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Curriculum Vitae

Prof. Pantelis N. Trikalitis

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Personal details

Date of Birth:	March 17, 1971
Place of Birth:	Thebes, Greece
Nationality:	Greek
Marital status:	Married, one child

Research Experience and Education

- **August 2015 – present:** Professor Department of Chemistry, University of Crete.
- **December 2009 – July 2015:** Associate Professor Department of Chemistry, University of Crete.
- **March 2004 - November 2009:** Assistant Professor, Department of Chemistry, University of Crete. Tenure awarded in June 2008.
- **September 2003 - February 2004:** Assistant Professor (non-tenure track position), Department of Materials Science and Engineering, University of Ioannina, Greece.
- **April 2003 - June 2003:** Marie Curie Industrial Postdoctoral Fellow: Agfa–Gevaert N.V. – R&D Materials, Antwerp, Belgium. Project: "Characterization of nanostructured materials for digital imaging applications using electron microscopy (SEM/TEM)".
- **May 1999 - March 2003:** Postdoctoral Research Associate, Michigan State University, Department of Chemistry, USA, Advisor Prof. Mercouri G. Kanatzidis. Project: "Synthesis, Characterization and Properties of novel semiconducting mesostructured chalcogenide-based materials".
- **September 1997 - May 1999 (20 months)**: Compulsory military service: Greek Air Force.
- **April 1993 - June 1997:** Postgraduate student, University of Ioannina, Greece. Advisor Prof. Philippos J. Pomonis. Ph.D. Thesis Title: "Preparation, Characterization and Catalytic Behavior of Perovskites Containing Vanadium".
- **September 1988 - April 1993**: Undergraduate student, Department of Chemistry, University of Ioannina, Greece.

Overview of Research Activities

The research activities are focused on the design, synthesis and structural characterization of novel nanoporous materials and study of their physical and chemical properties. In particular, our research group targets novel, multifunctional open-framework solids that combine porosity and advanced wall functionality (acid-base, redox and optoelectronic properties). Specific research areas include highly porous, functionalized metal-organic frameworks (MOFs), periodic nanoporous organosilicate materials and carbon-based nanostructures. These families of porous solids are targeted for application in i) selective gas sorption/separation processes (CH_4 & H_2 storage, CO_2/CH_4 & CO_2/N_2 separation), ii) selective capture and trapping of harmful gases including NH_3 and SO_2 and iii) separation of noble gases, in particular Kr/Xe. Moreover, an Excellence Grant (ARISTEIA II) was recently awarded in which novel, acidic MOFs are targeted as proton conductors. In addition, there is a strong collaboration with other research groups in

projects of mutual interest such as in metal hydrides as hydrogen storage materials and in novel polymeric nanocomposites.

The group has a significant know-how, knowledge and expertise on advanced materials synthesis using methods for solution, sol-gel and solid-state chemistry including hydrothermal, solvothermal and high temperature reactions. A great variety of modern and advanced characterization methods are routinely utilized by the group. Dr. P.N. Trikalitis has published 60 papers in high quality, international peer-reviewed journals including publications in *Nature, Science, Angew. Chem. Int. Ed., J. Am. Chem. Soc*., *Chem. Comm.* etc. His published work has received more than 1800 citations and his *h*-index is 24.

Available Instrumentation and Techniques

A strong effort has been devoted to establish a functional synthetic laboratory to execute the above research. Thus far the lab is equipment with two (2) nitrogen glove boxes (one dry and one wet), four (4) computer controlled high temperature furnaces (up to 1200 ^{o}C), one (1) vacuum oven (up to 200 ^{o}C) and three (3) conventional ovens (up to 300 ^{o}C) for standard solvothermal syntheses. In addition, a double vacuum line has been installed, serving as sealing apparatus (for glass and quartz reaction tubes) or to perform standard Schlenk line techniques. Moreover, a commercial state-of-the-art volumetric gas adsorption apparatus (Quantachrome 1MP, micropore option) is fully operational, equipped with a cryo-cooler for unlimited time analyses in any temperature between 20 K - 320 K. This instrument is capable in performing accurate and detailed (micropore) volumetric analyses using N_2 and Ar gases at 77 K and 87 K respectively, for the determination of the specific surface area, total pore volume and pore size distribution, of porous materials. In addition, a multi-gas option has been installed that allows to record adsorption/desorption isotherms of other gases including H_2, CH_4, CO_2 and NH_3 as well as vapours (e.g. H_2O, ethanol, isopropanol), at different temperatures and up to 1 bar. In addition, a new, state-of-the-art volumetric instrument with two analysis stations (Autosorb-iQ-MP2) for measurements up to 1 bar is installed and greatly improved the capability measurements of the group. For high pressure gas-sorption measurements up to 20 bar, a gravimetric system (IGA-003) is available, equipped with a cryo-furnace and a mass-spectrometer.

The students in the lab are getting training in a variety of advanced synthetic techniques. As part of the standard materials characterization methods, the students become highly involved (hands on experience) with powder (PANalytical X'Pert Pro) and single-crystal (STOE IPDS II) X-ray diffraction measurements, thermal analysis techniques (TGA, DTA, DSC), electron microscopy (SEM/EDS and TEM), solid-state UV-vis/near IR diffuse reflectance, Raman and IR spectroscopy as well as multinuclear (e.g. ^{119}Sn, ^{77}Se) NMR spectroscopy in solution. The above instrumentation is provided from the Department of Chemistry and nearby, inside campus facilities.

Teaching

Undergraduate courses

- Inorganic Chemistry II, 3rd year students, Textbooks: "Inorganic Chemistry" by Shriver and Atkins and "Principles of Structure and Reactivity" by J. E. Huyee. **Every spring semester between 2005 and 2009 and every fall semester since 2010 (mandatory course).**
- Solid State Chemistry, 4th year students, Textbook: "Basic Solid State Chemistry" by A. West, **Fall semester of 2004, 2005 and 2006 (optional course)**.
- Chemistry of Advanced Materials, Textbooks: Special topic chapters from "Inorganic Chemistry" by Shriver and Atkins and lecture notes. **Every fall semester since 2010.**

Graduate courses

- Transmission Electron Microscopy, Textbooks: "Transmission Electron Microscopy" by David B. Williams and C. Barry Carter and selected topics from "Introduction to Conventional Transmission Electron Microscopy" by Marc De Graef. **Every spring semester since 2009.**
- Advanced Solid State Chemistry, Textbook: "Solid State Chemistry and its Applications" by A. West. **Fall semester of 2007 and 2008 and every spring semester since 2009.**
- Introduction to X-ray Crystallography. This is a 3 week course joined with other topics, mainly spectroscopic techniques (e.g. NMR). Reading: Selected chapters from "X-ray Structure Determination – A practical Guide" by G.H. Stout and L.H. Jensen and from "Structure Determination by X-ray Crystallography" by M.F.C. Ladd and R.A. Palmer. **Every fall semester since 2005.**

Supervising

- Current group members: two (2) postdocs, one (1) PhD student and two (2) master thesis students.
- Graduated, past group members: six (6) PhD students, five (5) master (MSc) students and five (5) undergraduate research students.

Funding

Current Support as Principal Investigator and Project Manager

1. Funding agency, EU FP7, Marie Curie IEF.
   Title: **Rational Design of Hybrid Nano-porous Composites made from Carbon Nanostructures and Crystalline Open-Framework Solids for Advanced Applications – CarbonCROFs.** PI Pantelis N. Trikalitis.
   Budget: **161,968 €.** Duration: October 2014 – September 2016.

Projects Completed as Principal Investigator and Project Manager

2. Funding agency, GSRT/Greece "Excellence Grant – ARISTEIA II".
   Title: **Decorating Metal-Organic Frameworks with Acidic Functional Groups: Advanced Materials Featuring Ultrahigh Anhydrous Proton Conductivity and Enhanced Gas-Sorption Properties.** PI Pantelis N. Trikalitis.
   Budget: **308,000 €.** Duration: February 2014 – July 2015.

3. Funding agency, GSRT/Greece "HRAKLEITOS II".
   Title: **Novel organic-inorganic nanoporous materials for gas storage and separation applications including H_2, CO_2 and CH_4.** PI Pantelis N. Trikalitis.
   Budget: **45,000 €.** Duration: November 2010 – October 2013.

4. Funding agency: GSRT/Greece "THALES".
   Title: **Design of novel nano-porous materials for hydrogen storage.**

Budget: **600,000 €.** PI George Froudakis, University of Crete. The amount of **100,000 €** is allocated to Prof. P.N. Trikalitis for the development of functionalized MOFs. Duration: 2012 – 2015.

5. Funding agency: GSRT/Greece "THALES".
   Title: **Materials of Advanced Nano-Architecture at Mesoscale for Energy and Environmental Applications.** PI: Philippos Pomonis, University of Ioannina.
   Budget: **600,000 €.** The amount of **61,000 €** is allocated to Prof. P.N. Trikalitis for the development of functionalized MOFs. Duration: 2012 – 2015.

6. Funding agency: GSRT/Greece "Co-operation".
   Title: **Application of novel inorganic nanostructures for the development of polymeric nanocomposite materials with enhanced properties.** PI: Dr. Strauros Messaritakis PLASTIKA KRITIS S.A.
   Budget: **729,400 €.** The amount of **85,500 €** is allocated to Prof. P.N. Trikalitis to perform advanced characterization measurements on novel nanomaterials. Duration: April 2011 – March 2014.

7. Funding agency: Innova-Technology Solutions S.R.L.
   Title: **Synthesis and Characterization of Novel Organosilica Solids for Hydrogen Storage Applications.** PI P.N. Trikalitis.
   Budget: **55,500 €**. Duration: August 2007 – August 2009.

8. Funding agency: GSRT/Greece "PENED 03ED450".
   Title: **Synthesis, Characterization and Study of the Optoelectronic and Catalytic Properties of Novel Semiconducting Nanostructured Materials Based on Metal-Chalcogenides.** PI P.N. Trikalitis.
   Budget: **112,500 €.** Duration: November 2005 – December 2008.

9. Funding agency: EU & Greek Ministry of Education (Interreg IIIA Greece-Cyprus K2301.004). Title: **Research and Education in Nanomaterials and Nanotechnology: Design, Development and Applications.** PI P.N. Trikalitis.
   Budget: **305,000 €.** Duration: September 2006 – December 2008.

10. Funding agency: GSRT/Greece "PENED 03ED903".
    Title: **Self-assembled Nanostructures for Novel Catalytic and Chiral Processes.** PI P.J. Pomonis, University of Ioannina.
    Budjet: **200,000 €.** The amount of **50,000 €** was allocated to Prof. P.N. Trikalitis to perform a relevant research.
11. Funding agency: GSRT/Greece "PENED 03ED903".
    Title: **Development of Nanostructured Hybrid Inorganic/Polymer Materials for Random Laser Applications.** PI Spiros Anastasiadis, University of Crete.
    Budget: **228,000 €.** The amount of **37,000 €** was allocated to Prof. P.N. Trikalitis to perform relevant research. Duration: November 2005 – December 2008.

12. Funding agency: Secretariat of the Research Committee at the University of Crete. Title: **Synthesis of Nanostructured Oxides and Chalcogenides.** PI P.N. Trikalitis.
    Budjet: **5,000 €**. Duration: March 2006 – July 2007.

Papers Published in Peer-Reviewed Journals

1. **Reticular Synthesis of HKUST-like tbo-MOFs with Enhanced CH4 Storage.** Spanopoulos, I.; Tsangarakis, C.; Klontzas, E.; Tylianakis, E.; Froudakis, G.; Adil, K.; Belmabkhout, Y.; Eddaoudi, M.; Trikalitis, P. N. *J. Am. Chem. Soc.* **2016**, *138*, 1568.
   JACS Cover: http://pubs.acs.org/toc/jacsat/138/5
   JACS spotlights: http://pubs.acs.org/doi/pdfplus/10.1021/jacs.6b01182

2. **MOF Crystal Chemistry Paving the Way to Gas Storage Needs: Aluminum-Based soc-MOF for CH_4, O_2, and CO_2 Storage.** Alezi, D.; Belmabkhout, Y.; Suyetin, M.; Bhatt, PM.; Weselinski, LJ.; Solovyeva, V.; Adil, K.; Spanopoulos, I.; Trikalitis, PN; Emwas, AH; Eddaoudi, M. *J. Am. Chem. Soc.* **2015** 137, 13308-13318.
   JACS spotlights: http://pubs.acs.org/doi/pdf/10.1021/jacs.5b10384

3. **A Microporous Co^{2+} Metal Organic Framework with Single-Crystal to Single-Crystal Transformation Properties and High CO_2 Uptake.** Moushi, EE.; Kourtellaris, A.; Spanopoulos, I.; Manos, MJ.; Papaefstathiou, GS.; Trikalitis, PN.; Tasiopoulos, AJ. *CrystEngComm* **2015**, 15, 185-193.

4. **Enhanced gas-sorption properties of a high surface area, ultramicroporous magnesium formate.** I. Spanopoulos, I. Bratsos, Ch. Tampaxis, A. Kourtellaris, A. Tasiopoulos, G. Charalambopoulou, T.A. Steriotis and P.N. Trikalitis. *CrystEngComm*, **2015**, 17, 532-539.

5. **Understanding the adsorption mechanism of noble gases Kr and Xe in CPO-27-Ni, CPO-27-Mg, and ZIF-8.** O.V. Magdysyuk, F. Adams, H-P. Liermann, I. Spanopoulos, P.N. Trikalitis, M. Hirscher, R.E. Morris, M.J. Duncan, L.J. McCormick, R.E. Dinnebier. *Phys. Chem. Chem. Phys.,* **2014**, 16, 23908.

6. **Toward Efficient Drug Delivery through Suitably Prepared Metal-Organic Frameworks: A First-Principles Study.** Koukaras, Emmanuel N.; Montagnon, Tamsyn; Trikalitis, Pantelis; Bikiaris, Dimitrios; Zdetsis, Aristides and Froudakis, George. *J. Phys. Chem. C* **2014**, *118,* 8885-8890.

7. **Drastic Enhancement of the CO_2 Adsorption Properties in Sulfone-Functionalized Zr- and Hf-UiO-67 MOFs with Hierarchical Mesopores.** Pantelis Xydias, Ioannis Spanopoulos, Emmanuel Klontzas, George E. Froudakis, and Pantelis N. Trikalitis. *Inorg. Chem.* **2014,** 53, 679-681.

8. **A Straight Forward Route for the Development of Metal–Organic Frameworks Functionalized with Aromatic –OH Groups: Synthesis, Characterization, and Gas (N_2, Ar, H_2, CO_2, CH_4, NH_3) Sorption Properties.** I. Spanopoulos, P. Xydias, C.D. Malliakas and P.N. Trikalitis. *Inorg. Chem.* **2013**, 52, 855-862.

9. **Hydrogen storage in ordered and disordered phenylene-bridged mesoporous organosilicas.** Kalantzopoulos, G.N., Enotiadis, A., Maccallini, E., Antoniou, M., Dimos, K., Policicchio, A., Klontzas, E., Tylianakis, E., Binas, V., Trikalitis, P.N., Agostino, R.G., Gournis, D., Froudakis, G.E. *Int. J. Hydrogen Energy*, 39 (**2014**), 2104-2114.

10. **A "turn-on"-turning-to-ratiometric sensor for zinc(ii) ions in aqueous media.** Tsikalas, G.K., Lazarou, P., Klontzas, E., Pergantis, S.A., Spanopoulos, I., Trikalitis, P.N., Froudakis, G.E., Katerinopoulos, H.E. *RSC Advances*, 4, **2014**, 693-696.

11. **$Cs_2M^{II}M^{IV}_3Q_8$ (Q= S, Se, Te): An Extensive Family of Layered Semiconductors with Diverse Band Gaps.** Morris, Collin; Li, Hao; Jin, Hosub; Malliakas, Christos; Peters, John; Trikalitis, Pantelis; Freeman, Arthur; Wessels, Bruce; Kanatzidis, Mercouri. *Chem. Mater.* 25, 3344-3356, **2013.**

12. **Controlled preparation of carbon nanotube-iron oxide nanoparticle hybrid materials by a modified wet impregnation method.** T. Tsoufis et al. *J Nanopart Res* 2013, 15, 1924.

13. **Effect of the type of nano-filler on the crystallization and mechanical properties of syndiotactic polystyrene based nanocomposites.** Papageorgiou, G.Z., Achilias, D.S., Nianias, N.P., Trikalitis, P., Bikiaris, D.N. *Thermochim. Acta,* 565, **2013**, 82-94.

14. **Synthesis and Characterisation of a Mesoporous Carbon/Calcium Borohydride Nanocomposite for Hydrogen Storage.** A. Ampoumogli, T. Steriotis, P.N. Trikalitis, E. Bardaji, M. Fichtner, A. Stubos, G. Charalambopoulou. *Int. J. Hydrogen Energy***, 2012**, 37, 16631–16635.

15. **Hydrogen Storage in Novel Li-Doped Corrole Metal-Organic Frameworks**. Stergiannakos, T. et al, *J. Phys. Chem. C* **2012**, 116, 8359-8363.

16. **Disposable screen-printed sensors modified with bismuth precursor compounds for the rapid voltammetric screening of trace Pb(II) and Cd(II).** Lezi N, Economou A, Dimovasilis PA, Trikalitis PN and Prodromidis MI. Anal. Chim. Acta, **2012**, 728, 1-8.

17. **A Highly Porous Interpenetrated Metal–Organic Framework from the Use of a Novel Nanosized Organic Linker**. Manolis J. Manos et al. *Inorg. Chem.* **2011**, 50, 11297−11299.

18. **Nanostructured composites of mesoporous carbons and boranates as hydrogen storage materials.** A. Ampoumogli, Th. Steriotis, P. Trikalitis, D. Giasafaki, E. Gil Bardaji, M. Fichtner, G. Charalambopoulou. *J. Alloys Comp.*, **2011**, 509, S705-S708.

19. **Remarkable structural diversity and single-crystal-to-single-crystal transformations in sulfone functionalized lanthanide MOF's.** Eleftheria Neofotistou, Christos D. Malliakas and Pantelis N. Trikalitis. *CrystEngComm* **2010** 12, 1034–1037.

20. **A Molecular Supertetrahedron Decorated with Exposed Sulfonate Groups Built from Mixed-Valence Tetranuclear $Fe_3^{3+}Fe^{2+}(\mu_3\text{-}O)(\mu_3\text{-}SO_4)_3(\text{-}CO_2)_3$ Clusters.** Ioanna Papadaki, Christos D. Malliakas, Thomas Bakas and Pantelis N. Trikalitis. *Inorg. Chem.* **2009** (48), 9968–9970**.**

21. **$(H_2NC_4H_8NCH_2CH_2NH_2)(HNCH_2CH_2NH_2)_3Zn_2Ge_2Se_8$: A New, Templated One-Dimensional Ternary Semiconductor Stabilized by Mixed Organic Cations.** Aggelos Philippidis and Pantelis N. Trikalitis. *Polyhedron*, **2009** (28), 3193-3198.

22. **Unprecedented, Sulfone Functionalized Metal-Organic Frameworks and Gas Sorption Properties.** Eleftheria Neofotistou, Christos Malliakas and Pantelis N. Trikalitis*. *Chem. Eur. J.* 15(18), 4523-4527, **2009**.

23. **$(H_2NC_4H_8NCH_2CH_2NH_2)_2Zn_2Sn_2Se_7$: A Hybrid Ternary Semiconductor Stabilized by Amine Molecules Acting Simultaneously as Ligands and Counterions.** Aggelos Philippidis, Thomas Bakas and Pantelis N. Trikalitis*. *Chem Commun.* 12, 1556-1558 **2009**.

24. **Straightforward Route to the Adamantane Clusters [Sn(4)Q(10)](4-) (Q = S, Se, Te) and Use in the Assembly of Open-Framework Chalcogenides (Me4N)(2)M[Sn4Se10] (M = Mn-II, Fe-II, Co-II, Zn-II) Including the First Telluride Member (Me4N)(2)Mn[Ge4Te10].** Tsamourtzi K, Song JH, Bakas T, Freeman AJ, Trikalitis PN*, Kanatzidis MG*. *Inorg. Chem.* 47, 11920-11929 **2008.**

25. **Charge transport in a single superconducting tin nanowire encapsulated in a multiwalled carbon nanotube.** Tombros N, Buit L, Arfaoui I, Tsoufis T, Gournis D, Trikalitis PN, van der Molen SJ, Rudolf P, van Wees BJ. *Nano Letters* 8, 3060-3064 **2008**.

26. **Evaluation of first-row transition metal oxides supported on clay minerals for catalytic growth of carbon nanostructures.** Tsoufis T, Jankovic L, Gournis D, Trikalitis PN, Bakas T . *Mat. Sci. Eng. B-Solid 152*, 44-49, **2008**.

27. **On-site monitoring of fish spoilage using vanadium pentoxide xerogel modified interdigitated gold electrodes.** S. Helali a, A. Abdelghania, N. Jaffrezic-Renault b, P.N. Trikalitis c, C.E. Efstathioud, M.I. Prodromidis, Accepted for publication in *Electrochim. Acta*.

28. **Novel coordination polymers based on the tetrathioterephthalate dianion as bridging ligand.** Eleftheria Neofotistou, Christos D. Malliakas and Pantelis N. Trikalitis*. *Inorg. Chem.* **2007***, 46*, 8487-8489.

29. **Porous semiconducting gels and aerogels from chalcogenide clusters.** Santanu Bag, Pantelis N. Trikalitis, Peter J. Chupas, Gerasimos S. Armatas and Mercouri G. Kanatzidis. *Science **2007**, 317,* 490-493.

30. **Carbon Nanotubes Encapsulating Superconducting Single-Crystalline Tin Nanowires**. Ľuboš Jankovič, Dimitrios Gournis, Pantelis N. Trikalitis, Imad Arfaoui, Tristan Cren, Petra Rudolf, Marie-Hιlθne Sage, Thomas T. M. Palstra, Bart Kooi, Jeff De Hosson, Michael A. Karakassides, Konstantinos Dimos, Aliki Moukarika, and Thomas Bakas. *Nano Letters* **2006,** 6 (6), 1131-1135.

31. **Ordered mesoporous CoO_x/MCM-41 materials exhibiting long-range self-organized nanostructured morphology.** A.P. Katsoulidis, D.E. Petrakis, G.S. Armatas, P.N. Trikalitis and P.J. Pomonis *Microp. Mesop. Mater.* **2006,** 92 (1-3), 71-80.

32. **Mesostructured cobalt and nickel molybdenum sulfides.** Trikalitis, P.N., Kerr, T.A., Kanatzidis, M.G. *Microp. Mesop. Mater.* **2006**, 88(1-3), 187-190.

33. **Synthesis, characterization and performance of vanadium hexacyanoferrate as electrocatalyst of H_2O_2.** Tsiafoulis, C.G., Trikalitis, P.N., Prodromidis, M.I. *Electrochem. Commun.* **2005**, 7 (12), 1398-1404.

34. **Electrochemical study of ferrocene intercalated vanadium pentoxide xerogel/polyvinyl alcohol composite films: Application in the development of amperometric biosensors.** Tsiafoulis, C.G., Florou, A.B., Trikalitis, P.N., Bakas, T., Prodromidis, M.I. *Electrochem. Commun.* **2005**, 7 (7), 781-788.

35. **Highly loaded and thermally stable Cu-containing mesoporous silica-active catalyst for the NO + CO reaction.** Pantazis, C.C., Trikalitis, P.N., Pomonis, P.J. *J. Phys. Chem. B* **2005**, 109(25), 12574-12581.

36. **Three-Dimensional Structure of Nanocomposites from Atomic Pair Distribution Function Analysis: Study of Polyaniline and (Polyaniline)$_{0.5}V_2O_5\cdot 1.0H_2O$.** Valeri Petkov, Vencislav Parvanov, Pantelis Trikalitis, Christos Malliakas, Tom Vogt and Mercouri G. Kanatzidis. *J. Am. Chem. Soc.* 127 (24), 8805-8812 **2005.**

37. **Periodic Hexagonal Mesostructured Chalcogenides Based on Platinum and $[SnSe_4]^{4-}$ and $[SnTe_4]^{4-}$ Precursors. Solvent Dependence of Nanopore and Wall Organization.** Pantelis N. Trikalitis, Thomas Bakas, and Mercouri G. Kanatzidis. *J. Am. Chem. Soc.* **2005,** 127(11), 3910-3920.

38. **Mesostructured Chalcogenides with Cubic MCM-48 type Symmetry: Large Framework Elasticity and Uncommon Resiliency to Strong Acids.** Pantelis N. Trikalitis, Nan Ding, Chris Malliakas, Simon J. L. Billinge and Mercouri G. Kanatzidis. *J. Am. Chem. Soc.* **2004**, 126, 15326-15327.

39. **Structural, Compositional and Acidic Characteristics of Nanosized Amorphous or Partially Crystalline ZSM-5 Zeolite-Based Materials.** Kostas S. Triantafyllidis, Lori Nalbandian, Pantelis N. Trikalitis, Athanasios K. Ladavos, Thomas Mavromoustakos, Christakis P. Nicolaides. *Microp. Mesop. Mater.* **2004,** 75, 89-100.

40. **Isolation of Kinetically Stable Chalcogenide Phases via Rapid Cooling of Melts : Structural Transition from Kinetic to Thermodynamically Stable Form in the $KInSnSe_4$ System.** Seong-Ju Hwang, Pantelis N. Trikalitis, Andrew G. Ogden and Mercouri G. Kanatzidis. *Inorg. Chem.,* **2004,** 43(7) 2237-2239.

41. **Kinetics investigation of NO + CO reaction on La-Sr-Mn-O perovskite-type mixed oxides.** A. A. Leontiou, A. K. Ladavos, G. S. Armatas, P. N. Trikalitis and P. J. Pomonis. *Appl. Catal., A,* **2004**, 263(2), 227-239.

42. **Structure of Redox Intercalated $(NH_4)_{0.51}V_2O_5\cdot mH_2O$ Xerogel Using the Pair Distribution Function Technique.** Pantelis N. Trikalitis, Valeri Petkov and Mercouri G. Kanatzidis. *Chem. Mater.* **2003,** 15, 3337-3342.

43. **A Novel Method of Synthesis of Silicious Inorganic Ordered Materials (MCM –SBA) Employing Polyacrylic Acid - CnTAB – TEOS Nano-assemblies.** C. C. Pantazis, P. N. Trikalitis, P. J. Pomonis and M. J. Hudson. *Microporous and Mesoporous Mater.* **2003**, 66, 37-51.

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45. **Structure of $V_2O_5XnH_2O$ xerogel solved by the atomic pair distribution function technique.** V. Petkov, P. N. Trikalitis E. S. Bozin, S.J.L. Billinge, T. Vogt, and M.G. Kanatzidis. *J. Am. Chem. Soc*., **2002,** 124, 10157-10162.

46. **Platinum Chalcogenido MCM-41 analogs. High Hexagonal Order in Mesostructured Semiconductors Based on Pt^{2+} and $[Ge_4Q_{10}]^{4-}$ (Q=S, Se) and $[Sn_4Se_{10}]^{4-}$ Adamantane Clusters.** Pantelis N. Trikalitis, Krishnaswamy K. Rangan and Mercouri G. Kanatzidis. *J. Am. Chem. Soc*. **2002**, 124(11), 2604-2613.

47. **Magnetic Fe_2O_3-Al_2O_3 composites prepared by a modified wet impregnation method.** Michael A.Karakassides, Dimitris Gournis, Athanasios B. Bourlinos, Pantelis N. Trikalitis and Thomas Bakas. *J. Mater. Chem*., **2003**, 13, 871–876.

48. **High nuclearity nickel compounds with three, four or five metal atoms showing antibacterial activity.** Maria Alexiou , Ioannis Tsivikas , Catherine Dendrinou-Samara , Anastasia A. Pantazaki, Pantelis N. Trikalitis, Nikolia Lalioti, Dimitris A. Kyriakidis, Dimitris P. Kessissoglou. *J. Inorg. Biochem*. **2003**, 93, 256–264.

49. **Variation of surface properties and textural features of spinel $ZnAl_2O_4$ and perovskites $LaMnO_3$ nanoparticles prepared via CTAB-butanol-octane-nitrate salt microemulsions in the reverse and biocontinuous states.** A. E. Giannakas, T. C. Vaimakis, A. K. Ladavos, P. N. Trikalitis and P. J. Pomonis. *J. Coll. Inter. Sci.* **2003**, 259, 244-253.

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51. **Quaternary Germanides Formed in Molten Aluminum: $Tb_2NiAl_4Ge_2$ and $Ce_2NiAl_{6-x}Ge_{4-y}$ (x~0.24, y~1.34).** Brad Sieve, Pantelis N. Trikalitis and Mercouri G. Kanatzidis. *Z. Anorg. Allg. Chem*., **2002**, 628, 1568-1574.

52. **Varied pore organization in mesostructured semiconductors based on the $[SnSe_4]^{4-}$ anion.** Pantelis N. Trikalitis, Krishnaswamy K. Rangan, Thomas Bakas and Mercouri G. Kanatzidis *Nature* **2001**, 410, 671-675.

53. **Hexagonal mesostructured chalcogenide frameworks formed by linking $[Ge_4Q_{10}]_{4-}$ (Q = S, Se) clusters with Sb^{3+} and Sn^{4+}.** Krishnaswamy K. Rangan, Pantelis N. Trikalitis, Thomas Bakas and Mercouri G. Kanatzidis *Chem. Commun*. **2001**, (9), 809-810.

54. **Supramolecular assembly of hexagonal mesostructured germanium sulfide and selenide nanocomposites incorporating the biologically relevant Fe4S4 cluster.** Pantelis N. Trikalitis, Thomas Bakas, Vasilios Papaefthymiou and Mercouri G. Kanatzidis. *Angew. Chem. Int. Ed*. **2000**, 39(24), 4558-4562.

55. **Light-emitting meso-structured sulfides with hexagonal symmetry. Supramolecular assembly of $[Ge_4S_{10}]^{4-}$ clusters with trivalent metal ions and cetylpyridinium surfactant.** Krishnaswamy K. Rangan, Pantelis N. Trikalitis, and Mercouri G. Kanatzidis *J. Am. Chem. Soc*. **2000**, 122(41), 10230-10231.

56. **Structure and catalytic activity of $La_{1-x}FeO_3$ system (x=0.00, 0.05, 0.10, 0.15, 0.20, 0.25, 0.35) for the NO+CO reaction.** Belessi, V. C.; Trikalitis, P. N.; Ladavos, A. K.; Bakas, T. V.; Pomonis, P. J. *Appl. Catal., A* **1999**, 177(1), 53-68.

57. **A Rietveld analysis of the transformation of $(La\text{-}Sr\text{-}V\text{-}O)_{reduced}$ to $(La\text{-}Sr\text{-}V\text{-}O)_{oxidized}$ solids and the effect on their surface catalytic properties.** Trikalitis, Pantelis N.; Bakas, Thomas V.; Moukarika, Aliki C.; Sdoukos, Antonios T.; Angelidis, Thomas; Pomonis, Philip J. *Appl. Catal., A* **1998**, 167(2), 295-308.

58. **Structure and properties of mesoporous alumino-phosphoro-vanadates.** Kolonia, Konstadina M.; Petrakis, Dimitris E.; Angelidis, Thomas N.; Trikalitis, Pantelis N.; Pomonis, Philippos J. *J. Mater. Chem*. **1997**, 7(9), 1925-1931.

59. **Surface characteristics and catalytic activity of Al-Pillared (AZA) and Fe-Al-pillared (FAZA) clays for isopropanol decomposition.** Ladavos, A. K.; Trikalitis, P. N.; Pomonis, P. J. *J. Mol. Catal. A: Chem*. **1996**, 106(3), 241-54.

60. **Catalytic activity and selectivity of perovskites $La_{1-x}Sr_xV^{3+}_{1-x}V^{4+}_xO_3$ for the transformation of isopropanol.** Trikalitis, P. N.; Pomonis, P. J. *Appl. Catal., A* **1995**, 131(2), 309-22.

Published in Peer-Reviewed Conference Proceedings

61. **Surfactant templated assembly of cubic mesostructured semiconductors based on $[Sn_2Se_6]^{4-}$ and Pt^{2+} in single-crystal form.** Trikalitis, Pantelis N.; Kanatzidis, Mercouri G. Materials Research Society Symposium Proceedings (**2002**), 755 (Solid-State Chemistry of Inorganic Materials IV), 215-220.

62. **Surfactant templated assembly of hexagonal mesostructured semiconductors based on $[Ge_4Q_{10}]^{4-}$ (Q=S, Se) and Pd^{2+} and Pt^{2+} ions.** Trikalitis, Pantelis N.; Rangan, Krishnaswamy K.; Kanatzidis, Mercouri G. Materials Research Society Symposium Proceedings (**2002**), 703 (Nanophase and Nanocomposite Materials IV), 433-438.

Papers to be Submitted

63. **Exceptional Gravimetric and Volumetric CO_2 Uptake in a Palladated NbO-type MOF Utilizing Cooperative Acidic and Basic Metal-CO_2 Interactions.** I. Spanopoulos, I. Bratsos, D. Vourloumis, M. Klontzas, G.E. Froudakis, G. Charalambopoulou, T. A. Steriotis and P.N. Trikalitis.

64. **Inherent, Anhydrous Proton Conductivity in an Anionic In-based MOF Decorated with Sulfonic Groups.** I. Spanopoulos, M. Fouskaki, N. Chaniotakis and P.N. Trikalitis.

Citation Report

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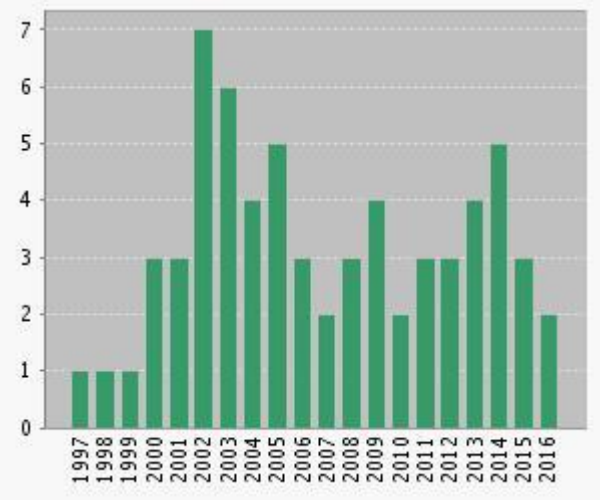

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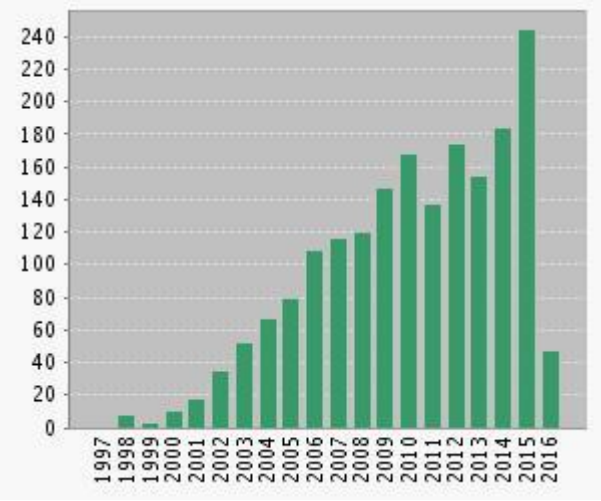

Total citations**: 1802** (excluding self-citations)

h-index**: 24**

Invited talks

1. **Tuning of Porosity, Stability and CO_2 Adsorption Properties in Zr-based MOFs via Ligand Functionalization.** P.N. Trikalitis, 1st International Symposium on Energy Challenges and Mechanics, 8-10 July 2014, Aberdeen, Scotland, UK.
2. **Porous, Functionalized MOFs for Gas Sorption/Separation Applications.** P.N. Trikalitis, Northwestern University, June 27, 2014.
3. **Porous, Functionalized Coordination Polymers for Gas Sorption/Separation Applications.** P.N. Trikalitis, King Abdullah University of Science and Technology (KAUST), March 10, 2014, Saudi Arabia.
4. **Design and Development of Multifunctional Porous MOFs Decorated with free Acidic Groups.** P.N. Trikalitis, Fourth North America-Greece-Cyprus Workshop on Paramagnetic Materials NAGC 2011, Limassol Cyprus, May 22-26, 2013.
5. **Rational Design of Functionalized MOFs for Hydrogen Storage**. P.N. Trikalitis, IEA Hydrogen Implementing Agreement, Task 32- Hydrogen-based Energy Storage, Heraklion Greece, 21-25 April 2013.
6. **Design and Synthesis of Advanced Nanoporous Materials for Energy and Environmental Related Applications.** P.N. Trikalitis, IFNA 6th World Congress, Athens, June 25 - July 1, 2012.
7. **A General Methodology for the Development of Hydroxyl Functionalized and Highly Porous Coordination Polymers.** P.N. Trikalitis, Fourth North America-Greece-Cyprus Workshop on Paramagnetic Materials NAGC 2011, Patras Greece - June 14-18, 2011.
8. **Novel, Functionalized Metal-Organic Frameworks for Gas Storage/Separations (H_2 CO_2 & CH_4).** P.N. Trikalitis, Colloquium of the Department of Chemistry, University of Patras, October 23rd 2009.
9. **Adventures in Synthesis of Functionalized MOF's and their Gas Sorption/Separation Properties** P.N. Trikalitis, Gordon Research Conference on "Inorganic Chemistry – The New Frontiers", University of New England, Biddeford, ME, USA, June 21-26 2009.
10. **Hydrogen Storage in Novel Functionalized Metal-Organic Frameworks, High Surface Area Organosilicates & Carbon-based Materials.** P.N. Trikalitis, International Conference on «Solid Storage of Hydrogen: International Perspectives", Fodele Beach Holiday Resort, June 10-12 2009.
11. **Novel, Functionalized Metal-Organic Frameworks for Gas Storage/Separation Applications.** P.N. Trikalitis, Zernike Institute for Advanced Materials, University of Groningen, Netherlands, January 30, 2009.
12. **Novel Open-Framework Solids for Advanced Applications.** P.N. Trikalitis, University of Calabria, Italy, April 2nd 2008.
13. **Towards Semiconducting Coordination Polymers".** P.N. Trikalitis, Colloquium of the Department of Material Science and Technology, University of Crete, January 12, 2007.
14. **Condensable Amphiphiles as Templates for the Construction of Novel *Super-microporous* Vanado-Silicate Solids.** P.N. Trikalitis, Colloquium of the Chemical Process Engineering Research Institute in Thessaloniki, Greece, May 26th 2006.

Conference Presentations

Oral

1. **Israel – Greece Joint Meeting on Nanotechnology and BioNanoscience *Weizmann Institute of Science, Israel*** 20-23.10.2014. Targeting Functionalized MOFs for Advanced Applications: from anhydrous proton conductors to gas-storage and separation. P.N. Trikalitis.

2. **Hybrid Materials 2015, 9-13 March 2015, Sitges, Barcelona Spain.** Anhydrous Proton Conductivity in Metal-Organic Frameworks Functionalized with Acidic Groups**.** P.N. Trikalitis.

3. **International Symposium, NANOPOROUS MATERIALS – 7, Niagara Falls, Canada, June 22 - 25, 2014. "**Tuning of Porosity, Stability and CO_2 Adsorption Properties in Zr-based MOFs via Ligand Functionalization". P.N. Trikalitis.

4. **MOF2014, 4th International Conference on Metal-Organic Frameworks and Open Framework Compounds, 28.9 – 1.10 2014, Kobe, Japan.** "Expanded *tbo* Metal-Organic Frameworks for Methane Storage". Ioannis Spanopoulos, Constantinos Tsangarakis and Pantelis N. Trikalitis.

5. **Warsaw, EMRS 2013 Fall Meeting Symposium C Nanostructured Materials for Solid State Hydrogen Storage.** "New Functionalized Zirconium-based Metal-Organic Frameworks as Hydrogen Storage Materials". P.N. Trikalitis.

6. 4th **Panhellenic Symposium on Porous Materials, October 22-23 2009 Conference Centre, University of Patras.** "Synthesis, Characterization and Gas Soprtion Properties of High Surface Area Amorphous Graphene Oxide. Vassilios Binas, Aggelos Phillipidis, Konstantina Tsamourtzi and Pantelis N. Trikalitis.

7. 4th **Panhellenic Symposium on Porous Materials, October 22-23 2009 Conference Centre, University of Patras.** "Synthesis and Characterization of a Novel Metal-Organic Polyhedron (MOP) with Exposed Sulfonate Groups". Ioanna Papadaki, Christos Malliakas,Thomas Bakas and Pantelis N. Trikalitis.

8. **XXIV Panhellenic Conference on Solid State Physics and Materials Science, Heraklion, Crete, September 21-24, 2008.** "Novel, Metal-Organic Frameworks using Rigid Carboxylate-based Ligands for Hydrogen Storage Applications." P.N. Trikalitis.

9. **X Panhellenic Symposium in Catalysis, Metsovo, 3-4 October 2008. "Mesoporous Organosilicates as Hydrogen Storage Materials".** Vassilios Binas and P.N. Trikalitis.

10. **"Advanced Materials for Hydrogen Storage".** Workshop on "NANO- Materials and Engineering (NANO-MAT)" Department of Mechanical and Manufacturing Engineering, University of Cyprus July 8-10, 2008.

11. **3rd Panhellenic Symposium on Porous Materials, Chemical Process Engineering Research Institute (CPERI/CERTH), Thessaloniki, Greece, November 1-2, 2007.** "Synthesis of Mesostructured Tin Selenides with Cubic Gyroid Framework, from *Aqueous Solutions*: Probing Complex Equilibria with ^{119}Sn Solution NMR". Konstantina Tsamourtzi and Pantelis N. Trikalitis.

12. **Materials Research Society, 2006 Fall Meeting, Boston, Massachusetts, USA November 27 - December 1, 2006.** "Condensable Amphiphiles as Templates for the Construction of Novel *Super-microporous* Vanado-Silicate Solids". Vassilios Binas and Pantelis N. Trikalitis.

13. **XXII Panhellenic Conference on Solid State Physics and Material Science, September 23-26 2007, Athens N.C.R.S. "DEMOKRITOS".** Novel Self-assembled Nanoporous Vanado-silicate Solids with Tunable Vanadium Content." Vassilios Binas and Pantelis N. Trikalitis.

14. **2nd Panhellenic Symposium on Porous Materials, N.C.R.S. "DEMOKRITOS", Athens, September 29-30, 2005. "**Synthesis of Hexagonally Ordered Mesostructured Sulfides from Aqueous Solutions"**.** M. Kyriakou and P.N. Trikalitis.

15. **Materials Research Society, 2000 Fall Meeting, Boston, Massachusetts, USA November 27 - December 1, 2000. "**Non-oxidic analogs of MCM-41 and MCM-48. Nanostructured non-oxidic solids based on the Zintl anion $[SnSe_4]^{4-}$". Pantelis N. Trikalitis and Mercouri G. Kanatzidis.

16. **4th Panhellenic Symposium on Catalysis, Papingo, Greece, 6-7 October 1995. "**Preparation, Characterization and Catalytic Behavior of La-Sr-V-O Perovskites". Pantelis N. Trikalitis and Philippos J. Pomonis.

17. **4th Congress Greece-Cyprous, Ioannina, September 1994.** "Preparation, Characterization and Catalytic Activity of Vanadium Containing Perovskites". Pantelis N. Trikalitis and Philippos J. Pomonis.

Posters

1. **1st European Conference on Metal Organic Frameworks and Porous Polymers (EuroMOF2015),** 11 - 14 October 2015 Kongresshotel Potsdam, Berlin, Germany. High methane storage capacity in functionalized MOFs with an expanded tbo-type structure. I. Spanopoulos; K. Tsagkarakis; E. Klontzas; G. Froudakis; P. Trikalitis.
2. **Israel – Greece Joint Meeting on Nanotechnology and BioNanoscience *Weizmann Institute of Science, Israel* 20-23.10.2014.** Expanded *tbo* Metal-Organic Frameworks for Methane Storage. I. Spanopoulos C. Tsangarakis and P.N. Trikalitis.
3. **MOF2014, 4th International Conference on Metal-Organic Frameworks and Open Framework Compounds, 28.9 – 1.10 2014, Kobe, Japan.** 1) "Tuning of Porosity, Stability and CO_2 Adsorption Properties in Zr-based MOFs via Ligand Functionalization". Ioannis Spanopoulos, Constantinos Tsangarakis, Pantelis Xydias and Pantelis N. Trikalitis. 2) "Expanded and Functionalized Al-based Metal Organic Framework for Gas Storage Applications". Constantinos Tsangarakis, Ioannis Spanopoulos, Emmanuel Klontzas, George E. Froudakis and Pantelis N. Trikalitis.
4. **30th Panhellenic Conference on Solid-State Physics and Materials Science, September 21-24, 2014, Heraklion, Crete.** 1) "Gas sorption properties of a functionalized NbO-type metal organic frameworks". Ch. Gryparis, I. Spanopoulos, P.N. Trikalitis. 2) "Gas sorption properties of microporous magnesium formate". I. Spanopoulos, P.N. Trikalitis. 3) "Gas sorption properties of new mesoporous, functionalized MOFs". C. Tsangarakis, I. Spanopoulos, P.N. Trikalitis.
5. **Gordon Research Conference (GRC) on Solid State Chemistry, July 27 - August 1, 2014 Colby-Sawyer College, New London, NH.** "Exceptional CO_2 Uptake in a Palladated NbO-

type MOF Utilizing Cooperative Acidic and Basic Metal-CO_2 Interactions". I. Spanopoulos, I. Bratsos, D. Vourloumis, M. Klontzas, G. E. Froudakis, G. Charalambopoulou, Th. A. Steriotis and P. N. Trikalitis.

6. 6th **Panhellenic Symposium on Porous Materials, September 9-10, 2013, Kavala Institute of Technology, Greece.** 1) "Mix-Metal synthesis of hydroxyl functionalized IRMOF-8: Characterization and Gas Sorption Properties". Ioannis D. Spanopoulos, Pantelis N. Trikalitis. 2) "Synthesis and Characterization of a New, Methoxy- Functionalized Metal-Organic Framework". Konstantinos M. Tsagarakis, Ioannis D. Spanopoulos and Pantelis N. Trikalitis. 3) "Drastic improvement of CO_2 adsorption properties in sulfone functionalized Zr- and Hf- MOFs." P. Xydias, I. Spanopoulos and P.N. Trikalitis.
7. **MOF-2012: 3rd International Conference on Metal-Organic Frameworks and Open Framework Compounds.** September 16, 2012 - September 19, 2012, John McIntyre Conference Centre, Edinburgh. 1) "A Straight Forward Route for the Development of Hydroxyl Functionalized Metal-Organic Frameworks" Ioannis D. Spanopoulos, Pantelis A. Xydias and Pantelis N. Trikalitis.2) "Mixed Ligand Metal-Organic Frameworks with Lewis Base or Dual Acid-Base Functionalities". Pantelis A. Xydias, Ioannis D. Spanopoulos and Pantelis N. Trikalitis.
8. **5th Panhellenic Symposium on Porous Materials,** June 30th – July 1st, Univeristy fo Crete, Heraklion, Greece. "Synthesis, Characterization and Gas-Sorption Studies of Hydroxyl Functionalized MOFs". Pantelis Xydias, Ioannis Spanopoulos, Eleftheria Neofotistou, Christos Malliakas and Pantelis N. Trikalitis.
9. **XXVI Panhellenic Conference on Solid State Physics and Materials Science**, Ioannina, September 26-29, 2010. "Functionalized Metal-Organic Frameworks for Selective CO_2 Capture". Pantelis N. Trikalitis, Eleftheria Neofotistou, Evie Baka and Christos Malliakas.
10. 4th **Panhellenic Symposium on Porous Materials, October 22-23 2009 Conference Centre, University of Patras.** "Sulfone Functionalized Meta-organic Frameworks". Eleftheria Neofotistou, Christos Malliakas and Pantelis N. Trikalitis.
11. **1st International Conference on Metal-Organic Frameworks and Open Framework Compounds October 8 - 10, 2008, Augsburg/Germany** "Functionalized Organosilicas as Hydrogen Storage Materials", Vassilios D. Binas and Pantelis N. Trikalitis.
12. **1st International Conference on Metal-Organic Frameworks and Open Framework Compounds October 8 - 10, 2008, Augsburg/Germany.** "Functionalized Metal-Organic Frameworks Assembled by Novel *Organic* and *Inorganic* SBU's" Eleftheria Neofotistou, Christos Malliakas and Pantelis N. Trikalitis.
13. **1st International Conference on Metal-Organic Frameworks and Open Framework Compounds October 8 - 10, 2008, Augsburg/Germany. "**A Novel Metal-Organic Polyhedron (MOP) with Exposed Lewis Base Sites", Ioanna Papadaki, Christos Malliakas,Thomas Bakas and Pantelis N. Trikalitis.
14. **Gordon Research Conference on Solid State Chemistry, Magdalene College Oxford, UK September 2-9, 2007.** A Hybrid Layered Semiconductor Stabilized by Amine Molecules Acting Simultaneously as Ligand and Counter-ion**.** A. Filippidis, T. Bakas and P.N. Trikalitis.
15. **3rd Panhellenic Symposium on Porous Materials, Chemical Process Engineering Research Institute (CPERI/CERTH), Thessaloniki, Greece, November 1-2, 2007.** Novel Coordination

Polymers based on the Tetrathioterepthalate Anions and Transition Metal Cations. Eleftheria Neofotistou and Pantelis N. Trikalitis.

16. **3rd Panhellenic Symposium on Porous Materials, Chemical Process Engineering Research Institute (CPERI/CERTH), Thessaloniki, Greece, November 1-2, 2007.** New Porous Vanado-silicates using Condensable Amphiphiles as Templates. Vassilios Binas and Pantelis N. Trikalitis.

17. **XXII Panhellenic Conference on Solid State Physics and Materials Science, September 23-26 2007, Athens N.C.R.S. "DEMOKRITOS".** Probing Solution Chemistry of Metal-Chalcogenide Anions with Electrospray Mass Spectrometry. Aggelos Filippidis and Pantelis N. Trikalitis.

18. **XXII Panhellenic Conference on Solid State Physics and Materials Science, September 23-26 2007, Athens N.C.R.S. "DEMOKRITOS".** Synthesis and Characterization of Mesostructured Chalcogenides from Aqueous Solutions. Konstantina Tsamourtzi and Pantelis N. Trikalitis.

19. **4th International Workshop on "Nanosciences & Nanotechnologies" (NN07), Thessaloniki, Greece, 16-18 July 2007.** Evaluation of first-row transition metal oxides supported on clay minerals for catalytic growth of carbon nanotubes" T. Tsoufis, L. Jankovic, D. Gournis, P.N. Trikalitis and T. Bakas.

20. **Gordon Research Conference on Solid State Chemistry, June 5-10, 2005 Il Ciocco Lucca (Barga), Italy.** (Attendance)

21. **Trends in Nanotechnology 2006 (TNT 2006), Grenoble, France, 4-8 September 2006.** "Carbon Nanotubes Encapsulating Superconducting Single-Crystalline Tin Nanowires." I. Arfaoui, L. Jankovič, D. Gournis, Pantelis N. Trikalitis, et al.

22. **Gordon Research Conference on Solid State Chemistry, Queen's College Oxford, UK September 14-19, 2003.** Ordered Mesostructured Semiconducting Chalcogenides from $[SnSe_4]^{4-}$ and $[SnTe_4]^{4-}$ Precursors. Solvent Dependent Equilibria and Implications for Inorganic Wall Organization. Pantelis N. Trikalitis, Thomas Bakas and Mercouri G. Kanatzidis.

23. **Materials Research Society, 2002 Fall Meeting, Boston, Massachusetts, USA December 2 – 6, 2002.** Surfactant Templated Assembly of Cubic Mesostructured Semiconductors Based on $[Sn_2Se_6]^{4-}$ and Pt^{2+} in Single-Crystal Form. Pantelis N. Trikalitis and Mercouri G. Kanatzidis.

24. **Gordon Research Conference on Solid State Chemistry, Colby-Sawyer College, New London, NH, USA, July 28 - August 2, 2002.** Single Crystal Mesostructured Semiconductors with Cubic *Ia*-3*d* Symmetry and Ion-Exchange Properties. P. N. Trikalitis and M. G. Kanatzidis.

25. **16th Annual CFMR (Center for Fundamental Materials Research) Symposium, Michigan State University, East Lansing, MI, April 14th & 15th, 2002.** Structure of $V_2O_5 \cdot nH_2O$ xerogel solved by the atomic pair distribution function technique. V. Petkov, P. N. Trikalitis E. S. Bozin, S.J.L. Billinge, T. Vogt, and M.G. Kanatzidis.

26. **Materials Research Society, 2001 Fall Meeting, Boston, Massachusetts, USA November 26 - 30, 2001.** Surfactant Templated Assembly of Hexagonal Mesostructured Semiconductors Based on $[Ge_4Q_{10}]^{4-}$ (Q=S, Se) and Pd^{2+} and Pt^{2+} ions. Pantelis N. Trikalitis, Krishnaswamy K. Rangan and Mercouri G. Kanatzidis. ***Award Nominee***

27. **Gerald T. Babcock Symposium, Michigan State University, East Lansing, MI, June 1-2, 2001.** Non-Oxidic Semiconducting Mesostructured Materials. Pantelis N. Trikalitis, K. Kasthuri Rangan, Thomas Bakas and Mercouri G. Kanatzidis.

28. **15th Annual CFMR (Center for Fundamental Materials Research) Symposium, Michigan State University, East Lansing, MI, March 25th & 26th, 2001.** Open Framework Mesostructured Semiconductors with Uniform Hexagonal Pore Organization. P. N. Trikalitis, K. K. Rangan and M. G. Kanatzidis.

29. **15th Annual CFMR (Center for Fundamental Materials Research) Symposium, Michigan State University, East Lansing, MI, March 25th & 26th, 2001.** Mesostructured Metal Sulfides with Photoluminescence Properties. K. K. Rangan, P. N. Trikalitis and M. G. Kanatzidis.

30. **Gordon Research Conference on Solid State Chemistry, Colby-Sawyer College, New London, NH, USA, July 30 - August 4, 2000.** Mesostructured Non-Oxidic Semiconductors Based on the Tetrahedral Zintl Anion $[SnSe_4]^{4-}$. P. N. Trikalitis, K. K. Rangan, T. Bakas and M. G. Kanatzidis.

31. **219th American Chemical Society National Meeting, San Francisco, CA, USA March 26 - 30, 2000.** Mesostructured Non-Oxidic Solids Based on Tetrahedral Zintl Anions $[GeQ_4]^{4-}$, $[SnQ_4]^{4-}$ (Q=Se, Te). P. N. Trikalitis, K. K. Rangan and M. G. Kanatzidis.

32. **14th Annual CFMR (Center for Fundamental Materials Research) Symposium, Michigan State University, East Lansing, MI, February 27th & 28th, 2000.** New Ordered Mesostructured Materials with $[Ge_4Q_{10}]^{4-}$ (Q=S, Se) Adamantane Clusters. K. K. Rangan, P. N. Trikalitis and M. G. Kanatzidis.

33. **1st Scientific Congress of Chemical Engineering, Patra, Greece, May 29-31 1997.** Influence in the Catalytic Activity of the non-stoichiometric Perovskites $La_{1-x}FeO_3$ (x=0.00, 0.05, 0.10, 0.15, 0.20, 0.25, 0.35) for NO+CO Reaction. V. Belessi, P. N. Trikalitis, A. Ladavos and P. Pomonis.

34. **17th Panhellenic Congress in Chemistry, Patra, Greece, December 1-5, 1996.** Preparation, Characterization and Catalytic Activity of Perovskites La-V-Fe-O for NO+CO Reaction. P. N. Trikalitis, A. Sdoukos, T. Bakas, V. Papaefthymiou and P. J. Pomonis.

35. **EUROPACAT-II Congress, Maastricht, The Netherlands, September 3-8, 1995.** Preparation, Characterization and Catalytic Activity of Vanadium Perovskites $(LaVO_3)_{1-x}(SrVO_3)_x$. P. N. Trikalitis and P. J. Pomonis.

36. **4th Chemistry Conference Greece-Cyprus, Ioannina, Greece, September 8-11, 1994.** Synthesis, Characterization and Catalytic Activity of Vanadium Containing Perovskites. P. N. Trikalitis, and P. J. Pomonis.

Patents

1. **Crystalline porous solids with open organic-inorganic framework and sulfur or sulfuric groups**. GR20080100110 Greek Patent Office. Inventors: P. N. Trikalitis, G.E. Froudakis and D. Gournis

2. **Functional nanoporous materials for gas storage applications.** Applicant: Innova – Technology Solutions srl, Chieti (Italy). Inventors: G. Froudakis, Heraklion (GR); P. Trikalitis, Heraklion, (GR); D. Gournis, Ioannina (GR); R. G. Agostino, Rende (IT). INO01560/WO (2009).

Workshop and symposium organizer

1. **International Symposium on Advanced Nanoporous and Nanostructured Materials, September 3 – 4, 2014, Heraklion, Crete.** http://www.chemistry.uoc.gr/nanoporous-crete/

2. **6th Panhellenic Symposium on Porous Materials.** Kavala Institute of Technology, Greece, 9-10 September 2013. http://pspm6.teikav.edu.gr/index.php/en/

3. **5th Panhellenic Symposium on Porous Materials.** University of Crete, June 30 –July 1 2011. http://www.chemistry.uoc.gr/pspm5/index_en.html

4. **XXIV Panhellenic Conference on Solid State Physics and Materials Science**, Heraklion, Crete, September 21-24, 2008.

5. **Multifunctional Nanostructured Materials**. Department of Chemistry, University of Crete, July 2-6, 2007.

6. **Third Panhellenic Symposium on Porous Materials**, Chemical Process Engineering Research Institute (CPERI/CERTH), Thessaloniki, Greece, November 1-2, 2007.

Scientific Activities

Reviewer for the following Journals:

- Journal of the American Chemical Society (JACS)
- Inorganic Chemistry (ACS)
- Chemistry of Materials (ACS)
- ACS Applied Materials & Interfaces
- Journal of Materials Chemistry A (RSC)
- Advances (RSC)
- Materials Horizons (RSC)
- Dalton Transactions (RSC)
- Microporous and Mesoporous Materials (Elsevier)
- Polyhedron (Elsevier)
- Journal of Solid State Chemistry (Elsevier)
- Journal of Physics and Chemistry of Solids (Elsevier)
- Journal of Coordination Chemistry (Taylor & Francis)

Scientific society memberships:

- American Chemical Society
- Materials Research Society
- Hellenic Chemical Society