

- English Proficient (C2 of CEFR – Certificate of Proficiency in English)
- German Proficient (C1 of CEFR – Oberstufe Deutsch, Österreichisches Sprachdiplom Deutsch)
- Spanish Basic (A1 of CEFR at Universidad International Menéndez Pelayo, Santander, Spain)

PERSONAL INTERESTS

Rowing: practicing in Masters B; Trained in first aids & antidoping.
Public awareness of science; Member of the Astronomy and Space Society (Greece)