

# Curriculum Vitae

**Last Name: Baskoutas**

**First Name: Sotirios**

**Employment/Occupation: Professor (Full)**

<http://nanomat.upatras.gr/>,

<https://www.chemie.uni-hamburg.de/en/institute/pc/arbeitsgruppen/bester/personen/weitere-personen/baskoutas-sotirios.html>

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## Education:

1993 Ph.D. thesis, Faculty of Physics, University of Patras, Patras, Greece

1989 Diploma in Physics, University of Patras, Patras, Greece

## Professional Experience:

|            |                                                                                                                                              |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 2017-today | Professor (Full) Materials Science Dept. University of Patras, Greece                                                                        |
| 2013-2017  | Associate Professor, Materials Science Dept. University of Patras, Greece                                                                    |
| 2001-2013  | Assistant Professor, Materials Science Dept. University of Patras, Greece (permanent position)                                               |
| 2008-2009  | Guest Scientist, Max Planck Institute for Solid State Research, Stuttgart, Germany (on sabbatical: 6 months)                                 |
| 2008-2011  | Assistant Professor, Materials Science Dept. University of Patras, Greece                                                                    |
| 2003–2008  | Lecturer, Materials Science Dept. University of Patras, Greece                                                                               |
| 2001-2003  | Assistant Professor (Fixed term), Materials Science Dept. University of Patras, Greece                                                       |
| 2001       | Lecturer (Fixed term), Materials Science Dept. University of Patras, Greece                                                                  |
| 1999-2001  | Post-Doctoral Researcher, INT Institut für Nanotechnologie, Karlsruhe, Germany.                                                              |
| 1996-1999  | Post-Doctoral Researcher, Engineering Science Department, University of Patras, Greece.                                                      |
| 1995-1996  | Post-Doctoral Researcher, Department of Physics, Division of Applied Physics, Laboratory of Molecular Physics, University of Patras, Greece. |
| 1991-1993  | Research Assistant, Department of Physics, Ia Università di Roma “La Sapienza”, and Institute for Nuclear Research (INFN), Rome, Italy.      |
| 1989-1991  | Research Assistant, Department of Physics, University of Patras, Greece.                                                                     |

## Research Interests:

- Theoretical and computational methods for the study of electronic and optical properties of semiconductor nanostructured materials for optoelectronic and biological applications.
- Synthesis (with physical methods) and Characterization of amorphous and nanocrystalline materials for energy, environmental and biological applications.

## Short time visits

- **2015-today:** Visiting Scientist, Department of Chemistry, University of Hamburg, Germany.
- **2018-today:** Visiting Scientist, Department of Physics, Russian-Armenian University, Yerevan Armenia.

- **2020** Visiting Scientist, Department of Applied Informatics and Computational Physics, Nanostructures and Nanodevices, Faculty of Physics and Applied Computer Science, Krakow, Poland.
- **2008-2015:** Visiting Scientist, Max Planck Institute for Solid State Research, Stuttgart, Germany.
- **2006:** Visiting Scientist, Institute for Microstructural Sciences National Research Council of Canada (NRC) Ottawa, Ontario, Canada.
- **2005 and 2006:** Visiting Scientist, Research Institute of Solid State Physics and Optics, Budapest, Hungary.
- **1996:** Visiting Scientist, Department of Physics Fundamental y Experimental, University of Laguna, Laguna, Tenerife, Spain.
- **1993:** Visiting Scientist, Department of Physics University of Bruxells, Belgium.
- **1993:** Visiting Scientist, Max-Planck Institut für Plasma Physik Garching, Munich, Germany

## Research Supervision

### PhD Students:

1. Zaiping Zeng (*Electronic properties of nanostructured semiconductor materials*), **completed**
2. Ghulam Dar (*Semiconductor Nanostructures for Device Applications*), **completed**
3. Mohammed Abaker (*Metal Oxide Nanostructures and Their Applications*), **completed**
4. Ahmed Abdelbagi Ibrahim Mohammed (Semiconductor Nanomaterials for Environmental Applications), **completed**.
5. Grigor Mantashyan, (Optical Properties of Semiconductor Nanostructures), **in progress**
6. Sargis Gavalajyan, (Tunneling Effects and Optical Properties of Coupled Quantum Dots), **in progress**.

### M.Sc. Students:

1. Antonios Grigoropoulos (*Synthesis, characterization and study of the properties of ZnO nanostructures*), **completed**.
  2. Georgios Gorgolis (*Binding Energy of Surface Localized Impurity States in a Semiconductor Nanostructure with the Presence of Tilted Electric and Magnetic Fields*), **completed**.
  3. Christina Vougiouka, (*Energy Transfer between quantum dots*), **completed**
- Supervision of 50 undergraduate theses, Department of Materials Science, University of Patras.
  - Member of several PhD review Committees at the University of Patras and in abroad.

## Administrative Positions

1. (2015-2020) Chair, Department of Materials Science, University of Patras, Greece.
2. (2017-2020), Vice Dean, School of Natural Sciences, University of Patras, Greece.
3. (2015-2020), Member of Karatheodori Scientific Committee, University of Patras, Greece.
4. (2020-2023) National Council for Research, Technology and Innovation, Member of Scientific Council for Natural Sciences-Mathematics (GSRT).
5. (2020-today) Member of the three-member Steering Committee of the Institute Biological Chemistry, University of Patras.

## Grants and Funding

1. (2020-2025) **Group Leader** HORIZON 2020, *Twinning to strengthen the Russian-Armenian University's research and innovation capacity in nanomaterials for quantum information and quantum optics*, budget: 900000 Euro.
2. (2022-2023) **Group Leader** Inductive Heating of Magnetic Iron Oxide Nanoparticles, ENTERPRISE INCUBATOR FOUNDATION (EIF), budget: 30000 Euro.
3. (2016-2019) Project with title *Perovskite Materials for Efficient Solar Cells*, **PERMASOL**, AIT Austrian Institute of Technology GmbH.
4. (2015-2016) **Group Leader**, Project ARIS (Computational facilities).
5. (2011- today) Project: National Plan for Science, Technology and Innovation (MAARIFAH), King Abdulaziz City for Science and Technology, Kingdom of Saudi Arabia, Grant Number: 12-NAN2551-02

6. (2011- today) Project: Ministry of Higher Education, Kingdom of Saudi Arabia under Promising Centre for Sensors and Electronic Devices (PCSED) at Najran University, Grant Number: PCSED-021-13
7. (2011- today) Project: Deanship of Scientific Research (DSR), Najran University, Najran, DSR, Najran University, Grant Number: NU/ESCI/14/025.
8. (2011-2014) **Group Leader**, Project Thalys entitled: *Feasibility studies on novel nanostructures of ZnO and their applications in nanophotonics and energy conversion: Experimental and theoretical approach*, Research Committee ICEHT-FORTH Patras, budget: 600000 Euro.
9. (2010-2013) **Group Leader**, Project Karatheodori entitled: *Modeling-Design and Development of semiconductor Nanostructured Materials*, Research Committee, University of Patras, budget: 33000 Euro.
10. (2004-2007) **Group Leader**, Project Collaboration Greece-Hungary, entitled: *Fabrication Technology, Characterization and Study of the properties of bulk amorphous and nanophase metallic alloys*, General Secretary of Research and Technology, Hellenic Ministry of Education, budget: 34000 Euro.
11. (2004-2007) **Group Leader**, Project Karatheodori entitled: *Design and Development of nanocrystalline semiconductor materials for photovoltaic and optoelectronic applications*, Research Committee, University of Patras, budget: 33000 Euro.
12. (2005-2008), **Team Member**, Project Pythagoras II entitled: *Controlled Dynamics of Nanostructures and Applications in Quantum Computers*, General Secretary of Research and Technology, Hellenic Ministry of Education, budget: 54000 Euro.
13. (2005-2008), **Team Member**, Project Arhimides entitled: *Controlled Dynamics of Nanostructures*, General Secretary of Research and Technology, Hellenic Ministry of Education, budget: 60000 Euro.
14. (2001-2004), **Team Member**, Project Karatheodori entitled: *Synthesis, characterization and properties of nanostructured semiconductors*, Research Committee, University of Patras, budget: 23000 Euro.
15. (2000-2001), **Team Member**, Project PENED entitled: *Study of nanostructured particles in liquid crystals and polymers*, General Secretary of Research and Technology, Hellenic Ministry of Education, budget: 60000 Euro.
16. (1999-2001), **Team Member**, Project Collaboration Greece-Georgia entitled: *Electrical and magnetical properties of High- $T_c$  superconductors synthesized and consolidated at very high pressures*, General Secretary of Research and Technology, Hellenic Ministry of Education, budget: 14000 Euro.
17. (1999-2001), **Team Member**, Project INTAS entitled: *Production of high density, high hardness  $B_4C$  and boron contained materials*, Secretary of Research and Technology, Hellenic Ministry of Education, budget: 20000 Euro.
18. (1999-2001), **Group Leader**, German Project entitled: *Modeling and behavior of clusters and nanostructured materials, properties and applications of quantum dots*, International Büro of the Bundesministerium für Bildung und Forschung, budget: 20000 Euro.
19. (1/11/1997-30/04/1998) **Team Member**, Project: *Quasicrystalline, Amorphous and Nanocrystalline Materials*, Engineering Science Department, University of Patras, budget: 20000 Euro
20. (1/9/1996-31/12/1997) **Team Member**, Project: HUMAN CAPITAL AND MOBILITY: *Modifications of Structural Vibrational and Electronic Characteristics of Oxides Induced by Defects at the Surface and in Very Thin Films*, Engineering Science Department, University of Patras, budget: 20000 Euro
21. (1/11/1995-30/4/1996) **Team Member**, Project: *Synthesis, physical and electrochemical properties of semiconductors II – VI και I – III – IV in colloids and thin films*», Department of Physics, University of Patras.
22. (1993-1996) **Team Member**, Project: Italian M.U.R.S.T (Ministry of University and of Scientific and Technological Research) και INFN (National Institute for Nuclear Research), Dept. of Physics I<sup>a</sup> Università di Roma ‘La Sapienza’, Dept. of Physics ‘E. Amaldi’ II, Università di Roma ‘ Roma Tre’, Rome, Italy

## Distinctions and Awards

### Professor's Ioannidis list

My name is included in Prof. Ioannidis's list (Stanford University) at the top of 1% of scientists (Applied Physics) who have the greatest influence worldwide on international literature.

Vebleo Scientist Awardee (<https://vebleo.com/vebleo-recognitions/>) January 2021/'Design, Development, Characterization and Theory of Novel Semiconductor Nanostructures'/Vebleo Invited Lecture in the Webinar Materials Science, Engineering and Technology.

Honorary Doctorate, Russian-Armenian University, Yerevan, Armenia (10 May 2021)

Section Editor in Chief *Nanomaterials* (MDPI)

Editor *Materials Open* (World Scientific)

Associate Editor *Heliyon Materials Science* (Elsevier)

### Editorial Board Member

- *International Journal of Modern Physics Letters B* (World Scientific).
- *Modern Physics Letters B* (World Scientific).
- *Materials Futures* (IOP)
- *Journal of Computational and Theoretical Nanoscience* (American Scientific Publishers)
- *Journal of Nanomanufacturing*, (MDPI)

### Guest Editor

- For the Special Issue entitled «*Electronic Properties of Low Dimensional Systems*» of **Journal of Computational and Theoretical Nanoscience**, American Scientific Publishers (**IF: 1.666**).
- For the Special Issue entitled «*Advanced Materials for Technological and Biomedical Applications*», Guest Editors: Nikolaos Bouropoulos and Sotirios Baskoutas, of the Journal: **Science of Advanced Materials**, American Scientific Publishers (**IF: 1.067**).
- For the Special Issue entitled «*Zinc Oxide Nanostructures: Synthesis and Characterization*», **Materials**, MDPI (**IF: 3.748**).
- For the Special Issue entitled «*Advanced Materials for Technological and Biomedical Applications*», Guest Editors: Nikolaos Bouropoulos and Sotirios Baskoutas, **Materials**, MDPI (**IF: 3.748**).
- For the Special Issue entitled «*Advanced Functional Nanomaterials and Their Applications*», Guest Editors: Ahmad Umar and Sotirios Baskoutas, **Materials**, MDPI (**IF: 3.748**).
- For the Special Issue entitled «*Zinc Oxide Nanomaterials and Based Devices*», Guest Editors: Nikolaos Bouropoulos, Ahmad Umar and Sotirios Baskoutas, **Crystals** MDPI (**IF: 2.67**).
- For the Special Issue entitled «*Semiconductor Nanomaterials: from Growth, properties to applications*», Guest Editors: Ahmad Umar and Sotirios Baskoutas, **Nanomaterials**, MDPI (**IF: 5.719**).
- For the Special Issue entitled «*Advanced Nanomaterials for Quantum Technology, Sensor and Health Therapy Applications*», **Nanomaterials**, MDPI (**IF: 5.719**).
- For the Special Issue entitled «*Nanomaterials and Their Biomedical Applications*», **Journal of Functional Biomaterials**, MDPI (**IF: 4.901**).
- For the Special Issue entitled «*Nano-Objects and Nanomaterials*», **Nanomanufacturing** (MDPI).
- For the Special Issue entitled «*Quantum Dots in Optoelectronic System and Device Integration for Spintronics and Quantum Computing Technologies*», **Optical and Quantum Electronics** (Springer).

### Conferences

- ✓ Organizing Committee Member, 2010 Villa Conference on Interactions Among Nanostructures, Santorini, Greece, June 21-25.
- ✓ Member of the International Advisory Committee, 2016 Materials Science and Nanotechnology, Global Cognition Conference, Beijing, China, July 28-29.
- ✓ Member of the International Advisory Committee, 2016 EMN Meeting on Quantum Matter 2016, Energy Materials in Nanotechnology, 30 November-4 December, Mauritius.

- ✓ Session Chair in the International Conference IOCN 2020 (<https://sciforum.net/conference/IOCN2020>).
- ✓ Organizing Committee Member to Physics-2021 Congress <https://www.scientificfederation.com/summit-on-physics/committee.php>.
- ✓ Organizing Committee Member of the 2021 International Conference on Electron Devices and Applications (ICEDA 2021), Nanjing, China May 29-31, 2021.
- ✓ Organizing Committee Member of the Nanotechnology Research and Applications World Forum," September 06-08, 2021 in Copenhagen, Denmark.
- ✓ Organizing Committee Member of the 2nd International Conference and Exhibition on Nanoscience and Nanotechnology, November 13-15, 2021 in Naples, Italy.
- ✓ Organizing Committee Member of the 2021 International Conference on Nanotechnology and Applications (ICNA2021), July 23-25, 2021 in Guilin, China.
- ✓ Chair, Summer School, Electronic and Optical Properties of Nanomaterials (Methods and Techniques), NanoQiQo Horizon European Project, 12-16 July 2021, University of Patras, Greece
- ✓ Scientific Board International Conference and Expo on Nanotechnology and Nanomaterials, October 10-12, 2022 | Las Vegas, USA
- ✓ Co-Chair, Materials & Nanoscience-2023 Summit | MARCH 06-08, 2023, Rome, Italy.
- ✓ Organizing Committee Member of the Global Experts Conference on Graphene and 2D Materials, September 21-23, 2023, Barcelona, Spain.
- ✓ Organizing Committee Member at CONMAT2023, September 18-20, 2023, Lisbon, Portugal (<https://www.thescientistt.com/2023/condensed-matter-physics/organizing-committee>).
- ✓ Organizing Committee Member at the International Conference and Expo on Lasers Optics and Photonics, September 21-23, 2023, Rome, Italy.
- ✓ Organizing Committee Member at 4<sup>th</sup> International Conference on Advanced Functional Materials, November 16-17, 2023.
- ✓ Organizing Committee Member at Organizing Committee Member at 8<sup>th</sup> European Congress on Advanced Nanotechnology and Nanomaterials, October 12-13 2023.

### Referee in Scientific Proposals

1. General Secretary of Research and Technology (2003-today)
2. State Scholarship Foundation (IKY) (IKY) (2014).
3. Hellenic Foundation for Research and Innovation (ΕΛΙΔΕΚ) (2019).

### Referee in International Scientific Journals

Nano Letters  
 Journal of Nanoscience and Nanotechnology  
 Journal of Applied Physics  
 Superlattices and Microstructures  
 Journal of Optics B: Quantum and Semicl. Optics  
 Journal of Physics A: Mathematical and General  
 Journal of Physical Chemistry C  
 ACS Nano  
 ACS Photonics  
 Chemical Physics Letters  
 Physica Scripta  
 International Journal of Modern Physics B  
 Modern Physics Letters B  
 Physica B  
 Physics Letters A  
 Journal of Non Crystalline Solids  
 Materials Science and Engineering B  
 Physica E  
 Solid State Sciences  
 Journal of Alloys and Compounds  
 Materials & Design  
 ACS Applied Materials & Interfaces  
 Journal of Physical Chemistry C



Polyhedron  
 Journal of Magnetism and Magnetic Materials  
 Chemical Physics  
 The Electrochemical Society Journals  
 Journal of Physics and Chemistry of Solids  
 Applied Physics A Materials Science and Processing

### Invited Talks at Universities

- ‘Quantum Tunneling of a damped and driven inverted harmonic oscillator’, January 1993, Istituto Nazionale Fisica Nucleare, Università di Catania, Italy.
- ‘Tunneling Effect- An open problem’, March 1993, Free Univ Brussels, Inst Int Phys & Chim Fondes E Solvay, B-1050 Brussels, Belgium.
- ‘Novel Semiconductor Nanostructures’, December 2018, Department of Physics and Astronomy, Materials Physics, Uppsala University, Sweden.
- ‘Novel Semiconductor Nanostructures, Theory and Experiment’, September 2019, Department of Physics, Russian-Armenian University, Yerevan, Armenia.
- ‘Optical Properties of ZnO semiconductor Nanostructures: Experiment and Theory’, March 2020, Department of Applied Informatics and Computational Physics, Nanostructures and Nanodevices, Faculty of Physics and Applied Computer Science, Krakow, Poland.
- ‘Development, Characterization and Theory of Nanostructures’, St Petersburg Polytechnic University OSA&SPIE, June 2021, Russia, Readings on the history of science, dedicated to the Andrei D. Sakharov 100th Anniversary.

### Representative Publications in International peer-reviewed Journals

1. **Baskoutas, S.**, G. Bester G., (2010): *Conventional Optics from Unconventional Electronics in ZnO colloidal quantum dots*, Journal of Physical Chemistry C **114**, 9301–9307.
2. Chrissanthopoulos A., **Baskoutas S.**, Bouropoulos N., Dracopoulos V., Pouloupoulos P. and S. N. Yannopoulos S.N., (2011): *Synthesis and characterization of ZnO/NiO p-n heterojunctions: ZnO nanorods grown on NiO thin film by thermal evaporation*, Photonics and Nanostructures **9**, 132-139 (cited in Top 25 articles of the journal, December 2010).
3. Abaker M, Umar A, **Baskoutas S**, Kim S. H. and Hwang S. W., (2011): *Structural and Optical Properties of CuO Layered Hexagonal Disks Synthesized by Low-Temperature Hydrothermal Process*, Journal of Physics D-Applied Physics **44**, 155405.
4. **Baskoutas S.**, Bester G, (2011) *Transition in the Optical Emission Polarization of ZnO Nanorods* Journal of Physical Chemistry C **115**, 15862-15867.
5. Pouloupoulos P., **Baskoutas S**, Pappas SD, Garoufalis CS, Droulias SA, Zamani A. and Kapaklis V., (2011) *Intense quantum confinement effects in Cu<sub>2</sub>O thin films* Journal of Physical Chemistry C **115**, 14839-14843.
6. Abaker M., Umar A, **Baskoutas S**, Rahman MM, Al-Sayari SA, Al-Hajry A., Kim SH and Hwang SW, (2011) *A highly sensitive ammonia chemical sensor based on alpha-Fe<sub>2</sub>O<sub>3</sub> nanoellipsoids*, Journal of Physics D-Applied Physics **44**, 425401.
7. **Baskoutas S.**, Garoufalis C., Terzis, A. F., (2011) *Linear and Nonlinear Optical Absorption Coefficients in Inverse Parabolic Quantum Wells under Static external fields*, European Physical Journal B **84**, 241-247.
8. Dar G. N., Umar A., Zaidi S. A., **Baskoutas S.**, Kim S. H., Abaker M., Al-Hajry A., Al-Sayari, S. A., (2011) *Fabrication of Highly Sensitive Non-Enzymatic Glucose Biosensor Based on ZnO Nanorods*, Science of Advanced Materials **3**, 901-906.
9. Dar G. N., Umar A., Zaidi S. A., **Baskoutas S.**, Hwang S. W., Abaker M., Al-Hajry A., Al-Sayari, S. A., (2012) *Ultra-high sensitive ammonia chemical sensor based on ZnO nanopencils*, Talanta **89**, 155-161.
10. Ibrahim A. A., Dar G. N., Zaidi S. A., Umar A., Abaker M., Bouzid, H., **Baskoutas S.**, (2012) *Growth and properties of Ag-doped ZnO nanoflowers for highly sensitive phenyl hydrazine chemical sensor application*, Talanta **93**, 257-263.
11. Pouloupoulos P. Lewitz B. Straub A. Pappas S. D., Droulias S. A., **Baskoutas S.**, Fumagalli, P., (2012) *Band-gap tuning at the strong quantum confinement regime in magnetic semiconductor EuS thin films*, Applied Physics Letters **100** 211910.
12. Zeng Z. Garoufalis C.S., **Baskoutas S.**, (2012) *Combination effects of tilted electric and magnetic fields on donor binding energy in a GaAs/AlGaAs cylindrical quantum dot*, Journal of Physics D-Applied Physics **45**, 235102.

13. Zeng Z., Garoufalis C.S., **Baskoutas S.**, Terzis A. F., (2012) *Stark Effect of Donor Binding Energy in a Self-assembled GaAs Quantum Dot Subjected to a Tilted Electric Field*, accepted for publication in *Physics Letters A* 376, 2712-2716.
14. G.N. Dar G.N., Umar A., Zaidi S.A., Ahmed A. Ibrahim A. A., Abaker M., **Baskoutas S.**, Al-Assiri M. S., (2012) *Ce-doped ZnO nanorods for the detection of hazardous chemical*, *Sensors and Actuators B: Chemical*, 173, 72-78 .
15. Abaker M., Dar G. N., Umar A., Zaidi S. A., Ibrahim A. A., **Baskoutas S.**, and Al-Hajry A., (2012) *CuO Nanocubes Based Highly-Sensitive 4-Nitrophenol Chemical Sensor*, *Science of Advanced Materials* 4, 1.
16. Zeng Z., Garoufalis C. S., **Baskoutas S.**, Terzis A. F., (2012) *Tuning the Binding Energy of Surface Impurities in Cylindrical GaAs/AlGaAs Quantum Dots by a Tilted Magnetic Field*, *Journal of Applied Physics* 112, 064326.
17. Khayyat S.A.;Abaker M.,Umar A.,Alkattan M.O., Alharbi N.D., (2012) **Baskoutas S.**, *Synthesis and Characterizations of Cd-Doped ZnO Multipods for Environmental Remediation Application*, *Journal of Nanoscience and Nanotechnology* 12, 8453-8458.
18. **Baskoutas S.**, Zeng Z., Garoufalis C.S.,Bester G., (2012) *Tuning of the Optical Emission Polarization of ZnO Nanorods by an Applied Hydrostatic Pressure*, *Journal of Physical Chemistry C* 116, 26592-26597.
19. Azizian-Kalandaragh, Y., Khodayari A., Zeng Z., Garoufalis C.S., **Baskoutas S.**,Gontard L.C., (2013) *Strong quantum confinement effects in SnS nanocrystals produced by ultrasound-assisted method*, *Journal of Nanoparticle Research* 15, 1388.
20. Zeng Z., Paspalakis E.,Garoufalis C.S.,Terzis A.F., **Baskoutas S.**, (2013) *Optical susceptibilities in singly charged ZnO colloidal quantum dots embedded in different dielectric matrices*, *Journal of Applied Physics* 113, 054303.
21. Zeng Z., Garoufalis C.S., **Baskoutas S.**,Bester G., (2013) *Electronic and optical properties of ZnO quantum dots under hydrostatic pressure*, *Phys. Rev. B* 87, 125302.
22. Zeng Z., Garoufalis C.S.,Terzis A.F., **Baskoutas S.**, (2013) *Linear and nonlinear optical properties of ZnO/ZnS and ZnS/ZnO core shell quantum dots: Effects of shell thickness, impurity, and dielectric environment*, *Journal of Applied Physics* 114 023510.
23. Umar A.,Akhtar M.S., Badran R.I.,Abaker M., Kim S.H., Al-Hajry A., **Baskoutas S.**, (2013) *Electrical properties of solution processed p-SnS nanosheets/n-TiO<sub>2</sub> heterojunction assembly*, *Appl. Phys. Lett.* 103, 101602.
24. Umar A., Akhtar M.S., Dar G.N., Dar G. N., Abaker M., Al-Hajry A., **Baskoutas S.**, (2013) *Visible-light-driven photocatalytic and chemical sensing properties of SnS<sub>2</sub> nanoflakes*, *Talanta* 114, 183-190.
25. Paspalakis E., Boviatsis J., **Baskoutas S.**, (2013) *Effects of probe field intensity in nonlinear optical processes in asymmetric semiconductor quantum dots*, *Journal of Applied Physics* 114, 153107.
26. Umar A., Akhtar M.S., Dar G.N., **Baskoutas S.**, (2013) *Low-temperature synthesis of alpha-Fe<sub>2</sub>O<sub>3</sub> hexagonal nanoparticles for environmental remediation and smart sensor applications*, *Talanta* 116 1060-1066.
27. Zeng Z., Gorgolis G., Garoufalis C.S., **Baskoutas S.**, (2014) *Competition Effects of Electric and Magnetic Fields on Impurity Binding Energy in a Disc-Shaped Quantum Dot in the Presence of Pressure and Temperature*, *Science of Advanced Materials* 6, 586-591.
28. Chrissanthopoulos A., Kyriazis F.C., Nikolakis V., Giannakopoulos, I.G., Dracopoulos V., **Baskoutas S.**, Bouropoulos N., Yannopoulos S.N., (2014) *ZnO/zeolite hybrid nanostructures: synthesis, structure, optical properties, and simulation*, *Thin Solid Films* 555, 21-27.
29. Zeng Z., Garoufalis C.S., **Baskoutas S.**, (2014) *New Insights in the Excitonic Emission of ZnS Colloidal Quantum Dots*, *Journal of Physical Chemistry C* 118, 10502-10508.
30. Zeng Z., Garoufalis C.S., **Baskoutas S.**, (2014) *Linear and nonlinear optical susceptibilities in a laterally coupled quantum-dot-quantum-ring system*, *Physics Letters A* 378, 2713-2718.
31. Zeng Z., Petoni A., Garoufalis C.S., **Baskoutas S.**, Bester G., (2015) *Near-band-edge exciton polarization change in ZnO nanowires*, *Physical Chemistry Chemical Physics* 17, 1197-1203.
32. Zeng Z., Garoufalis C.S., **Baskoutas S.**, Bester G., (2015) *Excitonic optical properties of wurtzite ZnS quantum dots under pressure*, *Journal of Chemical Physics* 142, 114305.
33. Kim S.H.,Ibrahim A.A., Kumar R., Umar A., Abaker M., Hwang S.W., **Baskoutas S.**, (2016) *Synthesis and Characterization of Mimosa Pudica Leaves Shaped alpha-Iron Oxide Nanostructures for Ethanol Chemical Sensor Applications*, *Journal of Nanoscience and Nanotechnology* 16, 2944-2949.

34. Zeng Z., Garoufalis C.S., **Baskoutas S.**, (2016) *Nonlinear optical absorption in colloidal CdS quantum dots: The role of dielectric environment*, Journal of Nanoelectronics and Optoelectronics (accepted).
35. Umar A., Ahmad R., Kumar R., Ibrahim A.A., **Baskoutas S.**, (2016) *Bi<sub>2</sub>OCO<sub>3</sub> nanoplates: Fabrication and characterization of highly sensitive and selective cholesterol biosensor*, Journal of Alloys and Compounds 683, 433-438.
36. Umar A., Lee J.H., Kumar R., Al-Dossary O., Ibrahim A.A., **Baskoutas S.**, (2016) *Development of highly sensitive and selective ethanol sensor based on lance-shaped CuO nanostructures*, Materials & Design 105, 16-24.
37. Ibrahim A. A., Umar A, Kumar R.,<sup>4</sup>, Kim S.H., **Baskoutas S.**, (2016) *Sm<sub>2</sub>O<sub>3</sub> doped ZnO beech fern hierarchical structures for nitroaniline chemical sensor*, Ceramics International, to be published.
38. Ibrahim A. A., Umar A., Ahmad P., Kumar P., and **Baskoutas S.**, (2016) *Fabrication and Characterization of Highly Sensitive and Selective Glucose Biosensor Based on ZnO Decorated Carbon Nanotubes*, Nanosci. Nanotechnol. Lett., to be published.
39. Ibrahim AA, Umar A, **Baskoutas S** (2017) *Ytterbium Doped Zinc Oxide Nanopencils for Chemical Sensor Application*, Journal of Nanoscience and Nanotechnology 17 (12), 9157-9162.
40. Umar A., Kim S.H., Kumar R., Al-Assiri M. S., Al-Salami AE, Ibrahim AA, **Baskoutas S.**, (2017) *In-Doped ZnO Hexagonal Stepped Nanorods and Nanodisks as Potential Scaffold for Highly-Sensitive Phenyl Hydrazine Chemical Sensors*, Materials 10 (11), 1337.
41. Koliogiorgos A., **Baskoutas S.**, Galanakis I., (2017) *Electronic and gap properties of lead-free perfect and mixed hybrid halide perovskites: An ab-initio study*, Computational Materials Science 138, 92-98.
42. **Baskoutas S.**, Zeng Z., Garoufalis C. S., Bester G., (2017) *Morphology control of exciton fine structure in polar and nonpolar zinc sulfide nanorods*, Scientific Reports 7 (1), 9366.
43. Ibrahim AA., Tiwari P., Al-Assiri MS, Al-Salami AE, Umar A, Kumar R., Kim SH, Ansari ZA, **Baskoutas S.**, (2017) *A Highly-Sensitive Picric Acid Chemical Sensor Based on ZnO Nanopeanuts*, Materials 10 (7), 795.
44. Ibrahim AA, Ahmad R., Umar A., Al-Assiri MS, Al-Salami AE, Kumar Rajesh, Ansari SG, **Baskoutas S.**, (2017) *Two-dimensional ytterbium oxide nanodisks based biosensor for selective detection of urea*, Biosensors and Bioelectronics 98, 254-260.
45. Al-Hadeethi Y., Umar A, Ibrahim A. A., Al-Heniti S. H., Kumar R., **Baskoutas S.**, Raffah B. M. (2017) *Synthesis, characterization and acetone gas sensing applications of Ag-doped ZnO nanoneedles*, Ceramics International 43 (9), 6765-6770.
46. Garoufalis CS, Pouloupoulos P, Bouropoulos N, Barnasas A, **Baskoutas S.** (2017) *Growth and optical properties of Fe<sub>2</sub>O<sub>3</sub> thin films: A study of quantum confinement effects by experiment and theory*, Physica E: Low-dimensional Systems and Nanostructures 89, 67-71.
47. Ibrahim A., Umar A., Kumar R., Al-Assiri M., Al-Salami A.E., **Baskoutas S.** (2017) *Highly sensitive and selective non-enzymatic mono and disaccharide sugars sensing based on carbon paste electrodes modified with perforated NiO nanosheets*, accepted for publication in New Journal of Chemistry.
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