CURRICULUM VITAE

S. N. YANNOPOULOS

July 2020

SPYROS N. YANNOPOULOS
EXTENDED CURRICULUM VITAE

CURRENT POSITION
Research Director (Rank A΄)
Institute of Chemical Engineering Sciences, Foundation of Research and Technology - Hellas (FORTH/ICE-HT), Stadiou Street, GR–26504, P.O. Box 1414, Patras, Greece

PERSONAL
Date of birth: April 17, 1968
Citizenship: Greek
Military Service (mandatory): 2nd of July 1997 – 28th of February 1999
Greek Air Force - Meteorology Department

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Institute of Chemical Engineering Sciences
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EDUCATION
Ph.D. in Materials Physics and Chemistry 1991–1996
Department of Chemical Engineering, University of Patras, (October 1996)
- *Dissertation*:"Study of the Liquid↔Glass Transition in Inorganic Amorphous Materials utilizing Light Scattering Spectroscopies"
- *Advisor*: Prof. G. N. Papatheodorou

B.S. in Physics 09/1986 – 12/1990
Department of Physics, University of Patras, (December 1990)
- *GPA*: 7.9/10.0
- *Diploma thesis*: "On the origin of proton's spin: a quantum chromodynamics (QCD) approach"

SYNOPTIC PUBLICATION RECORD

- Scientific articles in peer-reviewed journal (ISI): **141 (plus 3 submitted)**
  ***h index*: 31** (WoS), **31** (Scopus), **36** (Google Scholar)
  (**3 articles in Nature Publishing House Journals, #50; #84; #102)**
- Invited chapters in international books: **5**
- Articles and reviews in international books: **11**
- Papers in peer-reviewed international conference proceedings: **13**
- Invited talks at International Conferences, Symposia, and Workshops: **32**

BRIEF DESCRIPTION OF RESEARCH ACTIVITIES

Structure/Dynamics/Properties/Applications of Hard and Soft Condensed Matter

Hard Condensed Matter

[1] Nanomaterials – Nanoscience – Nanotechnology

a. Fabrication of high-quality graphene-based hybrid nanomaterials from **inorganic** (metal carbides**)** and **organic** (polymers and natural prodicts) compounds at ambient conditions, using novel laser-assisted methodologies:

(i) **Epitaxial** graphene growth on SiC wafers
(ii) Production of **graphene-coated nanocomposites**, namely, SiC and other metal carbide particles at the micro- and nano-scale.
(iii) Ultra-low resistance **reduced-GO** by laser irradiation at ambient conditions
(iv) **Triboelectric nanogenerators**: direct graphene growth on textile and flexible substrates for energy harvesting applications through the triboelectric effect
(v) **Energy storage devices:** direct graphene growth on electrodes (nc-Si-decorated graphene structures for Li-ion batteries and supercapacitors)

b. Developing rational bottom-up synthetic routes (wet chemistry and CVD) for the controlled growth of **1-D** nanostructures based mainly on **ZnO** and more complex heterostructures i.e. **metal oxide-core/metal chalcogenide-sheath nanowires**:

(i) ***Energy conversion*****:** optimizing the anode and cathode active materials for dye-sensitized solar cells; improving the anode nanostructures of photo-electrochemical devices for H_2 evolution
(ii) ***Photocatalytic applications*****:** defect and morphology engineering of nanocrystals for waste-water treatment; advancing large-area immobilized photocatalysts for large-scale reactors
(iii) ***Gas sensors*****:** synthesis of heterostructures of nanostructures with various morphologies to achieve high sensitivity/selectivity and device operation at room temperature for dangerous gasses, such as CO
(iv) ***Nanophotonics*****:** optimizing the morphology of nanowire arrays for realizing SERS substrates; enhancing random lasing activity; control luminesce properties; antireflection performance, etc.

c. CVD and PVD growth of **2-D** few-layer transition metal dichalcogenide (TMDCh) crystals

(i) Direct PVD growth of 2-D TMDCh crystals on TM foils for catalytic applications (counter electrodes of DSSCs)
(ii) CVD growth of vertical heterostructures (alternating stacks of different 2-D materials with improved electrical and optical properties)
(iii) Combinatorial growth of 1-D and 2-D materials in core-sheath structures for visible light photo-electrochemical cells (water splitting, etc.)
(iv) Nanoscale engineering 2-D crystals for tribological applications

d. Structure and dynamics of the fluids and crystals confined in nanopores

e. Fabrication and characterization of low-dimensional nanoparticles by laser ablation

[2] Glasses and Glass transition

a. Studies of structure and dynamics of a wide range of non-crystalline solids

A host of experimental techniques (all kinds of light scattering; synchrotron radiation, surface sensitive techniques) are employed, including structural probes and optical spectroscopies to study dynamics and collective phenomena in glasses, supercooled liquids and melts of halide, oxide, and chalcogenide glasses (fragility, Boson peak, quasi–elastic scattering, vibrational relaxation, pressure induced changes in glasses, Raman amplifiers, bioactive glasses, etc.)

b. Photoinduced phenomena in amorphous semiconductors

A number of photoinduced structural changes in chalcogenide materials are explored using structure-probing techniques to better understand chalcogenide glasses (athermal photoplastic phenomena, phase-change materials).

Soft Condensed Matter

- Biological materials: dynamic light scattering methodologies for early diagnosis of eye diseases, light scattering from eye lens and crystalline (protein) solutions/gels, protein aggregation, cold cataract.
- Thermo-reversible Aggregation phenomena: living polymerization in elemental chalcogens, rounding effects in second-order-type phase transitions, aggregation in enamel proteins (amelogenins).
- Sol-gel transition: self-assembly of silicate solutions towards the development novel ceramics for bio-interface engineering.
- Single-wall carbon nanotubes (SWCNT): Dispersion and stabilization of SWCNTs in aqueous media for biological applications (drug delivery).

Development of new techniques

- In collaboration with T. Scopigno (Rome, La Sapienza) have demonstrated the construction and feasibility of a laboratory prototype for infra-red photon correlation technique using a laser emitting at 1064nm. The technique gave satisfactory results in densely colored samples (chalcogenides), while it has prospects to be upgraded and used for particle sizing in opaque suspensions of agglomerated engineered nanoparticles of industrial interest.
- Have established a non-invasive methodology, based on Dynamic Light Scattering, for non-invasive and reliable early diagnosis of eye diseases, e.g. lens cataract (research activity funded through the project title: *Light scattering methodologies for non-invasive early diagnosis of ocular diseases*).
- Have participated in research activities (Project title: *Early Diagnosis: New Diagnostic Equipment for Biomedical Applications*, 1994-1997) for the development of a biomedical instrument capable of accurately determining the size and the shape of non-spherical particles with applications to the deformability of red-blood cells.

PROFESSIONAL AND RESEARCH EXPERIENCE

♦ *Research Director* (January 2017– today)
(Institute of Chemical Engineering Sciences, FORTH/ICE-HT, Patras, Greece)

♦ *Principal Researcher (January 2005– December 2016)*
(Institute of Chemical Engineering Sciences, FORTH/ICE-HT, Patras, Greece)

- ♦ *Associate Researcher (November 2001 – December 2004)*
  (Institute of Chemical Engineering Sciences, FORTH/ICE-HT, Patras, Greece)

- ♦ *Assistant Researcher (January 1999 – October 2001)*
  (Institute of Chemical Engineering Sciences, FORTH/ICE-HT, Patras, Greece)

- ♦ *International Experience as a short-term Visiting Scientist*
  - Institute of Electronic Structure and Laser, Heraklion, Crete (FORTH–IESL), several times since 1991 (collaboration with Prof. G. Fytas)
  - Department of Physics, University Paris IV, 4 months, September–December 1995 (collaboration with Prof. R. Pick)
  - Max Planck Institute for Polymer Research, Mainz, Germany, October 1999 and April 2000, (collaboration with Prof. G. Fytas)
  - Centre de Recherches sur les Materiaux a Haute Temperature**, (**CRMHT/CNRS), Orleans, France, January 2000, (collaboration with Dr. C. Bessada)
  - European Synchrotron Radiation Facility (ESRF) Grenoble, France, (March 2002; March 2004; March 2005, July 2006)
  - Oak Ridge National Laboratory (ORNL) Tennessee, USA, May 2002, (collaboration with Dr. S. Dai)
  - Research Institute for Solid State Physics and Optics, Hungarian Academy of Sciences, Budapest, Hungary, May 2005 (collaboration with Dr. Jovari and Dr. Pusztai)
  - Physics Department, University of Rome "La Sapienza", Rome, Italy, September–October 2005 (collaboration with Dr. T. Scopigno and Prof. G. Ruocco)
  - Physics Department, University of Rome "La Sapienza", Rome, Italy, June 2006 and November 2008 (collaboration with Dr. T. Scopigno and Prof. G. Ruocco)
  - LENS, Florence Italy, September 2006 (collaboration with Dr. Santoro)
  - Department of General and Inorganic Chemistry, University of Pardubice, Czech Republic, Several visits since 2004 (collaboration with Prof. M. Frumar and Prof. T. Wagner).

HONORS / AWARDS / MEMBER OF INTERNATIONAL SCIENTIFIC BODIES

- Outstanding Undergraduate Student Excellence Awards, (1986, 1988, 1989), Patras University
- FORTH/ICE–HT Fellowship for Ph.D. studies (1991–1996)
- EU award (Socrates) for 4 months visit at University Paris VI (1995)
- NATO fellowships for attending and delivering presentations in NATO–ASI schools (1996, 2000, 2001, 2008, 2014)
- EU fellowships for short period visits (2 weeks) and collaboration at CNRS, Orleans (1999, 2000)
- Selected to receive an appointment to the Advanced Short Term Research Opportunity (ASTRO) Program at the Oak Ridge National Laboratory (ORNL 2001)
- Best poster award in NATO–ASI on "Molten Salts: From Fundamental to Applications", Kas, Turkey, May 4–14, 2001, "*Light scattering in the binary system* $xZnCl_2$-$(1-x)AlCl_3$".

- Member of the Nature Journal Reader Panel (2010).
- Invited by the Publishing Editor (Materials Journals, Royal Society of Chemistry, Cambridge, UK) to act as an independent expert providing an opinion for the "News" column of the journal concerning an article published in *Soft Matter* (url of related article: http://www.rsc.org/Publishing/ChemScience/Volume/2010/07/blowing_bubbles.asp).
- Group member (A. Antonelou) received the "Young Researcher Award" in recognition of best poster presentation entitled "*Laser processing of SiC: From graphene-coated SiC particles to 3D graphene froths*" in the 26th International Conference on Amorphous and Nanocrystalline Semiconductors (ICANS26), held on 13-18 September 2015 in Aachen, Germany.

ADMINISTRATIVE SERVICE

- Member (since 2014) of the **European Materials Characterization Council** (EMCC)

Objective: *To support establishing a community of European stakeholders in the process of* ***developing and improving characterization tools*** *in order to bring the development of nanomaterials and advanced materials in Europe into end products more successfully.*
FORTH/ICE-HT leads the Dissemination WP and hosts the cluster website.
http://www.characterisation.eu

- Member (since 2013) of the COST (European Cooperation in Science and Technology) EXIL - *EXchange on Ionic Liquids* (http://www.cost.eu/COST_Actions/cmst/CM1206)
- 2014-present: Member of FORTH/ICE-HT Scientific Council

EDITORIAL SERVICE

- Member of the **Editorial Board** of the ***Applied Nano*** (MDPI), https://www.mdpi.com/journal/applnano/editors.
- **Associate Editor** (since 2015) of *Nanomaterials and Nanotechnology* journal (InTech Publications), http://www.intechopen.com/journals/nanomaterials_and_nanotechnology.
- **Guest Editor** (with Dr. E. Giusca)
  Special Issue: *Two-Dimensional Materials beyond Graphene and their Van der Waals Heterostructures*
  Journal Name: Crystals (MDPI), IF: 2.075
  (http://www.mdpi.com/journal/crystals/special_issues/two_dimensional_materials)
- **Guest Editor**
  Special Issue: *ZnO-Based Nanomaterials and Devices: Fundamentals and Applications*
  Journal Name: Materials (MDPI), IF: 2.972
  (https://www.mdpi.com/journal/materials/special_issues/ZnO_Nanomaterials_Devices)
- **Guest Editor**
  Special Issue: *Laser-induced Growth of Graphene: Methods and Applications*
  Journal Name: Nanomaterials (MDPI), IF: 4.034 (expected December 2020)

(https://www.mdpi.com/journal/nanomaterials/special_issues/laser_graphene)

PROFESSIONAL AFFILIATIONS

- 1994–present: Member of the *American Physical Society*
- 2003–present: Member of the *American Association for the Advancement of Science*
- 2004–present: Member of the *Optical Society of America*
- 2003–present: Member of the *Hellenic Photonic Association*
- 1999–present: Member of the Hellenic Researchers Society (EEE)

TEACHING AND MENTORING ACTIVITIES

[i] TEACHING EXPERIENCE

- 1991–1996: Course instructor and laboratory assistant for eight (8) semesters (undergraduate courses and laboratories in the Department of Chemical Engineering, Patras University) including *Physical Chemistry, Thermodynamics, and Materials Properties*.
- 1999–2000: Instructor of the graduate course *Laboratory Raman Spectroscopy* in the framework of the "Operational Program for Education and Initial Vocational Training on Applied Molecular Spectroscopy, University of Crete".
- 2008–today: Part-time instructor of two (2) graduate courses: *Experimental techniques in Materials Science and Technology I and II*. (Department of Materials Science, Patras University).
- 2009–today: Adjunct Professor; instructor for special topics (***Static and Dynamic Light Scattering***) in the graduate course *Polymer Characterization* in the framework of the Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology of the University of Patras.
- 2009–today: **Affiliated Professor**; full-time instructor of the 4th year elective (undergraduate) course ***Science and Technology of Glasses and Ceramics***. Department of Materials Science, Patras University.

[ii] STUDENT MENTORING

A. Supervisor of more than ten diploma thesis (undergraduate) students.

B. Supervisor and co-supervisor of the following students for the Master's degree

1. Athena Giannopoulou

Thesis title: *Study of dynamic properties of the binary glass-forming mixture $xZnCl_2 – (1-x)AlCl_3$, x=1, 0.9, 0.7 using dynamic light scattering*

Department of Physics, University of Patras. Completed 2003

2. Ekaterini Katerinopoulou

Thesis title: *Synthesis, structure and properties of bioactive glasses $SiO_2 – MO$ (M=Ca, Mg) and $SiO_2 – CaO – P_2O_5$*

Department of Materials Science, University of Patras. Completed 2008

3. Katerina Gkovatsi
Thesis title: *ZnO nanostructures: Synthesis and characterization of structure and optical properties*
Department of Chemistry, University of Patras. Completed 09/2013.

4. Thomas Vasileiadis
Thesis title: *Synthesis and spectroscopic characterization of low-dimensional Te and TeO_2 nanostructures through laser-assisted ablation and photo-oxidation*
Department of Materials Science, University of Patras. Completed 12/2013.

5. Aspasia Antonelou
Thesis title: *Laser-assisted fabrication and characterization of carbon-based nanomaterials*
Department of Materials Science, University of Patras. Completed 02/2014.

6. Christos Kougianos
Thesis title: *Synthesis of metal oxide semiconductors for CO gas sensing at room temperature*
Department of Physics, University of Patras. Completed 02/2017.

7. Marinos Dimitropoulos
Thesis title: *Development of immobilized ZnO-based nanostructured photo-catalysts for waste water treatment*
Department of Chemical Engineering, University of Patras. Completed 02/2018.

8. George Mallis
Thesis title: *Fabricating and testing 3D SERS substrates: ZnO nanowire arrays decorated by Au nanoparticles using solid state thermal dewetting*
Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology, University of Patras. Completed 03/2018.

9. Vasileios Petoumenos
Thesis title: *Synthesis and characterization of conductive polymers*
Department of Physics, University of Patras. Completed 09/2018.

10. Sofia Stefa
Thesis title: *Optimizing dye loading of ZnO nanowire arrays for enhancing the performance of dye-sensitized solar cells (DSSCs)*
Department of Physics, University of Patras. Completed 02/2018.

11. Vassiliki Benekou
Thesis title: *Structural origin of photoinduced phenomena in non-crystalline chalcogenides*
Department of Materials Science, University of Patras. Completed 10/2019.

12. Konstantinos Makrygiannis
Thesis title: *Synthesis of ZnO-based nanostructures for gas sensors*
Department of Materials Science, University of Patras. Completed 02/2020.

C. Supervisor and co-supervisor of the following Ph.D. students

[1] **Dimitris Th. Kastrissios** (Department of Chemical Engineering, University of Patras, 2001, supervisor Prof. G. N. Papatheodorou). *Relevant publications: 10, 12, 13, 15, 17, 21, 27, P4.*
PhD Thesis title: *Structural origin of the photoinduced fluidity effect in chalcogenide glasses by Raman scattering.*

[2] **Angelos Kalampounias** (Department of Chemical Engineering, University of Patras, 2003, supervisor Prof. G. N. Papatheodorou). *Relevant publications: 14, 16, 22, 23, 24, 25, 26, 27, 28, 30, 34, 36, 40, 41, 42, 47, 49, 51, 55, 58, 63, 69, 70, C3, C4, P4, P5, P6).*
PhD Thesis title: *Development of new high temperature techniques using infrared laser heating for studying the behavior of network forming tetrahedral oxide and non-oxide glasses and melts with Raman spectroscopy.*

[3] **Vassiliki Petta** (Department of Chemical Engineering, University of Patras, 2007). *Relevant publications: 43, 67, 71, P8, P10.*
PhD Thesis tile: *Correlating dynamical properties of ophthalmic tissues and lens diseases: Non-invasive early diagnosis using light scattering techniques.*

[4] **Athena Giannopoulou** (Department of Pharmacy, University of Patras, 2007). *Relevant publications: 62, P9.*
PhD Thesis title: Study of slow diffusion in eye lens protein solutions: correlation with the lens cataract effect.

[5] **Maria Kalyva** (Department of Chemical Engineering, University of Patras, 2008, with Dr. Elina Siokou). *Relevant publications: 44, 45, 56, 68, 75.*
PhD Thesis title: Experimental investigation of structural and electronic properties of non-crystalline chalcogenides using surface sensitive techniques.

[6] **Fotis Kyriazis** (Department of Chemistry, University of Patras, 2009). *Relevant publications: 72, 76, 88, B6, P12.*
PhD Thesis title: *Study of structure, phase separation, and photoinduced structural changes of chalcogenide glasses with Raman spectroscopy and scanning electron microscopy.*

[7] **Ofeliya Kostadinova** (Department of Chemical Engineering, University of Patras, 2009). *Relevant publications: 66, 70, 73, 77, 87, B5, B7.*
PhD Thesis title: *Raman Spectroscopic Study and Dynamic Properties of Chalcogenide Glasses and Liquids*

[8] **Thomas Hasapis** (Department of Physics, University of Patras, 2009, member of the advisory committee). *Relevant publications: P13, 96.*
PhD Thesis title: *Optical and thermodynamic properties of chalcogenide glasses and crystals*.

[9] **Katerina Govatsi** (Department of Chemistry, University of Patras, 03/2019. *Relevant publications: 108, 116, 118, 120, 125, 126, 129, 132, 133, B9.*

PhD Thesis title: *Synthesis and Characterization of ZnO Nanorods and Heterostructures as Photo-electrocatalysts for Water Splitting*

[10] **Aspasia Antonelou** (Department of Materials Science, University of Patras, 03/2019). *Relevant publications: 112, 115, 117, 124, 127, 128, 140.*
PhD Thesis title: *Novel routes for the facile fabrication of graphene-based structures and 2-D transition metal dichalcogenide crystals for energy conversion devices*

[11] **Kapil Bhorkar** (Department of Physics, University of Patras, in progress).
PhD Thesis title: *2-D materials as solid lubricants and triboelectric nanogenerators (TENGs) for energy harvesting. Expected 2021. Relevant publications: 141.*

[12] **Nikolaos Samartzis** (Department of Physics, University of Patras, in progress).
PhD Thesis title: *Laser-assisted growth of graphene-based structures for electrochemical storage devices. Expected 2022. Relevant publications: 143.*

D. Supervisor of the following post-doctoral fellows

[1] Dr. Frederick Bossard, one year stay in FORTH/ICE-HT (10/2002 – 11/2003) in the framework of the EC Marie-Curie project titled: *"Generic Methodologies in Colloids and Suspensions". Relevant publications: 31, 37, P7.*
Postdoctoral research subject: *Rheological characterization of water-soluble polyampholytes and inorganic polymeric glasses.*

[2] Dr. K. Andrikopoulos, two-year postdoctoral research in FORTH/ICE-HT (2004 – 2005) in the framework of the Greek State funded project PYTHAGORAS I titled: *"Structure and Dynamics of Glasses at high Temperatures and Pressure". Relevant publications: 32, 33, 35, 46, 48, 52.*

[3] Dr. A. Kalampounias, two-year postdoctoral research in FORTH/ICE-HT (2006 – 2007) in the framework of the Greek State funded project PYTHAGORAS II titled: *"Synthesis, structure and properties of bioactive glasses and glass-ceramics". Relevant publications: 63.*

[4] Dr. G. Syrrokostas, four-year postdoctoral research in FORTH/ICE-HT (2015 – 2019) in the framework of the Greek State funded project KRHPIS: *"Advanced Energy Materials"* (2015-2016); EC-funded project SMARTPRO (2016-2017); postdoctoral fellowship from IKY (04/2017 – 01/2019) and postdoctoral fellowship from Stavros Niarchos Foundation (02/2019 – 01/2020) and. *Relevant publications: 115, 116, 124, 126, 133, 135, 142.*

E. Supervisor of more than 30 students (mainly from the University of Patras) implementing their three-month internship at my laboratory.

ADMINISTRATIVE POSITIONS

- 2014–present: Member of the Science Council of FORTH/ICE-HT
- 2003–2006 / 2017-present: Person in charge for the seminars organization committee at FORTH/ICE-HT

- 2006–2010: Person in charge of the Science Fair organization organized by FORTH/ICE-HT

CONFERENCE SERVICE

- Member of the organizing Committee of the 7th ESG Conference on *Glass Science and Technology*, April 25-28, 2004, Athens, Greece.
- Member of the International Program Committee of the 7th International Conference of *Solid State Chemistry*, September 24 - 29, 2006, Pardubice, Czech Republic.
- Session chairman at the 7th International Conference of *Solid State Chemistry*, September 24 - 29, 2006, Pardubice, Czech Republic.
- Member of the International Advisory Committee of the *4th International Conference on Optical*, Optoelectronic and Photonic Materials, (ICOOPMA-2010), 15 - 20 August 2010, Budapest, Hungary.
- Session chairman at the International Advisory Committee of the *4th International Conference on Optical*, Optoelectronic and Photonic Materials, (ICOOPMA-2010), 15 - 20 August 2010, Budapest, Hungary.
- **Chairman of the 2nd International Symposium on *Advanced Architectures in Photonics* (AAP2016), 25-28 September 2016, Mykonos Island, Greece.**
- Member of the Organizing Committee of the 28th EUCHEM conference on Molten Salts and Ionic Liquids, 31 May – 05 June, 2020, Patras (postponed to 2020).

REVIEWING

- **Regular or circumstantial reviewer, as well as adjudicative referee, for the following international journals**

- *Nature*
- *Advanced Functional Materials*
- *Advanced Materials*
- *Applied Physics A*
- *Applied Physics Letters*
- *Canadian Journal of Physics*
- *Chemical Communications*
- *Chemical Physics Letters*
- *Crystal Engineering Communications*
- *Current Nanoscience*
- *Dalton Transactions*
- *Journal of Applied Physics*
- *Journal of Chemical Physics*
- *Journal of Materials Chemistry*
- *Journal of Materials Science*
- *Journal of Non-Crystalline Solids*
- *Journal of Physical Chemistry Letters*
- *Journal of Physical Chemistry B, C*
- *Journal of Physics and Chemistry of Solids*
- *Journal of Physics C: Condensed Matter*
- *Journal of Physics D: Applied Physics*
- *Journal of Raman Spectroscopy*
- *Journal of Solid State Chemistry*
- *Journal of the American Ceramic Society*
- *Materials*
- *Materials Chemistry and Physics*
- *Materials Letters*
- *Materials Science and Engineering B*
- *Materials Science in Semiconductor Processing*
- *Measurement Science and Technology*
- *Nanotechnology*
- *New Journal of Physics*
- *Optical Materials*
- *Optics Express*
- *Phase Transitions*
- *Philosophical Magazine*
- *Philosophical Magazine and Philosophical Magazine Letters*
- *Photonics Technology Letters*
- *Phys. Rev Appl.*
- *Physica Status Solidi (a)*

- *Physica Status Solidi (b)*
- *Physical Chemistry Chemical Physics*
- *PLOS ONE*
- *Polymer*
- *RSC Advances*
- *Scientific Reports*
- *Small*
- *Soft Matter*
- *Solid State Science and Technology*
- *Solid State Sciences*
- *Surface and Coatings Technology*
- *Surface and Coatings Technology*
- *The Physical Review B*
- *The Physical Review Letters*
- *The Physical Review E*
- *Thin Solid Films*
- *Vibrational Spectroscopy*
- *2D Materials*

- **Expert/Evaluator for Research Organizations**
  - The General Secretariat for Research and Technology (national projects)
  - ELIDEK
  - State Scholarships Foundation (IKY)
  - Israel Science Foundation
  - Bulgarian Science Fund
  - NMP-FP7 (EC)
  - ERA-NET (EC)
  - ERA-NET-MED (EC)
  - RUSS-INNO (EC)
  - SOLAR ERA-NET COFUND2
  - National Science Foundation (NSF)
  - Research Council of Norway
  - KET4 Clean Production
  - French National Research Agency (ANR)
  - Technology Agency of the Czech Republic (ISTA)

PARTICIPATION IN RESEARCH AND DEVELOPMENT PROJECTS

FUNDED PROJECTS

EPET II: GSRT–funded project "*New Instruments for Early Diagnosis and Biotechnological Applications*" total budget 497 kECU, contribution to FORTH/ICE-HT: 144 kEuro; Duration: 1995–1998; Coordinator: G. Dasios.

NATO CLG: Nato collaborative research grant entitled: "*Inorganic glass–formers confined in nanoporous media: Synthesis, Structure, Dynamics*"; Partners: Oak Ridge National Laboratory, (USA), Ukrainian Academy of sciences (UA), FORTH/ICE-HT (GR); Budget: 350,000 BEF; Duration: January 2001– December 2002; Project Coordinator: S. N. Yannopoulos.

PENED 99: GSRT–funded project entitled: "*A combined structural and dynamical approach to the liquid ↔ glass transition*"; Partners: IESL–FORTH (Heraklion, Crete), NHRF (Athens), and FORTH/ICE-HT. Contribution to FORTH/ICE-HT: 56 kEuro, Duration: January 2000 – June 2001; FORTH/ICE-HT coordinator: S. N. Yannopoulos.

Greek–German Bilateral collaboration: GSRT funded project entitled: "*Study of the structure –topological and electronic – and dynamic behavior of rare earth metal chloride – aluminum chloride viscous liquids and their corresponding glasses*"; Partners: IPC (Karlsruhe), FORTH/ICE-HT; contribution to FORTH/ICE-HT: 12 kEuro; Duration: October 1999 – September 2001; ICE/HT Coordinator: S. N. Yannopoulos.

GeMColloidS: EC MARIE–CURIE Host Development Fellowship to FORTH/ICE-HT entitled: "*Generic Methodologies in Colloids and Suspensions",* EC contribution to FORTH/ICE-HT: 228 kEuro; Duration: 2000-2004; FORTH/ICE-HT Coordinator: V. G. Mavrantzas.

Greek–Ukrainian Bilateral collaboration: GSRT–funded project entitled: "*Supercooled liquids under confinement: a light scattering study*"; Partners: Ukrainian Academy of Science (Kiev), FORTH/ICE-HT; contribution to FORTH/ICE-HT: 12 kEuro; Duration: 2 years; ICE/HT Coordinator: S. N. Yannopoulos.

PENED 2001: GSRT–funded project entitled: "*Non–Invasive Methods for Early Diagnosis in Ophthalmic Diseases*"; Partners: FORTH/ICE-HT (Patras), Department of Chemical Engineering (Patras), and Department of Medicine (Patras). Contribution to FORTH/ICE-HT: 133 kEuro, Duration: 3 years, project coordinator: S. N. Yannopoulos.

PYTHAGORAS I: Project funded by the Ministry of Education and Religion Affairs entitled: "*Structural and dynamical features of amorphous materials at high temperatures and high pressures*"; Partners: FORTH/ICE-HT (Patras), Department of Chemical Engineering (Patras), Physics Division-School of Technology (Aristotle University of Thessaloniki). Contribution to FORTH/ICE-HT: 30 kEuro, Duration: 2.5 years, ICE/HT-group project coordinator: S. N. Yannopoulos.

Greek–Bulgarian Bilateral collaboration: GSRT–funded project entitled: "*Investigation of new glassy materials based on amorphous semiconductors for applications in electrochemical*

devices"; Partners: Bulgarian Academy of Science (Sofia), FORTH/ICE-HT; contribution to FORTH/ICE-HT: 12 kEuro; Duration: 2 years (2003-2005); ICE/HT Coordinator: S. N. Yannopoulos.

Greek–Czech Bilateral collaboration: GSRT–funded project entitled: "*Study of metal-doped amorphous semiconductors thin films for applications to optoelectronics and memory devices*"; Partners: University of Pardubice (Pardubice), FORTH/ICE-HT; contribution to FORTH/ICE-HT: 12 kEuro; Duration: 2 years (2003-2005); ICE/HT Coordinator: S. N. Yannopoulos.

PENED 2003: GSRT–funded project entitled: "*Study of light-sensitive materials with applications in information transmission (Raman amplifiers) and storage (phase-change memories)*"; Partners: FORTH/ICE-HT (Patras), IESL–FORTH (Heraklion), Department of Chemical Engineering (Patras), and Department of Physics (Thessaloniki), Telecommunication Organization of Greece. Contribution to FORTH/ICE-HT: 220 kEuro, Duration: 3 years (2006–2009), project coordinator: S. N. Yannopoulos.

PYTHAGORAS II: Project funded by the Ministry of Education and Religion Affairs entitled: "*New methodologies for developing novel bioactive glasses: synthesis, structure, properties, applications*"; Partners: FORTH/ICE-HT (Patras), Department of Materials Science (Patras). Contribution to FORTH/ICE-HT: 50 kEuro, Duration: 2 years, ICE/HT-group project coordinator: S. N. Yannopoulos.

Greek–Czech Bilateral collaboration: GSRT–funded project entitled: "*Pure and metal doped amorphous semiconductors (chalcogenides) for application in optical memories*"; Partners: University of Pardubice (Pardubice), FORTH/ICE-HT; contribution to FORTH/ICE-HT: 12 kEuro; Duration: 2 years (2005-2007); ICE/HT Coordinator: S. N. Yannopoulos.

Hy2SEPs_2 (EC-FP7): Proposal submitted to EC titled: "*Hybrid Membrane - Pressure Swing Adsorption (PSA) Hydrogen Purification Systems*"; Total budget: 1,612 kEuro. Contribution to FORTH/ICE-HT: 335 kEuro, Duration: 3 years (2011-2114). Role in the project: Senior researcher.

Na(Z)nOwire (THALES): Proposal submitted to the Ministry of Education and Religion Affairs entitled: "*Feasibility studies on novel nanostructures of ZnO and their applications in nanophotonics and energy conversion: Experimental and theoretical approach*"; Partners: University of Patras, FORTH/ICE-HT, FORTH/IESL. Total budget: 600 kEuro. Contribution to FORTH/ICE-HT: 200 kEuro, Duration: 3 years (2012-2115). Role in the project: Coordinator.

PhotoFuelCell (THALES): Proposal submitted to the Ministry of Education and Religion Affairs entitled: "*Development of novel Photo-Fuel Cells for the production of hydrogen and electricity via oxidation of organic compounds with the use of solar radiation*"; Partners: FORTH/ICE-HT, University of Patras. Total budget: 600 kEuro. Contribution to FORTH/ICE-HT: 150 kEuro, Duration: 3 years (2012-2115). Role in the project: Senior researcher.

NanoBarrier (EC-FP7): EC-funded project titled: "*Extended shelf-life biopolymers for sustainable and multifunctional food packaging solutions*"; Total budget: 7,118 kEuro.

Contribution to FORTH/ICE-HT: 949 kEuro, Duration: 4 years (2012-2016). Role in the project: Senior researcher.

SMARTPRO (EC-FP7): EC-funded project titled: "*Lightweight, flexible and smart protective clothing for law enforcement personnel*", total budget, 2,781,094 €. Contribution to FORTH/ICE-HT: 401,879 €. Duration: 4 years (2013-2017). Role in the project: Senior researcher.

SOLUTION (EC-HORIZON2020): EC-funded project titled: "Solid Lubrication for Emerging Engineering Applications", total budget, 3.536.165,88 €. Contribution to FORTH/ICE-HT: 242,386.92 €. Duration: 4 years (2017-2020). Role in the project: Principal Investigator of the FORTH team.

PHOTOWATER (ERANET-INCOMERA): Project funded by the European Committee, titled: "Design, optimization and construction of an energy-autonomous photocatalytic unit for the on-site remediation of wastewater", Total budget 410 k€. Duration: 2 years (2018-2020). Contribution to FORTH/ICE-HT: 208 k€. Role in the project: PI.

YLENDOR: "Development of novel materials for efficient wastewater cleaning and reuse". Western Greece Region Framework Program for supporting SMEs: Microelectronics / Materials. Total budget 140 k€, Contribution to FORTH/ICE-HT 80 k€. Duration: 2 years (2018-2020). Role in the project: Co Researcher.

MOHITO+: "Modular pilot production line of multifunctional textiles and films through surface treatment, deposition and functionalization". Co-financed by the European Regional Development Fund of the European Union and Greek national funds through the Operational Program "Competitiveness, Entrepreneurship and Innovation", under the call RESEARCH–CREATE-INNOVATE (project code: T1EDK-03167. Duration 06-2018 / 05-2021. Total budget 858.999,00 €. FORTH/ICE-HT budget: 198.000,00 €. Role in the project: PI of the FORTH team.

ΩMEGA: "Optical MEmristors, based on Photo-fluidity, Chalcogenide Whispering GAllery Mode Cavities". FORTH Synergy Grant, in collaboration with Dr. S. Pissadakis (IESL). Total budget 80 k€. Duration: 01/09/2019 – 31/08/2021.

OilSpill: "High capacity, eco-nonwoven composites for oil spill response", Co-financed by the European Regional Development Fund of the European Union and Greek national funds through the Operational Program "Competitiveness, Entrepreneurship and Innovation", under the call RESEARCH–CREATE-INNOVATE (project code: Τ6ΥΒΠ-00088. Duration 2019 – 2022. Total budget 438.275,00 €. FORTH/ICE-HT budget: 164.650,00 €. Role in the project: Member of the FORTH team.

SUN-NUTRITION: "Human nutrition, animal and fish feeding on microalgae derived products through sustainable photosynthetic autotrophic cultures". Co-financed by the European Regional Development Fund of the European Union and Greek national funds through the Operational Program "Competitiveness, Entrepreneurship and Innovation", under the call RESEARCH–CREATE-INNOVATE (project code: Τ2ΕΔΚ-02279. Duration 2020 – 2023. Total budget 995.100,00 €. FORTH/ICE-HT budget: 90.000,00 €. Role in the project: PI of the FORTH team.

AEROPLUS: “Advanced, high-performance thermoinsulating plaster” Co-financed by the European Regional Development Fund of the European Union and Greek national funds through the Operational Program “Competitiveness, Entrepreneurship and Innovation”, under the call RESEARCH–CREATE-INNOVATE (project code: T2EΔK-03219. Duration 2020 – 2023. Total budget 714.400,00 €. FORTH/ICE-HT budget: 215.400,00 €. Role in the project: Member of the FORTH team.

“Photo-electrochemical water splitting with combined 1-D and 2-D structures”, Co-financed by Greece and the European Union (European Social Fund- ESF) by the Operational Programme Human Resources Development, Education and Lifelong Learning 2014-2020.” Duration 2020 – 2021. Total budget 41.000,00 €. FORTH/ICE-HT budget: 41.000,00 €. Role in the project: Coordinator

PUBLICATIONS IN INTERNATIONAL PEER–REVIEWED JOURNALS (ISI)

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PRESENTATIONS IN NATIONAL CONFERENCES

1. S. N. Yannopoulos, G. N. Papatheodorou and G. Fytas, “Structural and dynamic considerations of non–crystalline arsenic trioxide through light scattering studies”, XII Panhellenic Conference on Solid State Physics, Heraklion, Crete, Greece, (1996).
2. S. N. Yannopoulos and G. N. Papatheodorou, “Light scattering from a strong glass–former”, 17th Panhellenic Conference on Chemistry, Patras, Greece, (1996).
3. D. Th. Kastrissios and S. N. Yannopoulos, “A Raman spectroscopic study on the photostructural and thermostructural changes of a–As_2S_3”, 2nd Panhellenic Scientific Conference on Chemical Engineering, Thessaloniki, Greece, (1999).
4. D. Th. Kastrissios and S. N. Yannopoulos, “Structural changes of arsenic sulfide studied by Raman spectroscopy”, XV Panhellenic Conference on Solid State Physics, Patras, Greece, (1999).
5. A. Kalampounias and S. N. Yannopoulos, “Structure and dynamics of inorganic glasses: $xZnCl_2$–$(1-x)AlCl_3$, (x: 100, 80, 60)”, 3d Panhellenic Scientific Conference on Chemical Engineering, Athens, Greece, (2001).
6. I. D. Koniaris, M. Korniotatis, Y. D. Yannopoulos, C. P. E. Varsamis,, E. I. Kamitsos, S. N. Yannopoulos, and G. Fytas, “Structure and dynamics of Germanate Glasses, xNa_2O–$(1-x)GeO_2$”, XVI Panhellenic Conference on Solid State Physics, Thrace, Greece, (2001).
7. A. G. Kalampounias, V. Dracopoulos, and S. N. Yannopoulos “Light Scattering study of structure and dynamics of the $0.8ZnCl_2$-$0.2AlCl_3$.” glass-forming system”, 3rd Panhellenic Chemical Engineering Conference, Athens, 31 May 2 June (2001) (Oral presentation). Paper published in the Conference Proceedings, pages 65-68.
8. A. G. Kalampounias and S. N. Yannopoulos, “Short Time Dynamics of Salol in bulk liquid, in dilute solutions and in confined geometries”, in 4rd Panhellenic Chemical Engineering Conference, Patras, 29-31 May 2003 (Oral presentation). Paper published in the Conference Proceedings, pages 537-540.
9. A. Siokou, M. Kalyva, M. Frumar, and S. N. Yannopoulos, “XPS and UPS study of the electronic structure of pulsed laser deposited chalcogenide amorphous films As_xSe_{1-x}” in XX Panhellenic Conference on Solid State Physics and Materials Science, Ioannina, Greece, September 26-29 (2004).
10. A. G. Kalampounias, S. N. Yannopoulos and G. N. Papatheodorou, “Development of containerless methods for studying ceramic and glassy materials at temperatures up to 2300 K using Raman spectroscopy: The structure of SiO2 in glassy and molten state”, 5th Panhellenic Chemical Engineering Conference, Thessaloniki, 26-28 May 2005.
11. A. G. Kalampounias, S. N. Yannopoulos and G. N. Papatheodorou, “Raman spectroscopic study of $K_2Si_4O_9$ amorphous tetrasilicate at temperatures 300-1300 K”, 5th Panhellenic Chemical Engineering Conference, Thessaloniki, 26-28 May 2005.
12. V. Nikolakis, K. Andrikopoulos, S. N. Yannopoulos, “Investigation of structural changes of confined amorphous materials: Raman study of the Se/FAU system”, 2nd Pan-Hellenic Symposium on Porous Materials, Athens, September 2005.
13. V. Petta., N. Pharmakakis, G.N. Papatheodorou, S. N. Yannopoulos. “Non-invasive study of the molecular changes in ocular lenses using duybnamic light scattering” 38th Panhellenic Conference on Ophthalmology, May 19–22, Mykonos, Greece.
14. V. Petta, J. Moradian-Oldak, S. N. Yannopoulos, and N. Bouropoulos, “Dynamic Light Scattering study of the self-assebmply in amelogenins dispersions”, 1st Biosciences Conference of Patras University, May 19–20, 2005.
15. P. Giabouranis, S. Baskoutas, A. Chrissanthopoulos, S. N. Yannopoulos, V. Dracopoulos, and N. Bouropoulos, “Synthesis and characterization of ZnO

nanostructures", XXII Panhellenic conference of Solid State Physics and Material Science, Patras, Septemeber 24–27, 2006.

16. M. Kalyva, A. Siokou, S. N. Yannopoulos, P. Němec and M. Frumar, "Sequence dependence of annealing and irradiation on nanoscale structural changes in amorphous chalcogenides revealed by XPS and UPS". XXII Panhellenic conference of Solid State Physics, Patras , October (2006).
17. N. Bouropoulos, A. Chrissanthopoulos and S. N. Yannopoulos, "Synthesis and vibrational spectroscopic study of CaO-MgO-SiO_2 sol-gel bioactive glasses", 2nd conference of the Greek Biomechanics Organization, Ancient Olympia, May 4–6, 2007.
18. Th. Hasapis, E. Hatzikraniotis, K.M. Paraskevopoulos, K.S. Andrikopoulos, S. N. Yannopoulos and T. Wagner, "FIR study of $Ag_x(As_{33}S_{33}Se_{33})_{100-x}$ glasses", XXIII Panhellenic conference of Solid State Physics and Material Science, Athens, 23-26 September, 2007.
19. Th. Hasapis, E. Hatzikraniotis, K.S. Andrikopoulos, F. Kyriazis, A. Chrissanthopoulos, V. Dracopoulos, M. Krbal, T. Wagner, S.N. Yannopoulos and K.M. Paraskevopoulos, "Structural and vibrational studies of the ternary glassy $Ag_x(As_{33}S_{67})_{100-x}$ system, XXIV Panhellenic Conference on Solid State Physics and Materials Science, Heraklion, Crete, September 21-24, 2008.
20. F. Kyriazis, N. Bouropoulos, A. Chrissanthopoulos, S. Baskoutas, D. Tasis, V. Dracopoulos, and S. N. Yannopoulos, "ZnO nanostructures grown by thermal evaporation and thermal decomposition methods", XXIV Panhellenic Conference on Solid State Physics and Materials Science, Heraklion, Crete, September 21-24, 2008.
21 K.S. Andrikopoulos, J. Arvanitidis, E. Fournou, B. Kargas, T. Wagner and S. N. Yannopoulos, "Nano-indentation studies of phase separated glasses: The ternary Ag-As-S system", XXV Panhellenic Conference on Solid State Physics and Materials Science, Thessaloniki, September 20-23, 2009.
22. A. Chrissanthopoulos, S. Baskoutas, N. Bouropoulos and S. N. Yannopoulos, "Correlations between the energy gap and size of ZnO nanostructures: experiments and *ab initio* calculations", 7th Panhellenic Conference on Chemical Engineering, Patras, June 3–5, 2009.
23. Th. Hasapis, E. Hatzikraniotis, K.M. Paraskevopoulos, K.S. Andrikopoulos, S. N. Yannopoulos, "Far Infrared Spectra and Structure of $(K_2S)_x(Sb_2S_3)_{100-x}$ Glasses", 25th Panhellenic Conference of Solid State Physics and Materials Science (Thessaloniki, September, 20-23 2009).
24. T.C. Hasapis, E. Hatzikraniotis, K.M. Paraskevopoulos, K.S. Andrikopoulos, S. N. Yannopoulos, T. Wagner, "Far Infrared Spectra of the AsS_2 and $AgAsS_2$ bulk glasses", 26th Panhellenic Conference of Solid State Physics and Materials Science (Ioannina, September, 26-29 2010).
25. S. N. Yannopoulos. A. Siokou, A. Nasikas, V. Dracopoulos, F. Ravani and G. N. Papatheodorou, "CO_2 Laser-Induced Growth of Epitaxial Graphene on SiC (0001)", 27th Panhellenic Conference of Solid State Physics and Materials Science (Lemessos, Cyprus, September, 18-21, 2011).
26. Tomas Kohoutek, Xin Yan, Tetsuro Shiosaka, Shintaro Mizuno, Spyros Yannopoulos, Takenobu Suzuki, and Yasutake Ohishi, "Transient Raman Response of Novel Chalcogenide Micro-structured Optical Fibre", The European Conference on Lasers and Electro-Optics 2011, Munich Germany, 22–26 May 2011.
27. Th. Vasileiadis, V. Dracopoulos, A. Chrissanthopoulos, and S. N. Yannopoulos, "Laser Induced Growth of Te and TeO_2 Nanowires", 29th Panhellenic Conference of Solid State Physics and Materials Science, Patras, September 23-26, 2012.

28. K. Govatsi, S. Betsi, V. Dracopoulos, and S. N. Yannopoulos, "Influence Au catalyst on the morphology of ZnO nanostructures grown on Si", 29th Panhellenic Conference of Solid State Physics and Materials Science, Patras, September 23-26, 2012.
29. Th. Vasileiadis, V. Dracopoulos, M. Kolia, L. Syggellou, and S. N. Yannopoulos, "Laser-Assisted Synthesis and Processing of Functional Chalcogenide Nanostructures", 29th Panhellenic Conference of Solid State Physics and Materials Science, Athens, September 22-25, 2013.
30. K. Govatsi, A.K. Seferlis, S.G. Neophytides, S.N. Yannopoulos, "Growth and Study of Photoelectrocatalysts Based on ZnO Nanorods", 9th, Panhellenic Conference in Chemical Engineering, 23-25 May, 2013, Athens.
31. A. Antonelou, T. Ioannides, N. Bouropoulos, and S. N. Yannopoulos, "Laser-assisted growth of graphene for energy applications", 29th Panhellenic Conference of Solid State Physics and Materials Science, Athens, September 22-25, 2013.
32. S. Andrikaki, K. Govatsi, K.S. Andrikopoulos, S. N. Yannopoulos, G.A. Voyatzis, "The influence of Au film thickness and annealing conditions on SERS enhancement", 30th Panhellenic Conference of Solid State Physics and Materials Science, Heraklion, Crete, September 21-24, 2014.
33. K. Govatsi, A.K. Seferlis, S.G. Neophytides, S.N. Yannopoulos, "Influence of the Nanowire Diameter on the Photoelectrocatalytic Properties of ZnO Nanowire Arrays, 10th Panhellenic Conference in Chemical Engineering, 4-6 June 2015, Patras.

INVITED LECTURES, PRESENTATIONS AND SEMINARS

1. "*Athermal photo-induced phase transitions in non-crystalline chalcogenides*", 28th International Conference on Amorphous and Nano-crystalline Semiconductors" (ICANS28), Palaiseau, France, 04th – 09th August, 2019.
2. "*Synthesis of high-quality graphene and graphene-based structures by laser processing of carbides and graphene oxide*, "Fundamentals of Laser Assisted Micro– and Nanotechnologies" (FLAMN19), St. Petersburg, June 39th – July 4th, 2019.
3. "*Two-dimensional transition metal dichalcogenides: Large-scale Synthesis and Energy Conversion Applications*", Winter School on 2D Materials; 14-17 January, 2019, Weizmann Institute, Rehovot, Israel.
4. "*2-D Transition Metal di-Chalcogenides for Energy Conversion Applications*", 13th International Conference in Solid State Chemistry, September 16-21, 2018, Pardubice, Czech Republic.
5. "*Controlled growth and modification of ordered 1-D nanostructures as a platform for applications in energy conversion, photocatalysis and gas sensors*", Invited seminar delivered at the Department of Chemistry, National and Kapodistrian University of Athens, May 11th, 2017.
6. "*Few-layer 2D transition metal dichalcogenides with high catalytic performance as efficient counter-electrodes in solar cells*", The 8th Eastern Mediterranean Chemical Engineering Conference (EMCC8), February 26 – March 01, 2017, Haifa, Israel.
7. "*2-D transition metal di-chalcogenides for applications in catalysis*", Department of Materials and Interfaces, The Weizmann Institute of Science, March 01st, 2017, Rehovot, Israel.
8. "*Laser-assisted growth of high-quality graphene and graphene-based structures: Current Status and Prospects*", 2nd Israel - Greece Joint Meeting on Nanotechnology & BioNanoscience, 25-28 October 2016, Heraklion, Crete

9. "*Facile, substrate-scale growth of mono-and few-layer homogeneous MoS2 films with enhanced catalytic activity as counter electrodes in DSSCs*", 26th International Conference on Amorphous and Nanostructured Semiconductors, 13-18 September, 2015, Aachen, Germany.
10. "*Laser-assisted growth of high-quality graphene and graphene-based structures: Current Status and Prospects*", 4th International Symposium on Energy Challenges and Mechanics, (ECM4), 11-13 August 2015, Aberdeen, Scotland.
11. "*Controlling the morphology of ZnO nanostructures grown by Au-catalyzed CVD and solution chemistry methods*", 1st Symposium on Advanced Architectures in Photonic, 21–24 September 2014, Prague.
12. "*Using Lasers to Grow High Quality Graphene: Current Status and Beyond*", NATO ASI on Nanoscience Advances in CBRN Agents Detection, Information and Energy Security, May 29th – June 06th, 2014, Sozopol, Bulgaria.
13. "*Growth of ZnO nanowires with controlled morphology: Comparison between CVD and chemical bath deposition methods*", NATO ASI on Nanoscience Advances in CBRN Agents Detection, Information and Energy Security, May 29th – June 06th, 2014, Sozopol, Bulgaria.
14. "*Structural Aspects and Origin of Photo-sensitivity in Elemental and Binary non-Crystalline Chalcogenides*", Workshop on Doped Amorphous Chalcogenides and Devices, 27-28 March 2014, Trinity College, Cambridge.
15. "*Laser-assisted growth of epitaxial graphene and graphene-like nanostructures*", invited talk given at National Physical laboratory, March 25th, 2014.
16. "*Laser-Assisted Growth of t-Te Nanotubes and their Controlled Photo-induced Unzipping to ultrathin core-Te/sheath-TeO_2 Nanowires*", 25th International Conference on Amorphous and Nanostructured Semiconductors, August 18-23, 2013, Toronto, Canada
17. "*Homogeneous, High-Quality Epitaxial Graphene Grown on SiC(0001) using Infrared Lasers*", Workshop on the Science and Applications of Epitaxial Graphene on SiC (EPIGRAPHIC), 3-7 December, 2012, Catania, Italy
18. "*Laser-assisted Growth of High-quality, Homogeneous Epitaxial Graphene*", 3rd Symposium on Graphene and Carbon Nanotubes, (CARBONHAGEN 2012), June 25-26, 2012, Copenhagen.
19. "*CO_2 Laser-Induced Growth of Epitaxial Graphene on 6H-SiC(0001)*", 3rd International Nano-Conference (NANOCON 2011), September 21st - 23rd 2011, Hotel Voronez I, Brno, Czech Republic.
20. "*Structural Aspects and Origin of Photo-sensitivity in non-Crystalline Chalcogenides: The merits of Raman scattering*", 2nd International Days for Materials Science: "Inorganic chemistry and advanced materials". September 15-16, 2011, Pardubice Czech Republic.
21. "*Slow dynamics in eye lens protein colloids: A route towards understanding the origin of lens cataract*". Invited lecture given at the 4th International Discussion Meeting on Glass Transition, February 28th – March 2nd, 2011, Sendai, Japan.
22. "*Colossal photostructural changes in chalcogenide glasses. Athermal photoinduced polymerization in As_xS_{100-x} bulk glasses revealed by near-bandgap Raman scattering*". 4th International Conference on Optical, Optoelectronic and Photonic Materials and Applications August 15-20, 2010, Budapest, Hungary.
23. "*Dynamic Light Scattering as a probe of nanosized entities: Applications in materials and life sciences*". Invited lecture given at the NATO-ASI on "Nanostructured Materials for Advanced Technological Applications" Sozopol, Bulgaria, 1-13 June 2008.

24. "*Effect of silver doping on the structure and phase separation of sulfur-rich As-S glasses: Raman and SEM studies*". Invited lecture given at the 16th International Symposium on Non oxide and New Optical Glasses, Montpellier, (France) 20-25 April 2008.
25. "*Dynamic light scattering study on phase separation of a protein-water mixture: Application on cold cataract development in the ocular lens*". Invited lecture given at the XI International Workshop on Complex Systems, Andalo, Trento (Italy), 16-20 March 2008.
26. "*On the analysis of the vibrational Boson peak and low-energy excitations in glasses*". Invited lecture given at the X International Workshop on Disordered Systems, Molveno, Trento (Italy), 18-21 March 2006.
27. "*Some Experimental Remarks on Boson Peak and its Dependence on External Stimuli*". Invited lecture given at the 5th International Discussion Meeting on Relaxations in Complex Systems, Lille, France, July 7-13, 2005.
28. "*Light sensitive materials: chalcogenide glasses and some of their photoinduced properties*". Seminar given at Oak Ridge National Laboratory, May (2002).
29. "*Inelastic Light (Raman) Scattering Studies of: A. Temperature-induced Structural and Dynamic changes in Glasses and Liquids and B. Photo-structural Changes in Light-Sensitive Materials*". Tutorial given at the ICTP-INFM School & Workshop on Spectroscopic Investigation of the Collective Dynamics in Disordered Systems, June 17 – 28 (2002), Trieste, Italy.
30. "*The athermal photoinduced fluidity effect in chalcogenide glasses*". Invited lecture given at ESRF (Grenoble), March 11, 2002.
31. "*Is the phenomenology of the low–energy modes in amorphous solids and supercooled liquids well established*?" Invited lecture for the 4th International Discussion Meeting on Relaxations in Complex Systems, Heraklion, Crete, June 2001.
32. "*Structure and dynamics in rare earth chloride – aluminum chloride glass forming liquids*". Lecture given at the Workshop for German–Greek Joint Research and technology programs focused on Materials Research, Heraklion, Crete, November 2000.