

# ATHANASSIOS CHRISANTHOPOULOS



## ASSISTANT PROFESSOR

LABORATORY OF PHYSICAL CHEMISTRY, DEPARTMENT OF CHEMISTRY,  
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## EDUCATION

- 1988 Diploma: Chemistry, University of Patras, Greece.
- 1999 PhD: Chemical Engineering, University of Patras, Greece. Title: " Physicochemical investigation of the Vanadium complexes formed in molten alkali-pyrosulfate and alkali-sulfate, using Raman and UV/VIS spectroscopy".

## RESEARCH INTERESTS

**(i)** Nanoscience/nanotechnology: Synthesis of inorganic (mainly ZnO and ZnO/C hybrid) nanostructured materials and characterization using light scattering, absorbance, photoluminescence and microscopy techniques, having as a final goal to understand the nanostructure growth mechanism and to control their physicochemical/optical properties. **(ii)** Computational chemistry: Structural, vibrational properties and molecular interactions using abinitio, DFT and/or semiempirical molecular orbital theoretical methods. **(iii)** Raman scattering spectroscopy: Investigation of the structure/structural changes of inorganic materials in solid (crystalline, glassy) and liquid state. **(iv)** f-f hypersensitive transitions as a rare earth halides' structural probe.

## ACADEMIC POSITIONS HELD

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|----------------|--|
| 10/2023-today  | Assistant Professor, Department of Chemistry, University of Patras, Greece                           |
| 9/2016-10/2023 | Assistant Professor, Department of Chemistry, National and Kapodistrian University of Athens, Greece |
| 1/2014-8/2016  | Lecturer, Department of Chemistry, National and Kapodistrian University of Athens, Greece            |
| 3/2008-7/2012  | Temporary Assistant Professor, Department of Materials Science, University of Patras, Greece.        |
| 10/2005-2/2008 | Temporary Lecturer, Department of Materials Science, University of Patras.                           |
| 2/2001-2/2013  | Temporary Lecturer, Department of Chemistry, University of Patras.                                   |

## TEACHING

### UNDERGRADUATE COURSES

- Spectroscopy in Inorganic Chemistry, Department of Chemistry. 2015-2023.
- Laboratory of Spectroscopy in Inorganic Chemistry, Department of Chemistry. 2013-2023.
- Laboratory of Inorganic Chemistry III, Department of Chemistry. 2013-2023.
- Computers in Chemistry, Lab and Course, Department of Chemistry. 2014-2023.
- Chemistry, Lab and Course, Department of Physics. 2013-2023.
- Group Theory – Photochemistry. 2022-2023.
- Laboratory of Inorganic Chemistry, Department of Biology. 2013-2015.

### POSTGRADUATE COURSES

- Structure and Reactivity of Inorganic Compounds, Department of Chemistry. 2016-2018.

Physical Methods of Structure Elucidation, Department of Chemistry. 2014-2016.

## AWARDS

- Outstanding Undergraduate Student Excellence Awards
- FORTH-ICE/HT Fellowship for Ph.D. studies
- NATO fellowships for attending NATO-ASI school
- EU fellowships for short period visit and collaboration at CNRS, Orleans
- ESF (European Science Foundation) fellowship for post-doctoral research training in the area of Femtochemistry and Femtobiology (Germany).
- DAAD (Deutscher Akademischer Austauschdienst) three months fellowship for post-doctoral research training (Germany).

## RESEARCH PROJECTS

- 01.05.2022 - 30.04.2023 research project 'Industrial development of lightweight protection body armor for military and civil-commercial applications (THORAX - D)', Funding Organization: National / ESPA, Contract no.: 5066800, Partners: FORTH / ICE-HT; Univ. of Patras; ADAMANT COMPOSITES; SIAMIDIS SA; MIRTEC SA; Voyiatzis, G. (PI), Year Period: 2018-2021, Type: national.
- 01.02.2006 - 31.12.2007 research project PYTHAGORAS II. Title: 'New Bioactive glasses: Synthesis, Structure Properties and Applications'.
- 01.07.2003 - 31.12.2004 (18 months) Contract number NNE5-2001-282. Title: "An integrate approach to design high intensity discharge lighting systems".
- 01.11.2002 - 30.06.2003 (8 months). Contract number LAMDATECH ΕΠΕ. Title: "NISAN administered Tests with Network Diagnostics via a Noninvasive Sensor".
- 01.11.2001 - 31.10.2002 (12 months). Contract number EOK/EN-5. Title: "ENK5-CT2000-00115) (Flame sensors for efficient gas turbine engine cycles - FLAMESEEK".
- 01.01.2000 - 31.07.2000 (7 months). PENED (99ΕΔ44). Title: "Structural and Dynamic approach of Glass Transition phenomenon".
- 01.07.1999 - 31.12.1999 (6 months). Contract number JOE3-CT97-0045. Title: "Advanced solid Polymer Fuel Cell for operation at temperature up to 200oC".
- 01.12.1998 - 31.03.1999 (4 months). Contract number ENV4-CT98-0704. Title: "Novel remediation strategies for preservation of marble structures endangered from environmental damages".
- 01.07.1996 - 31.08.1997 (14 months). PENED/M-2, 127/3.2. Title: "Synthesis, Purification and Spectroscopic Study of molten salts".
- 01.03.1996 - 30.06.1996 (4 months). Contract number SCI-0181-C. Title: "Chemical and physical properties of molten salts related to ....".
- 01.01.1994 - 31.01.1995 and 01.01.1996 - 28.02.1996 (15 months). Contract number BRE2-CT93-0447. Title: "Molten salt catalysts for production of sulfuric acid and SO<sub>2</sub> removal from flue gas".
- 01.03.1993 - 31.12.1993 and 01.02.1995 - 31.12.1995 (21 months). Contract number EV5V-CT92-0238. Title: "The destruction of environmentally offensive waste Halocarbons using sodium metal".

## REFEREE / EDITOR / EDITORIAL BOARD IN INTERNATIONAL JOURNALS

### REFEREE

The Journal of Chemical Physics (American Institute of Physics), The Journal of Physical Chemistry (American Chemical Society), ACS Omega (American Chemical Society), Journal of Applied Physics (American Institute of Physics), Journal of Physics and Chemistry of Solids (Elsevier), Thin Solid Films (Conference volume) (Elsevier),

Electrochemical and Solid-State Letters (ESL) (The Electrochemical Society), Current Applied Physics (Elsevier), Vibrational Spectroscopy (Elsevier), Current Nanoscience (Bentham), Materials Letters (Elsevier), Physica E (Elsevier), Nanoscale Research Letters (Springer), Materials (open journal, MDPI), Molecules (open journal, MDPI), Journal of Nanostructured Polymers and Nanocomposites, Materials Science in Semiconductor Processing (Elsevier), Materials Science and Engineering B (Elsevier), Journal of Materials Science (Springer), CrystEngComm (RSC Publishing), Central European Journal of Chemistry (Springer).

#### ADDITIONAL INFORMATION

- Publications in referred Journals and special volumes: **64**
- Presentations in Conferences: **50**
- Number of Heterocitations: **1500**, h index: **21**
- BSc Thesis supervision: **35**

#### SELECTED PUBLICATIONS

1. Peculiar behavior of the ester carbonyl vibrational modes in anisotropic aliphatic and semi-aromatic polyesters, KS Andrikopoulos, A Chrissanthopoulos, AS Beobide, S.M. Iconomopoulou, H. Moschopoulou, G.A. Voyiatzis, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 269, 120710, 2022
2. Heterotrimetallic tetrathiomolybdate and tetrathiotungstate complexes of rhodium (I) and copper (I) with Rh-Mo (W)-Cu interactions, E Charalampous, N Xamonaki, A Asimakopoulos, A Kritikou, K Bethanis, A. Chrissanthopoulos, I. Choinopoulos, E. Simandiras, S. Koinis, Polyhedron 210, 115536, 2021
3. Wet-Chemistry Assembly of One-Dimensional Nanowires: Switching Characteristics of a Known Spin-Crossover Iron (II) Complex Through Raman Spectroscopy, ZG Lada, A Chrissanthopoulos, S Perlepes, KS Andrikopoulos, ...Chemical Communications, 2021
4. Complex dynamics in nanoscale phase separated supercooled liquids, S Cazzato, A Chrissanthopoulos, M Micoulaut, T Scopigno, ...Physical Review Research 2 (3), 032007, 2020
5. Optical Properties and Structure of As-Sb Chalcohalide Glasses by Raman Scattering and Density Functional Theory Calculations, GR Strbac, SR Lukic-Petrovic, DD Strbac, V Benekou, ... The Journal of Physical Chemistry B 124 (14), 2950-2960, 2020
6. A Known Iron (II) Complex in Different Nanosized Particles: Variable-Temperature Raman Study of Its Spin-Crossover Behavior, Z G Lada, K S Andrikopoulos, A Chrissanthopoulos, S P Perlepes, G A Voyiatzis, Inorganic chemistry 2019, 58(8), 5183-5195.
7. Computational study of structural, vibrational and electronic properties of the highly symmetric molecules M<sub>4</sub>S<sub>6</sub> (M= P, As, Sb, Bi), E Semidalas, A Chrissanthopoulos, Computational and Theoretical Chemistry 2019, 1149 41-48.
8. Synthesis and antiproliferative activity of two diastereomeric lignan amides serving as dimeric caffeic acid-L-DOPA hybrids, George E Magoulas, Andreas Rigopoulos, Zoi Piperigkou, Chrysostomi Gialeli, Nikos K Karamanos, Panteleimon G Takis, Anastassios N Troganis, Athanassios Chrissanthopoulos, George Maroulis, Dionissios Papaioannou, Bioorganic Chemistry 2016, 66 132-144.
9. The Reaction of Bunsen's Cacodyl Disulfide, Me<sub>2</sub>As(S)-S-AsMe<sub>2</sub>, with Iodine: Preparation and Properties of Dimethylarsinosulfenyl Iodide, Me<sub>2</sub>As-S-I, Panayiotis V. Ioannou, Dimitris G. Vachliotis, Athanassios Chrissanthopoulos, Z. Anorg. Allg. Chem. 2015, 641, (7), 1340-1346.
10. Vibrational dynamics and surface structure of amorphous materials. T. Scopigno, W. Steurer, S. N. Yannopoulos, A. Chrissanthopoulos, M. Krisch, G. Ruocco and T. Wagner, Nature Communications (2011), 2:195, Febr. 2011.
11. Synthesis and characterization of ZnO/NiO p-n heterojunctions: ZnO nanorods grown on NiO thin film by thermal evaporation. A. Chrissanthopoulos, S. Baskoutas, N. Bouropoulos, V. Dracopoulos, P. Pouloupoulos and S. N. Yannopoulos, Photonics and Nanostructures (2011), Volume 9, Issue 2, April 2011, Pages 132-139.

12. The Ho(III) as structural probe for high temperature ionic liquids: RCl<sub>3</sub> (R= rare earth), A. Chrissanthopoulos, G.N. Papatheodorou, J. Mol. Struct. 892 (2008) 93–102.
13. Novel ZnO nanostructures grown on carbon nanotubes by thermal evaporation, A. Chrissanthopoulos, S. Baskoutas, N. Bouropoulos, V. Dracopoulos, D. Tasis and S. N. Yannopoulos, Thin Solid Films, 515 (2007) 8524–8528.
14. Vapor complexation in the CsI-HoI<sub>3</sub> system up to 1300 K and the  $f \leftarrow f$  hypersensitive transition intensities of Ho(III) in different coordination geometries, G.N. Papatheodorou, A. Chrissanthopoulos, J. Mol. Struct. 832(1-3), (2007) 38-47.
15. Temperature dependence of the  $f \rightarrow f$  hypersensitive transitions of Ho<sup>3+</sup> and Nd<sup>3+</sup> in molten salt solvents and the structure of the LaCl<sub>3</sub>-KCl melts. A. Chrissanthopoulos and G.N. Papatheodorou, Journal of Molec. Struct. (2006), 782 (2-3), 130-142.
16. Structural investigation of vanadium - sodium metaphosphate glasses. Chrissanthopoulos, A.; Pouchan, C.; Papatheodorou, G. N.; Zeitschrift fuer Naturforschung, A: Physical Sciences (2001), 56 (11), 773-776.
17. Structure of Vanadium Oxosulfato Complexes in V<sub>2</sub>O<sub>5</sub>-M<sub>2</sub>S<sub>2</sub>O<sub>7</sub>-M<sub>2</sub>SO<sub>4</sub> (M = K, Cs) Melts. A High Temperature Spectroscopic Study. Boghosian, Soghomon; Chrissanthopoulos, Athanassios; Fehrmann, Rasmus. Journal of Physical Chemistry B (2002), 106 (1), 49-56.
18. Probing the structure of GdCl<sub>3</sub>-KCl melt mixtures by electronic absorption spectroscopy of the hypersensitive  $f \leftarrow f$  transitions of Ho<sup>3+</sup> and by Raman spectroscopy. Chrissanthopoulos, A.; Papatheodorou, G.N.; Physical Chemistry Chemical Physics (2000), 2(16), 3709-3714.
19. Frequency-dependence of the polarizability anisotropy of CO<sub>2</sub> revisited. Chrissanthopoulos, A.; Hohm, U.; Wachsmuth, U.; Journal of Molecular Structure (2000), 526, 323-328.