

CURRICULUM VITAE

George A. Voyiatzis

Rio-Patras, January 20, 2025



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Research Director / Researcher A'

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 Institute of Chemical Engineering Sciences (ICE-HT)
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Marital status: Married,¹ three children;² Date of Birth: November 17, 1958; Place of Birth: **Thessaloniki**; Native: **Epanomi, Greece**

14, Anthemiou Str.
 GR – 264 42 **Patras**
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EDUCATION

University of Patras, Patras, Greece (1986 - 1992)

Ph. D., April 1992 (Department of Chemical Engineering)

Thesis Title: “Spectroscopic Investigation of Metal – Metal Halide Molten Mixtures”

Advisor: Professor George N. Papatheodorou

Université Paris VII, Paris, France [actually Université Paris Diderot / Paris 7] (1978 - 1983)

Diplôme, Maîtrise de Chimie/Physique, Février 1983

Option: Instrumentation Mention: Chimie Organique Physique

Diplôme, Licence de Chimie/Physique, Juin 1982

Diplôme d’Etudes Universitaires Générales (D.E.U.G), Juin 1981

Mention: Science, Section: Sciences des Structures et de la Matière; Orientation: Chimie

Université Paris VI (Pierre et Marie Curie), Paris, France (1983)

Certificat, Juin 1983 (Module de la Chimie Macromoléculaire Appliquée)

RESEARCH INTERESTS

Risk Assessment

- Migration Control of Nano-Structured Materials Incorporated Biopolymer Packaging
- Quantification of the Release of Food Packaging Components into relevant Simulants

Circular Economy

- Circular Economy through combination of High-Sensitivity Analytical Research Tools
- Assessment of the feasibility of Recycling Strategies or Wastes Valorization via Specialty Spectroscopic Probes

Specialty Spectroscopic Probes

- Development of Flexible Spectro-Probes & Innovative On-Line Monitoring Methods
- Non-Invasive Detection of Drugs in the Aqueous Humor of the Eye
- Application of an Oscillating Cell and 90° Raman Scattered Light Collection Geometry in Ag/Au Nanocolloidal Solutions for Quantitative SERS Measurements
- Quantification of DNA bases and of drugs in corporal fluids

Advanced Modified Polymers

- Food packaging materials – T-indicators/sensors via spin-cross-over (SCO) phenomenon
- Spectroscopic & Electrochemical study of the Acid/Base Doping Ability of High-T Polymer Electrolyte Membranes – pH sensors for aerosols
- Anti-microbial Polymeric Materials with Controlled Release Characteristics
- Dispersion of Carbon Nanotubes and Nanoparticles in Polymer Matrixes
- Infiltration/Embedment of CNTs in Porous Polymer Membranes
- Protective textiles - Assessment of stabbing & shooting impact on the materials at the molecular level

¹ with Iphigenia Spa (Teacher of Classical Philosophy in the 21st High School of Patras)

² Chryssoula/Silia (Physician – Pathologist & Intensivist in AMEOS Klinikum St. Elisabeth Neuburg - Graduate of the School of Medicine of the Univ. of Patras 2013);
 Maria-Michailia (Physician - Radiologist in Agios Dimitrios Hospital Thessaloniki - Graduate of the School of Medicine of the Aristotle University of Thessaloniki 2018,);
 Archelaos (graduate of the School of Electrical - Computer Engineering of the AUT, Thessaloniki & Trainee Sports Journalist at IEK OMHPOΣ & Yellow Radio, Thessaloniki)

PROFESSIONAL EXPERIENCE

Research Director, FORTH/ICE-HT, Patras, Greece	(January 2011 – Today)
Member/Chair Scientific Council of FORTH/ICE-HT	(July/May 2022/23 – Today)
Member/Chair³ of the Scientific Council of FORTH/ICE-HT	(July/August 2016 – July 2022)
Member³ of the Scientific Council of FORTH/ICE-HT	(February 2014 – June 2016)
Member³ of the Scientific Council of FORTH/ICE-HT	(February 2011 – December 2013)
Member³ of the Scientific Council of FORTH/ICE-HT	(January 2008 – January 2011)
Member³ of the Scientific Council of FORTH/ICE-HT	(March 2004 – December 2007)
Member³ of the Scientific Council of FORTH/ICE-HT	(December 2001 – February 2004)
Principal Researcher, FORTH/ICE-HT, Patras, Greece	(February 2000 – December 2010)
Adjunct Professor, Interdepartmental Operational Program for Education & Initial Vocational Training on Polymer Science & Technology of the University of Patras / Chemistry Dept U-Patras	(Sept 1999 / 2010 – 2018)
Member of the Administrative Council of the Association of Greek Researchers	(December 1998 – December 2000)
Associate Researcher, FORTH/ICE-HT, Patras, Greece	(February 1997 – January 2000)
Assistant Researcher, FORTH/ICE-HT, Patras, Greece	(February 1995 – January 1997)
Educational & Research Scientist, Department of Chemical Engineering, University of Patras & FORTH/ICE-HT, Patras, Greece	(April 1992 – January 1995)
Guest Scientist, Institut für Physikalische Chemie und Elektrochemie, University of Karlsruhe, Germany <i>Installation and operation of a Raman spectrometer for high temperature spectroelectrochemical studies. In situ Raman measurements during electrolysis of refractory metal halide melts for electroplating.</i>	(January – March 1992), (August & September 1995), (July 1996)
Teaching Assistant, Department of Chemical Engineering, University of Patras, Patras, Greece <i>Assisted in instruction of the undergraduate courses: “Lab of Instrumental Chemical Analysis” “Lab of Physical/Chemistry and Materials II”, “Technology of Polymers and Organic Materials I” and “Techn. of Polymers and Organic Materials II”</i>	(March 1986 – June 1991)
Military Service, Sergeant in the Corps of Provision and Transport & Tommy gun fighter in the Greek Army, Sparta - New Chalkidona, Greece	(April 1984 – January 1986)
Research Assistant, Laboratoire de Chimie de l’Ecole Normale Supérieure, Paris, France <i>Comparison of some methods to improve the problem of detecting weak proton magnetic resonances (i.e. of proteins) in the presence of nearby strong peaks (i.e. of water) and increase the dynamic range in Fourier Transform ¹H NMR</i>	(March - June 1983)

PROFESSIONAL AFFILIATIONS

Controlled Release Society (CRS) 2006, 2008; American Chemical Society (ACS) 1994-2004, CLINAM 2008-09, ESNAM 2009, Hellenic Polymer Society / Hellenic Optical Society / Association of Greek Chemists / Association of Greek Researchers

RESEARCH TEAM 2025

Laboratory of Applied Molecular Spectroscopy (LAMS) – Physical Chemistry & Materials

Dr. Konstantinos Andrikopoulos ⁴	Assoc. Prof.,	Physicist	(AUTH
Dr. Amaia Soto Beobide	Post Doc,	Physical Chemist	(U-Basque Country)
Dr. George Mathioudakis	Post Doc,	Material Scientist	(U-Patras)
Dr. Zoi Lada ⁵	Assist. Prof,	Chemist	(U-Patras)
Msc. Konstantinos Papapetros	PhD Student	Physicist	(U-Patras)
Msc. Panagiotis Tsaousis	PhD Student	Physicist	(U-Patras)
Msc. Eyaggelia Mitropoulou	PhD Student	Chemist	(U-Patras)
Msc. George Theodoropoulos	Msc Student	Environmental Engineer	(U-Patras)
Mr. George Kalntiris	Msc Student	Environmental Engineer	(U-Patras)

³ Elected

⁴ Associate Professor to the Physics Department of the University of Patras

⁵ Assistant Professor to the Chemistry Department of the University of Patras

RESEARCH EXPERIENCE - OVERVIEW

Publications in Refereed Journals: 116

Publications in Book Chapters: 1

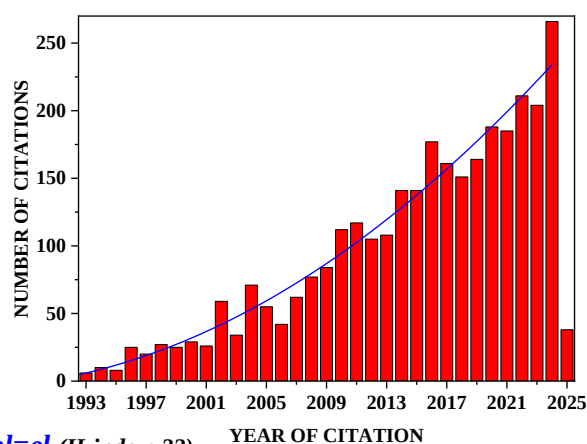
Journal Publications of Refereed Conference Proceedings: 2

Publications in Refereed & Cited Conference Proceedings: 10

Citations⁶: 3135 (Self citations 180)

H-index: 30 (i10-index: 82)

<https://scholar.google.gr/citations?user=6knuYLqAAAAJ&hl=el> (H-index: 32)



Editorial Board Member of Molecules: <https://www.mdpi.com/journal/molecules/editors>

Topic Editor of Nanomaterials (12/2019-8/2021), now as Topical Advisory Panel

Regional Editor: Recent Patents on Drug Delivery & Formulation⁷ (2010-2017)

Editorial Advisory Board Member: Recent Patents on Drug Delivery & Formulation⁵ (2006-2010)

Reviewer for 77 # International Journals⁽⁸⁾ [x141]:

¹Chemical Society Reviews^(34,09); ²Advanced Materials^(18,96); ³Chem Eng J^(10,...); ⁴Biomaterials^(8,387); ⁵Advances in Colloid and Interface Science^(8,243); ⁶Chemosphere^(8,1); ⁷Nanoscale^(7,76); ⁸Int. J. Biol. Macromol^(7,7); ⁹ChemSusChem^(7,116); ¹⁰Journal of Materials Chemistry^(6,626); ¹¹Journal of Materials Chemistry A^(8,262); ¹²Carbon^(6,198); ¹³Journal of Membrane Science^(6,035); ¹⁴Acta Biomaterialia^(6,008); ¹⁵Arabian Journal of Chemistry^(6,000); ¹⁶Environmental Science: Nano^(5,896); ¹⁷Journal of Materials Chemistry C^(5,026); ¹⁸Scientific Reports^(4,966); ¹⁹Journal of Materials Chemistry B^(4,872); ²⁰Journal of Hazardous Materials^(4,836); ²¹ACS ES&T Water^(4,8); ²²Journal of Materials Science^(4,682); ²³Macromolecular Rapid Communications^(4,638); ²⁴Physical Chemistry Chemical Physics^(4,449); ²⁵J Phys Chem C^(4,309); ²⁶Diamond and Related Materials^(4,100); ²⁷Spectrochim. Acta A Mol. Biomol. Spectrosc^(4,098); ²⁸Nanomaterials^(4,034); ²⁹Soft Matter^(3,798); ³⁰Heliyon^(3,776); ³¹Macromolecular Bioscience^(3,680); ³²International Journal of Pharmaceutics^(3,994); ³³Polymer^(3,586); ³⁴European Polymer Journal^(3,485); ³⁵Current Medicinal Chemistry^(3,455); ³⁶Process Safety and Environmental Protection^(3,441); ³⁷Polymers^(3,426); ³⁸Separations^(3,344); ³⁹Coatings^(3,236); ⁴⁰Thermochimica Acta^(3,378); ⁴¹Journal of Polymer Science Part B: Polymer Physics^(3,318); ⁴²RSC Advances^(3,289); ⁴³Optics & Laser Technology^(3,233); ⁴⁴Molecules^(3,060); ⁴⁵Macromolecular Materials and Engineering^(2,860); ⁴⁶J Raman Spectrosc^(2,809); ⁴⁷Materials Science in Semiconductor Processing^(2,772); ⁴⁸Membranes^(2,690); ⁴⁹Separations⁽²⁵⁾; ⁵⁰Journal of Pharmacy and Pharmacology^(2,363); ⁵¹Journal of Solid State Chemistry^(2,265); ⁵²Journal of Applied Electrochemistry^(2,223); ⁵³Journal of Applied Microbiology^(2,156); ⁵⁴Energies^(2,077); ⁵⁵Processes^(1,963); ⁵⁶Applied Spectroscopy^(1,798); ⁵⁷European Physical Journal E^(1,625); ⁵⁸Journal of Molecular Structure^(1,780); ⁵⁹European Physical Journal B^(1,223); ⁶⁰Physica Status Solidi-b^(1,522); ⁶¹Journal of Applied Polymer Science^(1,866); ⁶²Nanomaterials and Nanotechnology^(1,109); ⁶³Journal of Analytical Methods in Chemistry^(1,369); ⁶⁴Recent Patents on Drug Delivery & Formulation^(1,13); ⁶⁵Materials Research Express^(0,968); ⁶⁶Journal of Materials Science and Chemical Engineering^(0,89); ⁶⁷Advanced Composites Letters^(0,422); ⁶⁸Macromolecular Symposia^(0,912); ⁶⁹Ber Bunsenges Phys. Chem.^(1,531); ⁷⁰J Nanostructured Polym Nanocomposites^(0,33); ⁷¹Graphene Technology⁽³⁾; ⁷²ACS Applied Nanomaterials; ⁷³Environmental Advances; ⁷⁴Journal of Composites Science; ⁷⁵Physchem

Adjudicative Reviewer for 3 # International Journals⁽⁷⁾ [X4]: ¹Journal of Materials Chemistry^(6,101); ²Journal of Materials Chemistry B^(4,872); ³Journal of Pharmaceutical and Biomedical Analysis^(3,169);

Editor - decision: ¹Molecules^(4,2)

Expert for Funding Organization: Greek General Secretariat for Research and Technology

Evaluator for Funding Organization: NSF; AIAS-COFUND Marie Curie fellowships 2014-2019 & 2021; Shota Rustaveli National Science Foundation (SRNSF) Scientific proposals; EU Horizon-2020 (X2); General Secretariat for Research and Technology; GR State Scholarships Foundation (IKY)

Spin-off companies:

Founding scientist of the spin-off company ADVENT TECHNOLOGIES S.A. (February 2005) – Advent Technologies made its debut and start trading on the Nasdaq Exchange (NASDAQ: [ADN](#)), on February 5, 2021 after its SPAC merger with AMCI Acquisition.

Patents: 3 Greek granted; 1 European withdrawn; 2 pending Greek; 1US provisional

External funding of Research Activities of LAMS: ~ 6,000,000.00 €

⁶ Sources: Web of Science, Scopus, Google Scholar

⁷ Journal of Bentham Science Publishers; RPDDF publishes review articles by experts on recent patents on drug delivery and formulation.

⁽⁸⁾ 2018 or latest impact factor

EDUCATIONAL EXPERIENCE - OVERVIEW

Supervision of PhDs, MScs & Diploma works (explicitly described below & in next pages)

Supervision	Defended	On going
PhDs	13	3
MScs	19	2
Diploma Works	14*	1

* 18 students

Participation in more than 40 3^{membered} consulting committees of post-graduated students

Teaching - Courses Taught

Undergraduate

[1992-1995]: (1) Physicochemical Properties of Materials, (2) Analytical Chemistry [with G. Staikos], (3) Lab. of Analytical Chemistry [with G. Staikos] Department of Chemical Engineering, University of Patras

Graduate

[1999-2013]: (1) **Polymers and Environment**

Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology of the University of Patras

[1999-today]: (2) **Characterization of Polymers** [Coordination; Co-teaching]

Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology of the University of Patras.

[2010-15-today]: (3) **Vibrational spectroscopic techniques**

Within "Analytical Chemistry & Nanotechnology", "Synthetic Chemistry", "Medical Chemistry and Chemical Biology", Chemistry Department, University of Patras

[2019-today]: (4) **Materials Characterization Techniques AND Technological Applications of Functional Materials**

Within "Materials Chemistry and Technology with Applications to Industry, Energy and the Environment", Chemistry Department, University of Patras

PhD Supervision

Doctoral Dissertations Completed/Defended

(Date of defence)

1. **Konstantinos Andrikopoulos**, Department of Chemical Engineering, University of Patras (05-02-2001)

Title: Vibrational spectroscopic studies of the molecular orientation of polymer samples with the perspective of the development of an on line process control during plastic pipes extrusion

2. **Amaia Soto Beobide**, Department of Chemical Engineering, University of Patras (24-04-2002)

Title: Molecular orientation study of poly(ethylene nahthalate) / poly(ethylene terephthalate) (PEN/PET) copolymers utilizing polarized Raman spectra and specular reflection infrared dichroism

3. **Sophia Iconomopoulou**, Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (07-03-2005)

Title: Study of the release of antimicrobial agents from polymeric matrixes

4. **Theoharia Sideroudi**, Department of Chemical Engineering, University of Patras (11-12-2006)

Title: Spectroscopic study of ocular diseases and medicines detection

5. **Nikolaos Chourdakis** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (07-05-2010)

Title: Study of modified polymeric membranes for proton conducting fuel cell & gas separation applications

6. **Anastasios Manikas** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (16-02-2011)

Title: Development of a new Surface Enhanced Raman Scattering (SERS) technique for quantitative measurements of active agents at very low concentration range

7. **Helen Moshopoulou**, Department of Chemical Engineering, University of Patras (09-02-2015)

Title: Differentiation of micro/nanoporous structure of polyolefins for the development of breathable non-woven nosocomial products

8. **Ioannis Anastasopoulos**, Department of Chemical Engineering, University of Patras (09-03-2015)

Title: Development of carbon nanotube membranes for waste water treatment and surface enhanced Raman scattering study of the membrane efficiency and eventual contamination caused.

- 9. Argyrios Nochos,** Department of Pharmacy, University of Patras (22-06-2015)
Title: Encapsulation of active agents in biocompatible polymers & their release study
- 10. George Mathioudakis** Department of Chemistry, University of Patras (08-04-2019)
Title: Characterization of Novel Polymeric Materials with potential controlled biostatic activity
- 11. Sonia Andrikaki** Department of Materials Science, University of Patras (10-05-2019)
Title: Spectroscopic monitoring of eventual release of (nano)materials from biopolymeric packaging matrixes into food simulants
- 12. Zoi Lada** Department of Chemistry, University of Patras (14-05-2019)
Title: Development and study of materials with "smart" properties for their potential use in food packaging
- 13. Glykeria Visvini** Department of Physics, University of Patras (20-5-2024)
Title: Development, characterization and monitoring of the functional behaviour of polymeric composites based on carbon based nanomaterials

Doctoral Dissertations in Progress

1. Konstantinos Papapetros Department of Chemical Engineering, University of Patras
Title: Molecular characterization and study of the anisotropy of nanocellulose composites
2. Panagiotis Tsaousis Department of Chemistry, University of Patras
Title: Cross-linking of poly(hydroxy acids) in cellulose-based structures and study – optimization of physicochemical properties in the perspective of their use in green packaging
3. Evangelia Mitropoulou Department of Chemistry, University of Patras
Title: Development support and thorough testing of materials for fire protection of household/hotel equipment products

MSc Supervision

Master Dissertations Completed/Defended

- 1. Leoni Velli,** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (24-7-2001)
Title: Molecular orientation study of drawn polymer blends of a commercial & a biodegradable polymer utilizing *in situ* polarized Raman spectra
- 2. Sophia Iconomopoulou,** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (28-7-2002)
Title: Molecular orientation study of PBT/PC polymer blends utilizing vibrational spectroscopy
- 3. Stamatina Roma,** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (23-3-2004)
Title: Spectroscopic and Electrochemical study of proton conduction in high temperature Polymer Electrolyte Membranes
- 4. Nikolaos Chourdakis,** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (23-3-2004)
Title: The effect of the molecular orientation on Polymer Electrolyte Membranes
- 5. Anastasios Manikas,** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (9-3-2006)
Title: Comparative study of analytical and approximated methods in the evaluation by polarized Raman spectra of the molecular orientation of uniaxially drawn polymers
- 6. Dimitra Peristeraki,** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (9-11-2006)
Title: Spectroscopic and Electrochemical investigation of the ability of PBI based Proton Electrolyte Membranes to be doped by an amphoteric agent
- 7. Argyrios Nochos,** Department of Pharmacy, University of Patras (22-10-2008)
Title: Investigation of the migration and the release of antimicrobial substances from polymer fibres utilized in multifunctional textiles
- 8. Efrosini Vogli,** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (4-3-2009)
Title: Spectroscopic investigation of the protonation step in the doping procedure of high-temperature polymer electrolyte membranes
- 9. Helen Moshopoulou,** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (17-3-2011)
Title: Investigation of polymer mixtures of aliphatic and aromatic polyesters
- 10. John Anastasopoulos,** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (17-3-2011)
Title: Use of SERS to the controlled release studies of small molecular weight substances from polymer matrixes
- 11. Dimitra Slavounaki,** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (19-11-2012)
Title: Embedment of Carbon nanotubes in porous polymer membranes
- 12. Sonia Andrikaki,** Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (15-7-2013)

Title: Spectroscopic monitoring of the release of nanomaterials incorporated into biopolymers

13. Maria Xirou Department of Chemistry, University of Patras (15-12-2017)

Title: Development of chemically assisted SERS method for the identification and quantitative analysis of chemical compounds at low concentrations

14. Dimitris Kyriakopoulos Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology – Department of Physics, University of Patras (11-7-2018)

Title: Development and study of thermoplastic composite materials

15. Konstantinos Papapetros Department of Chemical Engineering, University of Patras (8-9-2021)

Title: Characterization of yarns/fabrics and surface modification for one-stage dyeing; assessment of the environmental impact of process

16. Vassiliki Alexiou Department of Physics, University of Patras (22-9-2021)

Title: Study of protective textiles based on carbon nanotubes composites

17. Panagiotis Tsaousis Interdepartmental PG Program, Science&Technology of Polymeric & Composite Materials, U-Patras

Title: Study of the recovery and structure of poly(hydroxyl alcanoic) esters (PHAS) as well as the release of molecular species and/or oligomers in their applications in food packaging. (30-6-2022)

18. Stelios Roufas Interdepartmental PG Program, Science&Technology of Polymeric & Composite Materials, U-Patras

Title: Study and characterization of the properties of high strength polymer materials (27-8-2024)

19. Georgios Theodoropoulos Interdepartmental PG Program, Science&Technology of Polymeric & Composite Materials, U-Patras

Title: Modification of electrolytic polymers for use as aerosol pH sensors (17-1-2025)

Visiting Students

The Doctors of Science, PhD as well undergraduate students shown below spent at least 1 month in LAMS either performing measurements in the context of project/ or preparing a significant part of their PhD or diploma work.

Dr. Michael Bachtler, Ph.D. 1993, University of Karlsruhe, Germany

“Elektrochemische und simultane spektroskopische untersuchungen des mechanismus der Tantal-und Niobabscheidung in Alkalihalogenidschmelzen”

Dr. Christian Rosenkilde, Ph.D. 1994, Norwegian Institute of Technology, Trondheim, Norway

“Niobium and Tantalum chlorides and oxochlorides in alkali chloride melts. Spectroscopic and electrochemical Studies”

Dr. Oluf Bøckman, Ph.D. 1999, NTNU University of Trondheim, Norway

“Cobalt cementation in Zinc electrowinning”

Dr. Sandrine Lenoir, Ph. D. 2003, CERM University of Liege, Belgium

“Spectroscopic examination of the incorporation of active groups in immobilized type antimicrobial polymers”

Dr. Lars Nilausen Cleemann, Ph. D. 2005, Department of Chemistry, Danish Technical University, Lyngby, Denmark

“Spectroscopic investigation of the ability of PBI-based polymer electrolyte membranes to be doped with phosphoric acid”

Ms Audrey Guion, Student-Engineer in 2nd year at ENSI CAEN – France, Major in Energy – Structural Materials

“CNT characterization with Raman – Incorporation of CNTs in polymer matrixes” [April-August 2010]

Ms Dimitra Papoutsoglou, M.Sc.-Thesis 2013, Fellow of Erasmus Mundus Master in Membrane Engineering (EM3E)

“Membrane Filtration for wastewater treatment applications” Univ. Montpellier II –Univ. Zaragoza [March-April 2013]

Diploma Theses Supervision

Undergraduate Diploma Theses, Dept. Chem. Engineering, University of Patras

Marianthi Stamouli & Andreas Martis (PhD involved: Amaia Soto) Presented 14-07-1998

“Spectroscopic investigation of stretched polymer blends”

Christina Vei & Vasiliki Ladika (PhD involved: Kostas Andrikopoulos) Presented 06-10-1999

“Molecular orientation relaxation study of partially degraded PVC drawn film using polarized Raman spectra and birefringence measurement”

Vasilis Papaioannou (PhD involved: Amaia Soto Beobide) Presented 09-07-2002

“Molecular orientation study of the amorphous polystyrene and the semi-crystalline polyethylene with polarized Raman spectra”

Efrosini Vogli (PhD involved: Sophia Iconomopoulou)

“Polarized Raman spectra in the molecular orientation study of the bisphenol A polycarbonate” Presented 08-07-2003

Dimitris Antonopoulos & Dimitris Antonatos (PhD involved: Nikolaos Chourdakis)

“Molecular orientation study of polymer electrolyte membranes” Presented 09-10-2003

Chrisostomos Petrou (PhD involved: Sophia Iconomopoulou)

“The release of antimicrobial substances from stretched polypropylene specimens” Presented 13-10-2004

Aristidis Fountas (PhD involved: Amaia Soto Beobide) Presented 12-07-2005

“MWNT incorporation in polymer matrixes by a modified film casting method – Molecular orientation estimation of relevant uniaxially drawn specimens”

Eldi Litsios (PhD involved: Anastasios Manikas) Presented 12-10-2005

“Study of different methods in the estimation of the molecular orientation of uniaxially drawn polymers by polarized Raman spectra”

Ioanna Rassia & Evangellos Alexis (PhD & Post doc involved: D. Peristeraki & A. Soto) Presented 12-10-2005

“Electrochemical and spectroscopic study of polymer electrolyte membranes”

Alexandros Mitropoulos (PhD involved: Dimitra Peristeraki) Presented 19-07-2006

“Investigation of the ability of PBI based PEMs to be doped with phosphoric acid”

Dimitrios Gouliaditis (PhD & Post doc involved: A. Manikas & A. Soto)

“Spectroscopic study of chemical substances in SERS substrates” Presented 18-07-2007

Anastasios Tyrovolas (PhD involved: Theoharia Sideroudi) Presented 18-07-2007

“Non-invasive Raman spectroscopic method of medicines in the aqueous humor of the eye”

Anastasios Smirlis (PhD involved: N. Zoitos) Presented 03-12-2008

“Release of antimicrobial substances from drawn polymer matrixes: the effect of the molecular orientation”

Georgia Manika (PhD involved: Argyrios Nochos) Presented 03-03-2011

“Release study of active agents from biodegradable polymers”

RESEARCH & DEVELOPMENT PROJECTS

Coordinator / Authorized Contact Person / Project Leader:

1. “Next generation AEROSol sampling technology with embedded SERS sensing capabilities (AERO-SERS)”
Theodore Papazoglou” FORTH Synergy Grants, Project Acronym: **AEROSERS** (ranked 1st)
FORTH/ICE-HT Budget: 45 k€ Total Budget: 80 k€ (Sep 1, 2023 – Aug 31 2025)
Partners: ICE-HT & IESL
FORTH Researchers: **G. Voyiatzis** (Authorized contact person), E. Pavlopoulou, A. Nenes
2. “Flame retardant polymer composites for advanced mattress ticking fabric development”
Eurostars 3 - Call 3, **2,314 FRpoly.com** Code GR: GGINN-0560047
FORTH/ICE-HT Budget: 62 k€ Total Budget: 210 k€ EC (Apr 1, 2023 – Sept 30 2025) & GR (Jan 1, 2025-June 30, 2027)
Partners: D. SOURIS&co SA (GR), KÜÇÜKLER TEKSTİL (TR), POLYTEKS TEKSTİL (TR)
ICE/HT Researchers: **G. Voyiatzis** (Authorized contact person), J. Kallitsis, Th. Ioannidis
3. “Strategies for health protection, pollution Control and Elimination of Next generAtion RefractIve Organic chemicals from the Soil, vadose zone and water”
Grant Agreement No: **101037509**, Project Acronym: **SCENARIOS**, Total score: **15/15**
Call: Building a low-carbon, climate resilient future: European Green Deal H2020-2020, LC-GD-8-1-2020
FORTH/ICE-HT Budget: 929 k€ Total Budget: 11985 k€ (Nov 1, 2021 – Oct. 31 2025)
Partners: UPO (IT), UNILE (IT), COMET (ES), BGU (IL), UCLM (ES), BFR (DE), SENSOIL (IL), LOMARTOV (ES), LIST (LU), NTUA (EL), NovaM (CY), TAU (FI), UoB (GB), ENVYTECH (SE), AOAL (IT), GEO (DM), IDP (ES), POLOGGB (IT).
ICE/HT Researchers: **G. Voyiatzis** (Authorized contact person), Chr. Tsakiroglou, Chr. Aggelopoulos
4. “High Performance Industrial Materials based on Nanocellulose”
Proposal Ref No.: **T2EAK-01394**/ Project Acronym: **HIPERION**
Implemented under the “Action for the Strategic Development on the Research and Technological Sector”, funded by the Operational Programme “Competitiveness, Entrepreneurship and Innovation - II” (NSRF 2014-2020) and co-financed by Greece and the European Union (European Regional Development Fund).
FORTH/ICE-HT Budget: 185 k€ Total Budget: 997 k€ (July 29, 2021 – Nov. 28 2023)
Partners: CERTH/CPERI, AUA, UTH/AGR, CHIMAR HELLAS SA, API EUROPE/AMERICAN PROCESS
ICE/HT Researchers: **G. Voyiatzis** (Authorized contact person), V. Drakopoulos
5. “Development and scaled Implementation of sAfe by design tools and Guidelines for multicOmponent aNd hArn nanomaterials”
Grant Agreement No: **953152**, Project Acronym: **DIAGONAL**, Call: Safe by design, from science to regulation: multi-component nanomaterials (RIA), H2020-NMBP-TO-IND-2018-2020, NMBP-16-2020
FORTH/ICE-HT Budget: 321 k€ Total Budget: 6265 k€ (May 1, 2021 – Oct 31, 2024)
Partners: UNIVERSIDAD DE BURGOS (Coord), CNRS, WAGENINGEN UNIVERSITY, NOVAMECHANICS, QSAR, LIST, IZES, Phornano, IRIS, MONOLITHOS, CREATIVE NANO, OCSiAl etc.
ICE/HT Researchers: **G. Voyiatzis** (Authorized contact person), V. Drakopoulos, M. Klapa, N. Karamanos
6. “Industrial development of lightweight protection body armor for military and civil-commercial applications”
Proposal Ref No.: **T6YBII-00014**/ MIS: 5066800, Project Acronym: **THORAX-D**
Implemented under the “Action for the Strategic Development on the Research and Technological Sector”, funded by the Operational Programme «Specific Action 'Industrial Materials' ” (NSRF 2014-2020) and co-financed by Greece and the European Union (European Regional Development Fund).
FORTH/ICE-HT Budget: 115 k€ Total Budget: 600 k€ (May 26, 2020 – November 25, 2023)
Partners: Univ-PATRAS, ADAMANT COMPOSITES Ltd, MIRTEC SA, MOD-GR, SIAMIDIS SA.
ICE/HT Researchers: **G. Voyiatzis** (Coordinator)
7. “Development of nano carbon embedded breathable polyolefin films for industrial/construction roofing membranes”
Proposal Ref No.: **T6YBP-00337**/ Proposal Acronym: **ROOF-BREATH**
Implemented under the “Action for the Strategic Development on the Research and Technological Sector”, funded by the Operational Programme «Specific Action 'Industrial Materials' ” (NSRF 2014-2020) and co-financed by Greece and the European Union (European Regional Development Fund).
FORTH/ICE-HT Budget: 190 k€ Total Budget: 590 k€ (June 18, 2019 – June 17, 2023)
Partners: THRACE PLASTICS SA (Coordinator); PLASTIKA KRITIS SA
ICE/HT Researchers: **G. Voyiatzis** (Scientific Coordinator), Th. Ioannides, J. Kallitsis, S. Pandis, N. Karamanos
8. “Protective Textiles based on Carbon Nanotube Composites”
Proposal Ref No.: **DE3DE-0146** / Proposal Acronym: **PROTECT**
ERANET INCOMERA 3rd Transnational Call 2017 NMP Thematic

FORTH/ICE-HT Budget: 147 k€ Total Budget: 620 k€ (1 Oct., 2018 – 31 May, 2021)

Partners: Nafpaktos Textiles SA (GR); ZM Makina Tekstil (TR); Internet tekstil (TR);

Subcontractors: SOURIS SA (GR), CETI (FR); AITEX (ES); Univ. of Gaziamtep (TR);

ICE/HT Researchers: **G. Voyiatzis** (Coordinator), V. Drakopoulos, G. Fouskas

9. “Development of Surface Coating Processes in Cotton Yarns / Fabrics for Single Stage Dyeing with Reduced Environmental Impact”

Proposal Ref No.: **T1EDK-03073** / Proposal Acronym: **ChromaSurf**

Implemented under the “Action for the Strategic Development on the Research and Technological Sector”, funded by the Operational Programme “Competitiveness, Entrepreneurship and Innovation - I” (NSRF 2014-2020) and co-financed by Greece and the European Union (European Regional Development Fund).

FORTH/ICE-HT Budget: 195 k€ Total Budget: 803 k€ (July 9, 2018 – January 8, 2023)

Partners: COLORA SA, SOULIS-KUEHNIS AG; MHK ELVIFA; MIRTEC SA; UNIV. PATRAS

ICE/HT Researchers: **G. Voyiatzis** (Coordinator), V. Drakopoulos

10. “Lightweight, flexible and smart protective clothing for law enforcement personnel”

Funded by CEU, FP7-SEC- 2013.1.4-1: Smart and protective clothing for law enforcement and first responders – Capability Project. Proposal Ref No.: **607295** / Proposal Acronym: **SMARTPRO**

FORTH/ICE-HT Budget: 626 k€ Total Budget: 3.837 k€ (April 1, 2014 – September 30, 2017)

Partners: EBETAM AE (Coord) (GR), LEITAT (ES), NTT (IT), SIAMIDIS (GR), RWTH (DE), BCB International Lt (UK), SOILANI EMC (IT), CIMA (ES), INT (ES),

ICE/HT Researchers: **G. Voyiatzis** (Authorized contact person), S. Yannopoulos, J. Kallitsis, T. Ioannides V. Drakopoulos + G. Petekidis (FORTH/IESL) + V. Deimede (U-P)

11. “Intelligent Protective Textiles for high risk professions”

Funded by Western GR-region & CEU. FP-7 LeadEra 2013Lead Markets European Research Area Network

Project Code: **2013-006**. OPS: **465433**. Proposal Acronym: **INPROTEX**

FORTH/ICE-HT Budget: 141 k€ Total Budget: 304 k€ (February 1, 2014 – July 31, 2015)

Partners: FORTH/ICE-HT (Coord) (GR), KORDSA (TR), KALOGERAKIS SA - ELVIFA (GR)

ICE/HT Researchers: **G. Voyiatzis** (Coordinator)

12. “Flame-retardant coatings based on nano-magnesium hydroxide, huntite and hydromagnesite for wood applications”

Funded by CEU, FP7 -SME-2013, Research for the benefit of specific groups Project type: BSG-SME Proposal

Reference No.: **315425** / Proposal Acronym: **WOOD-FLARETCOAT**

FORTH/ICE-HT Budget: 219 k€ as subcontractor Total Budget: 1.447 k€ (January 1, 2014 – Dec 31, 2015)

Partners: L'urederra (Coord) (ES), Humichem (ES), Ingarp (SE), IGP (DE), Loufakis (GR), Eurochem (IR), Adigest (ES), IPF (DE), SP Träteck (SE).

ICE/HT Researchers: **G. Voyiatzis** (In charge of scientific aspects of subcontracting), J. Kallitsis, T. Ioannides, V. Drakopoulos

13. “Extended shelf-life biopolymers for sustainable and multifunctional food packaging solutions”

Funded by CEU, FP7-NMP-2011 Large scale integrating collaborative project 5

NMP-2011.1.1-1 Smart and multifunctional packaging concepts using nanotechnology

Project Reference No.: **280759-2** / Proposal Acronym: **NanoBarrier**

FORTH/ICE-HT Budget: 1.138 k€ Total Budget: 9.941 k€ (March 1, 2012 – February 29, 2016)

Partners: SINTEF (NO), MPI (DE), UM (SLO), UAV (PT), ITE (ES), INN (SE), LOG (PT), ARG (GR), GRA (FR), PLA (DE), PRA (PT), ELA (FI), BOR (NO), SCA (SE)

ICE/HT Researchers: **G. Voyiatzis** (Person in charge of scientific and technical/technological aspects), J. Kallitsis, V. Burganos, S. Yannopoulos, T. Ioannides, N. Karamanos + G. Bokias (U-P)

14. “Achieving scalable tinctorial capacity on cotton yarns and fabrics”

Funded by GSRT, SMS R&D support group 2nd cycle, Added Value Products & Production Technologies in Traditional Greek Sectors

Project No.: **261** / Proposal Acronym: **KLIMAX** (SCALE)

FORTH/ICE-HT Budget: 90 k€ as subcontractor Total Budget: 348 k€ (July, 2012 – June 20, 2015)

Partners: COLORA SA, SOULIS-KUEHNIS AG; collaboration VASSARAS SA & CLOTHEFI SA

ICE/HT Researchers: **G. Voyiatzis** (Person in charge of scientific aspects of subcontracting), J. Kallitsis, V. Drakopoulos + G. Bokias (U-P)

15. “Development of advanced multifunctional non-woven products”

Funded by GSRT, **SYNERGASIA** program, New Applications of Textiles

Proposal No: 1156 / Proposal Acronym: **ANAPNOH** (BREATH)

FORTH/ICE-HT Budget: 196 k€ Total Budget: 797 k€ (January 24, 2011 – January 23, 2014)

Partners: CERTH/CPERI/LPRE, CLOTHING TEXTILE & FIBRE TECHNOLOGY DEVELOPMENT COMPANY SA (CLOTTEFI SA), THRACE NON WOVENS & GEOSYNTHETICS SA (DON & LOW HELLAS SA), NANOTHINX SA

ICE/HT Researchers: **G. Voyiatzis** (Coordinator), J. Kallitsis, T. Ioannides, V. Drakopoulos

16. “Development of the next generation membrane bioreactor system”

Funded by CEU, **FP7-NMP-2009-2.6-1** Novel membranes for water technologies (SICA)

Proposal Reference No.: 246039-2 / Proposal Acronym: **BioNexGen** / Total score: **14,3/15**

FORTH/ICE-HT Budget: 736 k€ Total Budget: 4291 k€ (Sept. 1, 2010 – February 28, 2014)

Partners: HSKA (D), CNR-ITM (I), UON (UK), SEZ (D), MN (D), IZTECH (TR), ABU (SY), CMRDI (EG), CBS (TU), NANOTHINX (GR)

ICE/HT Researchers: **G. Voyiatzis** (*Authorized contact person*), J. Kallitsis, V. Mavrantzas, V. Burganos, N. Karamanos, A. Siokou, V. Drakopoulos

17. “Release of active agents from biodegradable polymers”

Funded by YPEPTH, **HRAKLEITOS-II** program, Department of Pharmacy, University of Patras

Proposal No: **12 / 119 / 5** ; Enhancing Human Research Potential via PhD Implementation

Total Budget of PhD elaborated at FORTH/ICE-HT: 45 k€ (September 1, 2010 – August 31, 2013)

3 membered PhD consulting committee: C. Kontoyannis, G. Voyiatzis, M. Orkoula

ICE/HT Researchers: **G. Voyiatzis** (*De facto advisor of the PhD of Argyrios Nochos*)

18. “Development of a bioelectrochemical device for Central Nervous System repair”

Funded by CEU, ADVENTURE NEST-STREP program

Proposal No: **028473** Proposal Acronym: **NERBIOS**

FORTH/ICE-HT Budget: 562 k€ Total Budget: 2144 k€ (November 2006 – November 2009)

Partners: SESCAM-HNP (ES), UNIABDN (UK), CSIC (ES), INEB (Portugal)

ICE/HT Researchers: **G. Voyiatzis** (*Authorized contact person*), S. Neophytides

19. “Development of advanced multifunctional textiles”

Funded by GSRT (GR), Operational Program of Western Greece,

Proposal No: **PEP_DEL_19** Proposal Acronym: **POLYLEITOYRGIKA** (MULTIFUNCTIONAL)

FORTH/ICE-HT Budget: 202 k€ Total Budget: 978 k€ (April 2006 – May 2008)

Partners: Argo S.A., Soulis-Kuehnis A.G., Patraiki S.A., ELVIFA S.A., CLOTHEFI

ICE/HT Researchers: **G. Voyiatzis** (*Coordinator*), J. Kallitsis, T. Ioannides, V. Dracopoulos

20. “Synthesis and modification of nanostructured mixed-matrix membranes for hydrogen recovery improvement”

Funded by GSRT (GR), Cooperation with R&D organizations of countries outside Europe – 2005 **GR-USA**

Total Budget: 60 k€ (October 2006 – April 2008)

Partners: George Tech Institute (USA), S&B Industrial Minerals SA (GR)

ICE/HT Researchers: **G. Voyiatzis** (*Greek project leader*), V. Nikolakis

21. “Development and characterization of novel ion selective materials for PEM type fuel cells”

Funded by GSRT (GR), Bilateral Cooperation Program **Greece-Czech**

FORTH/ICE-HT Budget: 12 k€ (May 2006 – March 2008)

Partner: Institute of Chemical Technology Prague (CZ)

ICE/HT Researchers: **G. Voyiatzis** (*Greek project leader*), J. Kallitsis, S. Neophytides

22. “Synthesis and Characterization of Molybdenum Catalysts for Methane Conversion”

Funded by GSRT (GR), Bilateral Cooperation Program Greece–Hungary, Project 16

FORTH/ICE-HT Budget: 13 k€ (December 1999 – November 2001)

Partner: Institute of Solid State and Radiochemistry, Attila Jozsef University (HU)

ICE/HT Researchers: **G. Voyiatzis** (*Greek project leader*), Th. Ioannides, S. Neophytides

23. “Raman spectroscopic investigation of cobalt cementation in zinc purification process”

Funded by NORZINK AS (NO), Program / Project NTNU-1

FORTH/ICE-HT Budget: 22 k€ (April 1998 – July 1998)

Partner: The Institute of Inorganic Chemistry, Norwegian University of Science and Technology (NO)

ICE/HT Researcher: **G. Voyiatzis** (*Project leader*)

24. “Vibrational spectroscopic studies of the molecular orientation of polymer samples with the perspective of the development of an on line process control during plastic pipes extrusion”

Funded by GSRT (GR) and A.G. Petzetakis S.A. (GR), Program YPER, Project 375

FORTH/ICE-HT Budget: 40 k€ (April 1996 – March 2000)

ICE/HT Researcher: **G. Voyiatzis** (*Project leader*)

25. “Development of a flexible micro-Raman pilot-probe to monitor on line measurements of PVC pipes molecular orientation during the production process”

Funded by GSRT (GR) and A.G. Petzetakis S.A. (GR), Program AXIA, Project 11

FORTH/ICE-HT Budget: 40 k€ (February 1997 – October 1998)

Partner: A.G. Petzetakis S.A. Hellenic Plastics & Rubber Industry (GR)

ICE/HT Researcher: **G. Voyiatzis** (*Project leader*)

Main Investigator:

1. “Development of Novel Functional Copolymers and Surfaces with Permanent and/or Controlled Released Biocidal Species”
Funded by Ministry of Education, THALIS program, "Mathematics, Physics, Chemistry"
 Proposal No: 162 / Proposal Acronym: POLYBIOSURF
 FORTH/ICE-HT Budget: 60 kEuro (February 1, 2012 – Jan/Sept 30, **2015**)
 Total Budget: 512 kEURO
 Partners: UNIVERSITY OF PATRAS (Coordination), FORTH/IESL, TEI of Messolonghi, ESPCI/CNRS (F)
 ICE/HT Researchers: **G. Voyiatzis** (Co-Investigator)
2. “Implantation of CNTs in Permeable Polymer Matrices”
Funded by GSRT, SYNERGASIA program, Nanotechnology applications to the environment
 Proposal No: 620 / Proposal Acronym: MEKKA
 FORTH/ICE-HT Budget: 225 kEuro (May 3, 2011 – May/November 2, **2014**)
 Total Budget: 532 kEURO
 Partners: INTERCHEM HELLAS SA, RESEARCH AND DEVELOPMENT OF CARBON NANOTUBES SA
 ICE/HT Researchers: V. Mavrantzas (Coordinator), **G. Voyiatzis**, Ch. Paraskeva, P. Koutsoukos
3. “Polymer Electrolytes and Non Noble Metal Electrocatalysts for High Temperature PEM Fuel Cells”
Funded by CEU, Specific Targeted Research Projects (STREP) FP6-2004-NMP-TI-4
 Proposal No: 028473 Proposal Acronym: APOLLON-B
 Total Budget: 2,899 kEURO (October 2006 – September **2009**)
 Partners: FORTH/ICE-HT (Coordinator), MPG.IKOHLE.HC.NL, DNIM.RD, ICT.DIT, SCIC.ICV, DTH.DP1.CAMP, UPAT.DC, INCH.LCRE, NED-STACK.NL, ADVENT TECHNOLOGIES
 ICE/HT Researchers: S. Neophytides (Authorised contact person), **G. Voyiatzis**, T. Ioannides
4. “Membrane Cell Hydrogen Generator and Electrocatalysis for Water Splitting”
Funded by CEU, INCO Proposal Acronym: PROMITHEAS
 FORTH/ICE-HT Budget: 118 kEURO (August 2002 – October 2006)
 Partners: FORTH/ICE-HT (Coordinator), University of Belgrade (YU), Central Laboratory of Electrochemical Power Sources (BG), University "St.Cyril and Methodius" – Skopje (FYROM), Chemical Industry ZUPA-Krusevac (YU), University of Zagreb (CR)
 ICE/HT Researchers: S. Neophytides (Authorised contact person), **G.A. Voyiatzis**.
5. “An electrical energy production system with polymer electrolyte membrane methanol fuel cell”
 EPAN - GGET Contract No.: E-25
 FORTH/ICE-HT Budget: 219 kEURO (October 2003 – September 2006)
 ICE/HT Researchers: Th. Ioannides (Coordinator), S. Neophytides, **G. Voyiatzis**
6. “Expanding membrane macroscale applications by exploring nanoscale materials properties”
NanoMemPro, Nanotechnology & nanosciences, Knowledge based multifunctional materials, new production processes and devices – “NMP” Network of Excellence (NOE) 500632-2
 FORTH/ICE-HT Budget: (for the first 18 months): 95 kEURO
 (September 2004 – February 2006 – August **2008**)
7. "Non-invasive methods of in-time diagnoses of ophthalmic diseases"
Funded by ETET Contract No. : 01 EA 559 Total Budget : 132 kEURO (Nov 2002 – Oct 2005)
 ICE/HT Researchers: S. Yannopoulos, **G. Voyiatzis**
8. “Specialty antimicrobial polymeric materials”
Funded by CEU, GROWTH 2000 program, Project: GRD2-2000-30252 Proposal Acronym: SPAN
 FORTH/ICE-HT Budget: 359 kEURO (November 2001 – October 2004)
 Partners: ARGO SA (Coordinator), FORTH/ICE-HT, ULG (CERM), GAIKER, NAFC, POLISILK, LSP, ROMVAC
 ICE/HT Researchers: J. Kallitsis (Authorized cont person), **G. Voyiatzis** (Scientific Person in charge of the project).
9. “Advanced PEM Fuel Cells (APOLLON)”
Funded by CEU, Energy, Environment and Sustainable Development program,
 Project: ENK5-CT-2001-00572
 FORTH/ICE-HT Budget: 857 kEURO (December 2001 – November 2004)
 Partners: FORTH/ICE-HT (Coordinator), MPG.IKOHLE.HC.NL, DNIM.RD, ICT.DIT, SCIC.ICV, DTH.DP1.CAMP, UPAT.DC, FRIGO.TI, INCH.LCRE
 ICE/HT Researchers: S. Neophytides (Authorised contact person), **G. Voyiatzis**
10. “Polymer blends with controlled biostatic properties. Packaging Innovative Applications”
Funded by GSRT, PAVET-2000
 Total Budget: 166 kEURO (November 2001- October 2003)
 Partners: ARGO S.A. (Coordinator), FORTH/ICE-HT
 ICE/HT Researchers: J. Kallitsis, **G. Voyiatzis**

11. “Advanced Solid Polymers Fuel Cells for Operation at temperatures up to 200° C”
Funded by CEU, Program Joule, Project JOR3-CT97-0045
FORTH/ICE-HT Budget: 192 kEURO (February 1998 – July 2000)
Partners: CLC s.r.l. (I) (Coordinator), Denmark's Technische Universitet, Department of Chemistry (DK) ICE/HT
Researchers: G. Papatheodorou (PI), J. Kallitsis, **G. Voyiatzis**, Ch. Kontoyannis
12. “Optimal design of low-cost advanced polymer blends by altering their interfacial situation”
Funded by NATO and GSRT, Program Science for Stability, Project GR-Polyblend
FORTH/ICE-HT Budget: 100 kEURO (May 1993 – April 1998)
Partners: FORTH/IESL (Coordinator), Univ. of Athens (Dept. of Chemistry), A.G.
Petzetakis S.A., Plastika Kritis S.A.
ICE/HT Researchers: **G. Voyiatzis** (Member of the Advisory Committee), G. Papatheodorou
13. “Raman scattering of polymer blends in the critical region analyzed with schematic mode coupling models”
Funded by NATO, Program Science for Stability, Project GR-Polyblend-Outreach Component 2
ICE/HT-FORTH Budget: 20 kEURO (November 1996 – April 1998)
Partners: FORTH/IESL (Coordinator), Ukrainian National Academy of Science, Institute for Technological and Information Innovations (UKR)
ICE/HT Researcher: **G. Voyiatzis**

EDUCATIONAL PROJECTS

1. “Interdepartmental Operational Program for Education and Initial Vocational Training on Polymer Science and Technology”, University of Patras
Funded by Ministry of Education
Lab. Budget: 15 kEURO (January 1998 – December 2000 - **Today**)
Contribution to the organization and teaching of the following graduate courses: “Polymers and Environment”, “Physical, Chemical and Mechanical Characterization of Polymers” and “Polymer Characterization”

SERVICES-TECHNICAL REPORTS

Our laboratory was involved in a number of services for companies, institutions, municipalities and privates with ~100.000 € incoming funds to the Institute for the period of time 2005-2024; in all cases, a confidential report was compiled.

PUBLICATIONS IN BOOK CHAPTERS

- [1] J.A. Anastasopoulos, A. Soto Beobide, T. Karachalios, K. Kouravelou and **G.A. Voyiatzis**
“Study of carbon nanotubes’ embedment into porous polymeric membranes for wastewater treatment”
SUSTAINABLE WATER DEVELOPMENTS. RESOURCES, MANAGEMENT, TREATMENT, EFFICIENCY AND REUSE SERIES Edited by J. Bundschuh, Volume 5, in *Application of Nanotechnology in Membranes for Water Treatment* Edited by Alberto Figoli, Jan Hoinkis, Sacide Alsoy Altinkaya, Jochen Bundschuh, CRC Press/Balkema, Taylor & Francis Group, London, 81-110 (2017).
<https://www.taylorfrancis.com/books/e/9781351715263/chapters/10.1201%2F9781315179070-5>

PUBLICATIONS IN REFEREED JOURNALS

- [1] **G.A. Voyiatzis** and G.N. Papatheodorou*
“Raman Spectroscopic Studies of Metal-Metal Halide Molten Mixtures: The Mercury-Mercury (II) Halide Systems”
Inorg. Chem. **31**, 1945-1951 (**1992**). [10.1021%2Fic00036a041](https://doi.org/10.1021%2Fic00036a041)
- [2] G.N. Papatheodorou*, I.V. Boviatsis, and **G.A. Voyiatzis**
“In situ Raman Spectra of Electrode Products during Electrolysis of HgCl₂ in Molten LiCl-KCl Eutectic”
J. Appl. Electroch. **22**, 517-521 (1992). [10.1007/BF01024091](https://doi.org/10.1007/BF01024091)
- [3] S. Boghosian*, D.A. Karydis, and **G.A. Voyiatzis**
“Characterization of Vapor Complexes over Molten POCl₃-MCl₃ (M=Al, Ga) Mixtures: Raman Spectra and Thermodynamics”
Polyhedron **12**, 771-782 (1993). [10.1016/S0277-5387\(00\)81758-1](https://doi.org/10.1016/S0277-5387(00)81758-1)
- [4] S. Boghosian* and **G.A. Voyiatzis**

- “Raman Spectroscopic Characterization of High Temperature MGaCl_8 (M=Nb, Ta) Dinuclear Molecular Complexes in the Liquid and Gaseous State”
Polyhedron **12**, 2965-2971 (1993). [10.1016/S0277-5387\(00\)80047-9](https://doi.org/10.1016/S0277-5387(00)80047-9)
- [5] **G.A. Voyiatzis** and G.N. Papatheodorou*
 “Changes of Vibrational Modes Upon Melting Mercury (II) Halides”
Ber. Bunsenges. Phys. Chem. **98**, 683-689 (1994). [10.1002/bbpc.19940980506/](https://doi.org/10.1002/bbpc.19940980506/)
- [6] M. Bachlter, and W. Freyland, **G.A. Voyiatzis**, and G.N. Papatheodorou
 “Electrochemical and Simultaneous Optical Study of the Reduction Mechanism and Electronic Conduction During Tantalum deposition in Molten Alkalichlorides”
Ber. Bunsenges. Phys. Chem. **99**, 21-31 (1995). [10.1002/bbpc.19950990105/](https://doi.org/10.1002/bbpc.19950990105/)
- [7] C. Rosenkilde, **G.A. Voyiatzis**, and T. Østvold*
 “Raman Spectroscopic Investigations of the molten $\text{CsCl-TaOCl}_3\text{-TaCl}_5$ system”
Acta Chem. Scand. **49**, 405-410 (1995). http://actachemscand.dk/pdf/acta_vol_49_p0405-0410.pdf
- [8] C. Rosenkilde, **G.A. Voyiatzis**, V.R.Jensen, M. Ystenes, and T. Østvold*
 “Raman Spectroscopic and ab initio Quantum Investigations of Molecules and Complexes Ions in the Molten System $\text{CsCl-NbCl}_5\text{-NbOCl}_3$ ”
Inorg. Chem. **34**, 4360-4369 (1995). [10.1021%2Fic00121a014](https://doi.org/10.1021%2Fic00121a014)
- [9] S. Boghosian*, **G.A. Voyiatzis**, and G.N. Papatheodorou
 “Gas-phase, liquid and solid complexes in $\text{POCl}_3\text{-FeCl}_3$ system”
J. Chem. Soc., Dalton Trans. 3405-3410 (1996). [10.1039/DT9960003405](https://doi.org/10.1039/DT9960003405)
- [10] **G.A. Voyiatzis**, G. Petekidis, D. Vlassopoulos*, E. Kamitsos, and A. Bruggeman
 “Molecular Orientation in Polyester Films Using Polarized Laser Raman and FTIR Spectroscopies and X-Ray Diffraction”
Macromolecules **29**, 2244-2252 (1996). [10.1021%2Fma951199g](https://doi.org/10.1021%2Fma951199g)
- [11] Ch. Fountzoula, H.K. Matralis, Ch. Papadopolou, **G.A. Voyiatzis**, and Ch. Kordulis*
 “The influence of the Chromium content on the Physicochemical Properties and the Catalytic Behavior of $\text{CrO}_x/\text{TiO}_2$ Catalysts for the Selective Catalytic Reduction of Nitric Oxide by Ammonia at relatively high temperatures”
J. Catal. **172**, 391-405 (1997). [10.1006/jcat.1997.1845](https://doi.org/10.1006/jcat.1997.1845)
- [12] S.A. Kirillov*, **G.A. Voyiatzis**, and I.S. Musiyenko
 “Dephasing of the ν_1 (Σ^+) and ν_3 (Σ^+) Vibrations of SCN^- Anion in Molten KSCN: A stretched Exponential Study”
J. Raman Spectr. **29**, 215-218 (1998). [10.1002/\(SICI\)1097-4555\(199803\)](https://doi.org/10.1002/(SICI)1097-4555(199803)10.1002/(SICI)1097-4555(199803)29:3<215::JRMN>3.0.CO;2-1)
- [13] K. Andrikopoulos, D. Vlassopoulos*, **G.A. Voyiatzis**, Y.D. Yiannopoulos and E.I. Kamitsos
 “Molecular orientation of hairy-rod polyesters: Effects of side chain length”
Macromolecules **31**, 5465-5473 (1998). [10.1021%2Fma971773j](https://doi.org/10.1021%2Fma971773j)
- [14] I. Georgiadou, Ch. Papadopolou, H.K. Matralis, **G.A. Voyiatzis**, A. Lycourghiotis, and Ch. Kordulis*
 “Preparation, Characterization and Catalytic Properties for the Selective Catalytic Reduction of NO by NH_3 of $\text{V}_2\text{O}_5/\text{TiO}_2$ Catalysts by Equilibrium Deposition Filtration”
J. Phys. Chem. B. **102**, 8459-8468 (1998). [10.1021%2Fjp973187y](https://doi.org/10.1021%2Fjp973187y)
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- [112] Glykeria A. Visvini, Georgios N. Mathioudakis, Amaia Soto Beobide, Zoi Piperigkou, A. E. Giannakas, Stavros Messaritakis, Giannis Sotiriou, **George A. Voyiatzis***
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- [113] Amaia Soto Beobide*, Rudolf Bieri, Zoltán Szakács, Kevin Sparwasser*, Ioanna G. Kaitsa, Ilias Georgiopoulos, Konstantinos S. Andrikopoulos, Gunther Van Kerckhove and **George A. Voyiatzis**
 “Raman spectroscopy unfolds the fate and transformation of SWCNTs after abrasive wear of epoxy floor coatings”
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- [114] Zoi G. Lada, Georgios N. Mathioudakis, Amaia Soto Beobide, Konstantinos S. Andrikopoulos, **George A. Voyiatzis***
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Chemosphere, **363**, 142916-8 (2024). [10.1016/j.chemosphere.2024.142916](https://doi.org/10.1016/j.chemosphere.2024.142916)
- [115] Efrosini Kioseoglou, Sevasti Matsia, Vassilis Psycharis, Catherine Raptopoulou, Aris Terzis, **George Voyiatzis**, Marko Bertmer, Nikolaos Anagnostou, Pantelis Rigas and Athanasios Salifoglou*
 “Synthetic V(V)-peroxido-zwitterionic species catalyze benzene oxidation under mild reaction conditions”
J. Mol. Struct., **1321 part2**, 139707-28 (2025). [10.1016/j.molstruc.2024.139707](https://doi.org/10.1016/j.molstruc.2024.139707)
- [116] Glykeria A. Visvini, Georgios N. Mathioudakis, Amaia Soto Beobide, **George A. Voyiatzis***
 “Tuning of Water Vapor Permeability in 2D Nano-carbon Based Polypropylene Composite Membranes”
Nanomaterials, **15** (1), 11-18 (2025). [10.3390/nano15010011](https://doi.org/10.3390/nano15010011)

JOURNAL PUBLICATIONS OF REFEREED CONFERENCE PROCEEDINGS

- [1] A.N. Nochos, S.M. Iconomopoulou, **G.A. Voyiatzis**
 “Antimicrobial crosslinked polystyrene nanospheres for specialty multifunctional textile production”
J. Controlled Release **132** (3), E75-E76 (2008). [10.1016/j.jconrel.2008.09.068](https://doi.org/10.1016/j.jconrel.2008.09.068)
- [2] **G.A. Voyiatzis**,* A.S. Beobide, A. Manikas, S.F. Nitodas, T.K. Karachalios, P.A. Kakavas, C. Boutris, and S. Pavlidou
 “Optimized dispersion and orientation studies of CNTs in polymer matrixes: a new perspective for advanced nanocomposite textiles”
World Journal of Engineering **7**(1), 30-33 (2010). ISSN:1708-5284 <http://wjoe.hebeu.edu.cn/2010.1/4.pdf>

PUBLICATIONS IN REFEREED & CITED CONFERENCE PROCEEDINGS

- [1] **G.A. Voyiatzis** and G.N. Papatheodorou (Reviewed)
 “Raman Spectra and Structure of Metal-Metal Halide Melts: The Hg-HgX₂, Cd-CdX₂ and Cd-Cd (A₁X₄)₂ (X=F, Cl, Br, I) Systems”
Proc. Int. Symp. Molten Salts **90-17**, 161-173 (1990).
- [2] G.M. Photiadis, **G.A. Voyiatzis**, and G.N. Papatheodorou (Reviewed)
 “Raman Spectra of Neodymium (III) Chloride-Alkali Chloride Melts and of Solid Compounds”
Molten Salt Forum **1-2**, 183-194 (1993).
- [3] **G.A. Voyiatzis** and S. Boghosian (Reviewed)
 “A Raman spectroscopic study of “adduct” compound formation in GaCl₃-MCl₅ (M=Nb, Ta) and POCl₃-FeCl₃ systems in liquid and gaseous state”
Molten Salt Chemistry & Technology **3 / ECS 93-9**: 14-30 (1993).
- [4] **G.A. Voyiatzis**, E. Pavlatou, G.N. Papatheodorou, M. Bachtler, and W. Freyland (Reviewed)
 “Reduction products of Pentavalent Niobium and Tantalum in Fused Chloride Solvents”
Molten Salt Chemistry & Technology **3 / ECS 93-9**: 252-264 (1993).
- [5] **G.A. Voyiatzis** and S. Boghosian (Reviewed)
 “Changes of vibrational modes upon melting CsHgCl₃, Cs₂HgCl₄ and Cs₃HgCl₅ solids and Raman spectra of HgCl₂-ACl (A=Li, Na, K, Cs) molten salt mixtures”
Molten Salts IX / ECS 94-13: 242-249 (1994).
- [6] S. Boghosian, G. Zisi, and **G.A. Voyiatzis** (Reviewed)
 “Oxygen bridged adduct compounds of phosphoryl chloride with metal trichlorides and pentachlorides”
Molten Salts IX / ECS 94-13: 276-283 (1994).
- [7] G.M. Photiadis, **G.A. Voyiatzis**, G.J. Kipouros, and G.N. Papatheodorou (Reviewed)
 “Raman Spectroscopic Study of NdCl₃-ACl (A=Li, Na, K, Ca) Systems in the Solid and Liquid State”
Proc. Int. Harald A. Øye Symp. 313-324 (1995).
- [8] Børresen B., Haarberg G.M., Tunold R., **Voyiatzis G.**, and Papatheodorou G.N. (Reviewed)
 “Spectroscopic and electrochemical studies of formation of dissolved metal during electrolysis in chloride melts”,
Proc. Jondal 2000 Int. Symp., 119-125 (2000).
- [9] G. De Luca, F. Bisignano, V.G. Mavrantzas, E. Karahaliou, G. Voyiatzis, J. Hoinkis, A. Figoli
 “Rejection of Low Molecular Weight Solutes by Mean of Cnts: A Quantum Mechanics and Atomistic Study”
Procedia Engineering **44**, 371-372 (2012).
- [10] A.S. Beobide, J. Anastasopoulos, G.A. Voyiatzis, G.C. Lainioti, J. Kallitsis, K. Kouravelou
 “Embedment of functionalized carbon nanotubes into water purification membrance”
Procedia Engineering **44**: 1918-1919 (2012).

PUBLICATIONS IN CONFERENCE PROCEEDINGS: ≥160

CONFERENCE ORAL - POSTER PRESENTATIONS: ≥170

INVITED LECTURES – SEMINARS

“Raman Spectroscopic Study of the Molecular Orientation of Drawn Polymers”, Series of Seminars on New Materials and Applications, Condensed Matter Hellenic Society, National Center of Scientific Research “Demokritos”, Athens, Greece, May 8, 1998.

“Molecular Orientation of Drawn Polymers using Micro-Raman Spectroscopy”, Chemical & Bio-Resource Engineering Department, University of British Columbia, Vancouver, Canada, October 29, 1999.

“Raman Spectroscopy in Materials Characterization”, Institute of Solid State and Radiochemistry, Attila Jozsef University, Szeged, Hungary, November 22, 2001.

“Design and Development of a pilot-probe for quality control in industrial processes”, Series of Human Network Seminars on Industrial applications of Composite Materials, Athens University Zografou Campus, Athens, Greece, January 12, 2001.

“Spectroscopic study of ocular diseases and drug molecules detection”, FORTH/ICE-HT, Rio-Patras, Greece, May 5, 2004.

“Characterization of Polymer Electrolyte Membranes for Fuel Cells Applications”, Series of Seminars on the Application of Fuel Cells in Stationary Systems and Transport – Energy Technologies for Viable Development, FORTH/ICE-HT, Patras, Greece, May 18, 2004.

“Membrane modification by drawing - Estimation of the molecular orientation”, NanoMemCourse, University of Zaragoza, Zaragoza, Spain, November 13, 2007.

“Characterization of High Temperature Polymer Electrolyte Membranes”, Institute of Chemical Technology Prague (ICTP), Prague, Czech Republic, February 5, 2008.

“Spectroscopic non-invasive methods of chemical analysis”, Series of Seminars on Chemistry at the 21st Century, Conference and Cultural Center of the University of Patras, Rio-Patras, Greece, February 29, 2008.

“The Raman spectroscopy as non-invasive analytical method”, Series of Seminars on New Technology & Research, Hotel Astir, Patras, Greece, April 12, 2008.

“Antimicrobial crosslinked polystyrene nanospheres for specialty multifunctional textile production”, 4th International Intensive course & workshop: Nanomedicines-Nanoparticulates for Drug Delivery, Conference and Cultural Center of the University of Patras, Rio-Patras, Greece, September 19, 2008.

“Bioanalytical applications of the Surface Enhanced Raman Scattering (SERS): an introduction”, Biomedical and Biotechnological Applications Research Network 2nd Meeting, University of Patras Conference Center, Patras, Greece, December 16, 2010.

“Polarized Raman spectra: opportunities & challenges – What about polarized SERS?” 32nd European Congress on Molecular Spectroscopy (EUCMOS 2014) held at the Heinrich-Heine-University, Düsseldorf, Germany August 24-29, 2014.

“Development of polymeric water purification membranes by incorporation of carbon nanotubes” FORTH/ICE-HT, Rio-Patras, Greece, January 12, 2015.

“The challenging Carbon Nanotubes’ Embedment into Polymeric Membranes for Waste-Water Treatment” COST Action MP1202: Rational design of hybrid organic-inorganic interfaces: the next step towards advanced functional materials. HINT Scientific Work-shop on Nanostructured Hybrid Materials II: reinforced 3D structures, smart composites, self-healing, Heraklion Crete, Greece, April 22, 2015.

“Optimizing SERS conditions, by noble metal film’s thermal dewetting and chemically assisted processes, for (nano)materials characterization” Advanced Architectures in Photonics 2016 conference (AAP-2016), Mykonos Island, Greece, 27 September, 2016.

“Nanocomposites with enhanced (?) Flame-Retardant properties” Eurofillers – Polymer Blends 2017 conference” Hersonissos Crete, Greece, April 2017.

“Development of specialty spectroscopic probes & innovative on-line monitoring methods for characterization and quantification of molecular active agents” Seminar at the Institute of Precision Medicine, IPM, Furtwangen University, Campus Schwenningen, Germany, October 23, 2018

...

“Nano-carbon based polypropylene nanocomposites: from breathability to barrier ... a blown film extrusion process” 14th Hellenic Polymer Society International Conference, Thessaloniki, Greece, November 2023.

ORGANIZATION OF SCIENTIFIC MEETINGS

Member of the Organizing Committee:

1. “1990 EUCHEM Conference on Molten Salts”, Patras, September 1990.
2. “Work-shop on Polymer Science”, Patras, November 1993.
3. “Fourth Panhellenic Conference on Polymers”, Patras, November 1997.
4. “The International George Papatheodorou Symposium”, Patras, September 1999.
5. “The 3rd Panhellenic Scientific Conference on Chemical Engineering”, Athens, May 2001.
6. “6th Hellenic Conference on Polymers”, Patras, November 2006.
7. “4th International Conference on Advanced Vibrational Spectroscopy”, Corfu, Greece, June 2007.
8. “10th Panhellenic Conference on Polymers”, Patras, December 2014.
9. “Advanced Architectures in Photonics – 2016” Mykonos, Greece, September 2016.
10. “Eurofillers – Polymer Blends 2017 conference” Hersonissos Crete, Greece, April 2017.
11. “AUTEX-2017 World Textile conference” Corfu, Greece, May 2017.
12. 15th Hellenic Polymer Society International Conference (POLYCONF15), Patras, Greece, December 2025.

Member of the (International) Scientific Committee

1. “15th European Symposium on Polymer Spectroscopy”, Crete, Greece, June 2003
2. “International Conference on Application of Nanotechnology in Membranes for Water Treatment” NanoMemWater, Izmir, Turkey, October 2013.
3. “COST MP0902 Final Meeting”, Crete, Greece, October 2013.
4. “10th Panhellenic Conference on Polymers”, Patras, December 2014.
5. “11th Panhellenic Conference on Polymers”, Herackion Crete, Greece, November 2016.
6. “Aegean International Textile and Advanced Engineering Conference” (AITAE 2018), 2018 IOP Conf. Ser.: Mater. Sci. Eng. 459 011002, Mytilene, Lesvos, Greece, September 2018.

Editorship of Scientific Conference Proceedings

1. “Fourth Panhellenic Conference on Polymers”, Patras, November 1997.
2. “The International George Papatheodorou Symposium”, Patras, September 1999 (ISBN: 960-7839-01-3)

PATENTS

Granted

1.

Title: “Acid Impregnated Polymeric Membranes for Use as Solid Electrolytes”
 Appl. No.: 990100451/30.12.1999 (Hellenic Patent Application)
 Patent No.: 1003647/30.8.01
 Inventors: C. Hasiotis, J. Kallitsis, V. Deimede, **G. Voyiatzis**, C. Kontoyiannis, G. Papatheodorou
 Valid in: Greece till 31-12-2019
 Depositor: FORTH/ICE-HT

2.¹⁰

Title: “Controlled release of antimicrobial substances from polymer matrices”
 Appl. No.: 20030100081/14.02.2003 (Hellenic Patent Application)
 Patent No.: 1004764 – 16.12.04
 Inventors: I. Kallitsis, S. Iconomopoulou, A. Soto-Beobide, **G. Voyiatzis**, K. Andreopoulou, Ch. Katsichtis, E. Tsartolia, A. Papadopoulos
 Valid in: Greece till 15-2-2023

¹⁰ With a Search Report with only 1 (one) relevant document of technological background (Category A)

Depositors FORTH/ICE-HT & ARGO S.A.

3.

Title: “Antimicrobial and antifouling properties of polymer blends based on polystyrene sulfonated phosphonium salts combined with various polymer matrixes”

Appl. No.: GR20050100499 (Hellenic Patent Application)

Patent No.: 1005443 – 15-2-2007

Inventors: S.M. Iconomopoulou, A.K. Andreopoulou, C. Papadopoulou, E.K. Ikonou, Ch. Katsichtis, **G.A. Voyiatzis**, J.K. Kallitsis

Valid in: Greece till 28-09-20025

Depositors FORTH/ICE-HT & ARGO S.A.

Withdrawn

1.¹¹

Title: “Controlled release of antimicrobial substances from polymer matrices”

Appl. No.: 04386006.3/13.02.2004 (European Patent Application)

E filling: 2410-0004577387

Publication date: 22.09.2004

Withdrawal of 31.01.2007

application: Renewal fee not paid in time

Reason:

Inventors: I. Kallitsis, S. Iconomopoulou, A. Soto-Beobide, **G. Voyiatzis**, K. Andreopoulou, Ch. Katsichtis, E. Tsartolia, A. Papadopoulos

Depositors FORTH/ICE-HT & ARGO S.A.

Pending

Title: “Method for improving dyeing processes for cotton textiles”

Appl. No.: 20220100386/09.09.2022 (Hellenic Patent Application)

Patent number: ...

Publication date: ...

Inventors: A. Apostolidis, **G. Voyiatzis**, K. Andrikopoulos, A. Soto-Beobide, L. Sygellou, K. Papapetros, J. Kallitsis, G. Bokias, H. Anastasopoulos, L. Tsimpouki, A. Soulis

Depositors COLORA SA, FORTH/ICE-HT, SOULIS-KUENIS AG, UNIVERSITY OF PATRAS

Title: “Method for color gradation or single-bath double-dyeing using cotton substrates of different cationic modification level with reaction dyes and/or acid dyes”

Appl. No.: 20220101077/23.12.2022 (Hellenic Patent Application)

Patent number: ...

Publication date: ...

Inventors: A. Soulis, **G. Voyiatzis**, K. Andrikopoulos, A. Soto-Beobide, J. Kallitsis, G. Bokias, H. Anastasopoulos, A. Apostolidis, S. Pavlidou

Depositors SOULIS-KUENIS AG, COLORA SA, MIRTEC SA, FORTH/ICE-HT, UNIVERSITY OF PATRAS

Title: “Raman/SERS establishment of Imidazole-based molecular probes and polymers as pH sensors”

Appl. No.: 63/653,235/30.05.2024 (US PTO-Utility Patent Application (Provisional))

Patent number: ...

Publication date: ...

Inventors: **G. Voyiatzis**, Ath. Nenes, A. Soto-Beobide, K. Andrikopoulos, G. Mathioudakis, Z. Lada, C. Molina, An. Psarelis, G. Theodoropoulos

Depositors FORTH/ICE-HT

¹¹ With a Search Report with only 1 (one) relevant document of technological background (Category A)

Impact factor of scientific journals

A/A	* ¹²	JOURNAL	No	2017	2018	2019	2020	2021	2022	2023
1.		ACTA CHEM SCAND	2	-	-	-	-	-	-	-
2.	*	ADV DEV MATER	1	N/A	ceased	-	-	-	-	-
3.		ADV MATER INTERFACES	1	4,834	4,713	4,948	6,147	6,389	5,400	4,300
4.	*	ANALYST	1	3,864	4,019	3,978	4,616	5,227	4,200	3,600
5.		APPL CATAL B-ENVIRON	1	11,698	14,229	16,683	19,503	24,319	22,100	20,200
6.		APP SCI	1	1,689	2,217	2,474	2,679	2,838	2,700	2,500
7.	**	APPL SPECTROSC	2	1,642	2,064	2,087	2,193	2,388	3,500	2,200
8.		BER BUNSEN PHYS CHEM	2	-	-	-	-	-	-	-
9.		BIOMATERIALS	1	8,806	10,273	10,317	12,479	15,304	14,000	12,800
10.	*	CARBON	1	7,082	7,466	8,821	9,594	11,307	10,900	10,500
11.		CATAL TODAY	1	4,667	4,888	5,825	6,766	6,562	5,300	5,200
12.		CELLULOSE		3,809	3,917	4,210	5,044	6,123	5,700	4,900
13.		CHEMCATCHEM	1	4,674	4,495	4,853	5,686	5,497	4,500	3,800
14.	*	CHEM COMM	1	6,290	6,164	5,996	6,222	6,065	4,900	4,300
15.	*	CHEMOSPHERE	1	4,427	5,108	5,778	7,086	8,943	8,800	8,100
16.		CHEM PHYS LETT	1	1,686	1,901	2,029	2,328	2,719	2,800	2,800
17.		COATINGS	1	2,490	2,532	2,485	2,595	3,236	3,400	2,900
18.	*	COLLOIDS SURF A: SURF SCI	1	2,714	2,829	3,990	4,539	5,518	5,200	4,900
19.		CURR EYE RES	1	2,120	1,672	1,754	2,424	2,555	2,000	
20.		DENT MATER	1	4,039	4,440	4,495	5,304	5,687	5,000	4,600
21.		DENT MATER J	1	1,205	1,424	1,359	2,102	2,418	2,500	1,900
22.		ENERGIES	1	2,676	2,707	2,702	3,004	3,252	3,200	3,000
23.		EXPRESS POLYM LETT	1	3,064	2,875	3,083	4,161	3,952	3,300	
24.		HYDROMETALLURGY	1	3,300	3,465	3,338	4,156	4,217	4,700	4,800
25.	*	INORG CHEM	7	4,700	4,850	4,825	5,165	5,436	4,600	4,300
26.		INT J BIOL MACROMOL	1	3,909	4,784	5,162	6,953	8,025	8,200	7,700
27.		INT J MOL SCI	1	3,687	4,183	4,556	5,923	6,208	5,600	4,900
28.		INT J PHARMACEUT	1	3,862	4,213	4,845	5,875	6,510	5,800	5,300
29.		J APPL ELECTROCHEM	1	2,262	2,366	2,384	2,800	2,925	2,900	2,400
30.		J APPL PHYS	1	2,176	2,328	2,286	2,546	2,877	3,200	2,700
31.	*	J APPL POLY SCI	1	1,900	2,188	2,520	3,125	3,057	3,000	2,700
32.	*	J BIOMED OPT	1	2,367	2,555	2,785	3,170	3,758	3,500	3,500
33.		J BIOTECHNOL BIOMATER	1	1,750	1,750	1,750	1,750?	1,750?		
34.		J CATAL	2	6,759	7,723	7,888	7,920	8,047		6,500
35.		J CHEM PHYS	1	2,843	2,997	2,991	3,488	4,304	4,400	3,100
36.	*	(J CHEM S) DALTON TRANS	2	4,099	4,052	4,174	4,390	4,569	4,000	3,500
37.		J COLLOID INTERF SCI	1	5,091	6,361	7,489	8,128	9,965	9,900	9,400
38.	**	J CONTROL RELEASE	2	7,877	7,901	7,727	9,776	11,467	10,800	10,500
39.		J CRYST GROWTH	1	1,742	1,573	1,632	1,797	1,830	1,800	1,700
40.		J IND TEXT	1	1,283	1,884	2,010	3,721	2,926	3,200	2,200

A/A	*	JOURNAL	No.	2017	2018	2019	2020	2021	2022	2023
41.		J INORG BIOCHEM	1	3,063	3,224	3,212	4,155	4,336		
42.		J MAT CHEM A	1	9,931	10,73	11,30	12,73	14,511		
43.	*	J MEMBRANE SCI	2	6,578	7,015	7,183	8,742	10,530		
44.		J MOL STRUCT	2	2,011	2,120	2,463	3,196	3,841		4,000
45.		J PHYS CHEM B	1	3,146	2,923	2,857	2,991	3,466		
46.		J PHYS CHEM C	2	4,484	4,309	4,189	4,126	4,177		
47.		J PHYS-CONDENS MAT	1	2,617	2,711	2,707	2,333	2,745		
48.	*	J POLYM SCI (POL PHYS)	2	2,499	2,596	2,499	2,435	3,046		
49.	*****	J RAMAN SPECTROSC	6	2,879	2,809	2,000	3,133	2,727		
50.	*	LASER SURG MED	1	2,726	3,262	3,020	4,025	4,025		
51.		MACROM MATER ENG	1	2,690	3,038	3,853	4,367	4,402		
52.		MACROMOL RAPID COMM	1	4,441	4,078	4,886	5,734	5,006		
53.	*	MACROMOL SYMP	1	0,577	0,624	0,692	0,858	?		
54.	***	MACROMOLECULES	8	5,914	5,997	5,918	5,985	6,057		
55.		MAGNETOCHEMISTRY	1			1,947	2,193	3,336		
56.	**	MOLECULES	3	3,098	3,060	3,267	4,411	4,927		
57.	*	NANOMATERIALS	3	3,504	4,034	4,234	5,076	5,719	5,3	4,4
58.		PHYS CHEM CHEM PHYS	2	3,906	3,567	3,430	3,676	3,945		
59.		PHYS LETT A	1	1,863	2,087	2,278	2,654	2,707		
60.		PHYS REV B	1	3,813	3,736	3,575	4,036	3,908		
61.		PLOS ONE	1	2,766	2,776	2,740	3,240	(3,580)		
62.		POLYHEDRON	2	2,067	2,284	2,343	3,052	2,975		
63.		POLYMER	1	3,483	3,771	4,231	4,430	4,432		
64.		POLYM ENG SCI	1	1,551	1,920	1,917	2,428	2,573		
65.	***	POLYMERS	4	2,935	3,164	3,426	4,329	4,967		
66.		POWDER METALL MET C+	1	0,326	0,381	0,388	0,511	0,913		
67.		PROG ORG COAT	1	2,955	3,420	4,469	5,161	6,206		
68.		RISK ANAL	1	2,898	2,564	3,137	4,000	4,302		
69.	*	RPDDF (Changed name)	1			1,250	1,730	?		
70.		RSC ADVANCES	1	2,936	3,049	3,119	3,361	4,036		
71.	*	SCI REP	1	4,122	4,011	3,998	4,379	4,966		
72.		SENSOR ACTUAT B-CHEM	1	5,667	6,393	7,100	7,460	9,221		
73.		SOL ENERG MATER SOL C	1	5,667	5,018	6,984	7,267	7,305		
74.	*	SPECTROCHIM ACTA A MOL BIOMOL SPECTROSC	1	2,880	2,931	3,232	4,098	4,831		
75.	*	SURF INTERFACES	1	1,333	2,550	3,724	4,837	6,137		
76.	*	SUSTAINABILITY	1	2,075	2,592	2,576	3,251	3,889		
77.		THIN SOLID FILMS	1	1,939	1,888	2,030	2,183	2,358		
78.		VIB SPECTROSC	1	1,363	1,861	1,917	2,507	2,382		
	38		116							

¹² * Corresponding author

¹³ Scopus cite score metrics for *Recent Patents on Drug Delivery & Formulation*; Journal released in 2007 Now as Recent Advances in Drug Delivery and Formulation