

## Georgia Basina

Postdoctoral Researcher

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## Education

- Ph.D.** Materials Science and Engineering, University of Ioannina, Ioannina, GREECE (2009–2013)
- M.Sc.** Inorganic Chemistry and Technology, National and Kapodistrian University of Athens, Athens, GREECE (2006–2009)
- BA/MEng.** Materials Science Technology (5-years MEng. degree), University of Ioannina, GREECE (1999–2004)

## Biography

Dr. Georgia Basina, is Materials Scientist Engineer specialized in Materials Chemistry. She earned her Master's in Inorganic Chemistry and Technology from the National and Kapodistrian University of Athens in 2009 and completed her PhD in Materials Science and Engineering at the University of Ioannina in 2013. Her doctoral research, focused on the "*Synthesis, characterization, and functionalization of magnetic nanoparticles for biomedical applications*". Since then, Dr. Basina's postdoctoral journey has been marked by international research appointments in renowned laboratories across Greece, Slovenia (Jozef Stefan Institute), the USA (University of Delaware and University of Minnesota), and the UAE (Khalifa University), where she engaged with diverse scientific disciplines. Her expertise is particularly focused on the colloidal synthesis of nanostructured, porous (micro-/meso-) and hierarchical materials, utilizing "bottom-up" approaches to engineer nanostructures with tailored sizes, shapes and functionalities for applications in bio-medical, energy, and environmental fields. Her skills include proficiency in a wide array of analytical techniques including PXRD, SEM, TEM (EDAX, SAED), FT-IR, DTA/TG, UV/VIS, DLS, GS-SCD, Gas Sorption using BET and Langmuir methods, and Vibrating Sample Magnetometry (VSM) for magnetic characterization.

Currently, she is a Postdoctoral Researcher at the Theoretical & Physical Chemistry Institute (TPCI/NHRF) within the National Hellenic Research Foundations (NHRF) in Greece, where she continues her research in the area of materials chemistry specifically the development of MOF nanocarbons hybrids.

## Professional Experience

- 1/4/2024 to present**      **Postdoctoral Researcher**  
*Theoretical and Physical Chemistry Institute (TPCI),*  
National Hellenic Research Foundation, Athens, GREECE
- 1/9/2022 - 29/2/2024**      **Postdoctoral Researcher**  
*Institute of Nanoscience and Nanotechnology (INN),*  
National Center for Scientific Research "DEMOKRITOS", Athens, GREECE
- July 2020 - July 2021**      **Postdoctoral Fellow**  
*Center for Catalysis and Separations (CeCaS) in collaboration with the*  
*department of Chemical Engineering,*  
Khalifa University of Science and Technology, Abu Dhabi, U.A.E.
- Feb 2019 - June 2020**      **Postdoctoral Fellow**  
*Department of Chemical Engineering,*  
Khalifa University of Science and Technology, Abu Dhabi, U.A.E.
- Feb 2016 - Feb 2019**      **Research Teaching Associate**  
*Department of Chemical Engineering,*  
The Petroleum Institute, Abu Dhabi, U.A.E.
- Jun. - Oct. 2018**      **Visitor Researcher**  
*Department of Materials Science and Engineering,*  
University of Ioannina, Ioannina, Greece
- June - Aug. 2017**      **Visitor Researcher**  
*Department of Chemical Engineering and Materials Science,*  
University of Minnesota Twin Cities, Minneapolis – Minnesota, USA
- Jul 2014 - Jul 2015**      **Research Associate/Post-doctoral Researcher**  
*Department of Chemistry, University of Crete, Heraklion – Crete*  
in collaboration with the Institute of Nanoscience and Nanotechnology,  
NCSR "DEMOKRITOS", Athens, GREECE
- May 2013 - May 2014**      **Research Associate/Post-doctoral Researcher**  
*Electronic Ceramics-K5, Chemistry and Biochemistry Department,*  
Jožef Stefan Institute (IJS)), Ljubljana, SLOVENIA
- Dec 2007 - Mar 2012**      **Research Assistant/Post-graduate Research Fellow**  
*Institute of Materials Science,*  
National Center for Scientific Research "DEMOKRITOS", Athens, GREECE

**Mar 2010 - Supplemental Professional/PhD Candidate**

**July 2010**

*Department of Physics and Astronomy,*  
University of Delaware, Newark – Delaware, USA

**Nov 2004 - Research Assistant/Post-graduate**

**Jun 2008**

*Institute of Materials Science,*  
National Center for Scientific Research "DEMOKRITOS", Athens, GREECE

## Research Interests

- Bottom-up synthesis of single atom catalysts / nanomaterials
- Hybrid organic – inorganics nanostructures, composite nanomaterials, core/shell
- Hybrid micro/mesoporous materials with transition metals and oxides thereof
- nanoparticles
- Nanocomposites of Metal Organic Frameworks (MOFs) with graphite oxides and
- metallic nanoparticles
- 3-Dimensional Ordered metal oxides structures (3DOMS) and Hierarchical porous materials
- Synthesis of magnetic colloids.
- Nanomaterials for biomedical applications
- Magnetism in nano dimensions.
- Nanocomposite and porous materials for environmental and catalytic applications

## Awards

**Dec 2007 - Scholarship for postgraduate studies**

**March 2012**

*Institute of Materials Science,*  
National Center for Scientific Research "DEMOKRITOS", Athens,  
GREECE

**July 2022**

**Front Cover / Artwork for the Royal Society of Chemistry -  
Journal of Materials Chemistry B** (outside Front Cover),

Volume 10, Number 26, 14 July 2022, Issue 26, Page 4899 to 5096

<https://pubs.rsc.org/en/content/articlepdf/2022/tb/d2tb90093a?page=search>

## Conferences – Publications & Patents

- Participant in more than 20 international conferences (with 8 oral presentations).
- Co-author of 43 peer-reviewed articles focus on the synthesis, characterization, and applications of inorganic and inorganic-organic (nano) materials, with significant contributions to environmental and biomedical processes.
- Co-inventor of 3 filed international patents (2 US and 1 PCT) focusing on energy and environmental applications.