

CURRICULUM VITAE

George A. Voyiatzis

Rio-Patras, September 23, 2022

Contents

	Page
Education	4
Research Interests	4
Professional Experience	5
Professional Affiliations	5
Research Team 2013	5
Research Experience - Overview	6
Educational Experience - Overview	7
Teaching – Courses Taught	7
Doctoral Dissertations, PhD, Supervision	7
Master Dissertations, MSc, Supervision	8
Visiting Students	9
Diploma Theses Supervision	9
Research & Development Projects	10
Educational Projects	14
Services/Technical reports	14
Publications in Book Chapters	15
Publications in Refereed Journals	15
Journal Publications of Refereed Conference Proceedings	24
Publications in Refereed & Cited Conference Proceedings	24
Publications in Conference Proceedings	25
Conference Oral/Poster Presentations	24
Invited Lectures/Seminars	24
Patents	25
Impact Factors of Relevant Refereed Journals	26

George A. Voyiatzis

Research Director / Researcher A'

Foundation for Research and Technology – Hellas (FORTH)
 Institute of Chemical Engineering Sciences (ICE-HT)
 (Former Institute of Chemical Engineering and High Temperature Chemical Processes)
 P.O. Box 1414 / 18, Stadiou Str.
 GR – 265 04 **Rio-Patras**
Greece

Tel.: +30-2610-965253 Fax: +30-2610-965223

E-mail: gvog@iceht.forth.gr

Web site: <http://www.iceht.forth.gr/staff/voyiatzis.html>

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**
Greece

Tel.: +30-2610-453212

Mob. Tel.: +30-6946-066456

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
- 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, Graduate of the School of Medicine of the Univ. of Patras 2013, Medical trainee in Klinikum Ingolstadt GmbH 2017-);

Maria-Michailia (Physician, Graduate of the School of Medicine of the Aristotle Univ. of Thessaloniki 2018, Medical trainee in Papageorgiou Hospital Thessaloniki 2020-);

Archelaos (in the School of Electrical and Computer Engineering of the Aristotle University of Thessaloniki)

PROFESSIONAL EXPERIENCE

- Research Director, FORTH/ICE-HT, Patras, Greece** (January 2011 – **Today**)
- Member of the Scientific Council of FORTH/ICE-HT** (July 2022 – **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**
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.
 (January – March 1992), (August & September 1995), (July 1996)
- Teaching Assistant, Department of Chemical Engineering, University of Patras, Patras, Greece**
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”
 (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**
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
 (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 2022

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

Dr. Konstantinos Andrikopoulos ⁴	Ass. 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	Post Doc,	Chemist	(U-Patras)
Msc. Glykeria Visvini	PhD student,	Physicist	(U-Patras)
Msc. Konstantinos Papapetros	PhD Student	Physicist	(U-Patras)
Mr Tsoulos Panagiotis	Msc Student	Physicist	(U-Patras)

³ Elected

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

RESEARCH EXPERIENCE - OVERVIEW

Publications in Refereed Journals: 104

(1st publication in 1992)

Publications in Book Chapters: 1

Journal Publications of Refereed Conference Proceedings: 2

Publications in Refereed & Cited Conference Proceedings: 9

Citations⁵: 2593 (Self citations 153)

H-index: 28 (i10-index: 70)

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

Topic Editor of Nanomaterials (12/2019-8/2021)

Regional Editor: Recent Patents on Drug Delivery & Formulation⁶ (2010-2017)

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

Reviewer for 65 # International Journals⁽⁷⁾ [x126]:

^{x1}Chemical Society Reviews^(34,09); ^{x1}Advanced Materials^(18,96); ^{x1}Chem Eng J^(8,355); ^{x1}Biomaterials^(8,387); ^{x1}Advances in Colloid and Interface Science^(8,243); ^{x1}Nanoscale^(7,76); ^{x1}ChemSusChem^(7,116); ^{x13}Journal of Materials Chemistry^(6,626); ^{x1}Journal of Materials Chemistry A^(8,262); ^{x8}Carbon^(6,198); ^{x2}Chemical Engineering Journal^(6,15); ^{x6}Journal of Membrane Science^(6,035); ^{x3}Acta Biomaterialia^(6,008); ^{x1}Environmental Science: Nano^(5,896); ^{x4}Journal of Materials Chemistry C^(5,026); ^{x1}Journal of Materials Chemistry B^(4,872); ^{x6}Journal of Hazardous Materials^(4,836); ^{x1}Macromolecular Rapid Communications^(4,638); ^{x2}Physical Chemistry Chemical Physics^(4,449); ^{x1J}Phys Chem C^(4,309); ^{x1}Spectrochim. Acta A Mol. Biomol. Spectrosc^(4,098); ^{x1}Nanomaterials^(4,034); ^{x3}Soft Matter^(3,798); ^{x1}Macromolecular Bioscience^(3,680); ^{x1}International Journal of Pharmaceutics^(3,994); ^{x1}Polymer^(3,586); ^{x1}European Polymer Journal^(3,485); ^{x1}Current Medicinal Chemistry^(3,455); ^{x2}Process Safety and Environmental Protection^(3,441); ^{x4}Polymers^(3,426); ^{x3}Journal of Polymer Science Part B: Polymer Physics^(3,318); ^{x3}RSC Advances^(3,289); ^{x1}Optics & Laser Technology^(3,233); ^{x1}Molecules^(3,060); ^{x1}Macromolecular Materials and Engineering^(2,860); ^{x1J}Raman Spectrosc^(2,809); ^{x1}Materials Science in Semiconductor Processing^(2,772); ^{x1}Membranes^(2,690); ^{x3}Journal of Pharmacy and Pharmacology^(2,363); ^{x1}Journal of Solid State Chemistry^(2,265); ^{x1}Journal of Applied Electrochemistry^(2,223); ^{x1}Journal of Applied Microbiology^(2,156); ^{x1}Energies^(2,077); ^{x1}Processes^(1,963); ^{x1}Applied Spectroscopy^(1,798); ^{x1}European Physical Journal E^(1,625); ^{x1}Journal of Molecular Structure^(1,780); ^{x1}European Physical Journal B^(1,223); ^{x1}Physica Status Solidi-b^(1,522); ^{x4}Journal of Applied Polymer Science^(1,866); ^{x3}Nanomaterials and Nanotechnology^(1,109); ^{x2}Journal of Analytical Methods in Chemistry^(1,369); ^{x6}Recent Patents on Drug Delivery & Formulation^(1,13); ^{x1}Materials Research Express^(0,968); ^{x1}Journal of Materials Science and Chemical Engineering^(0,89); ^{x4}Advanced Composites Letters^(0,422); ^{x4}Macromolecular Symposia^(0,412); ^{x1}Ber Bunsenges Phys. Chem.^(1,531); ^{x2J}Nanostructured Polym Nanocomposites^(0,33); ^{x1}Graphene Technology⁽²⁾; ^{x1}ACS Applied Nanomaterials; ^{x1}Environmental Advances; ^{x1}Journal of Composites Science; ^{x1}Physchem

Adjudicative Reviewer for 3 # International Journals⁽⁷⁾ [X4]: ^{x2}Journal of Materials Chemistry^(6,101); ^{x1}Journal of Materials Chemistry B^(4,872); ^{x1}Journal of Pharmaceutical and Biomedical Analysis^(3,169);

Editor - decision: ^{x2}Molecules^(3,060)

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)

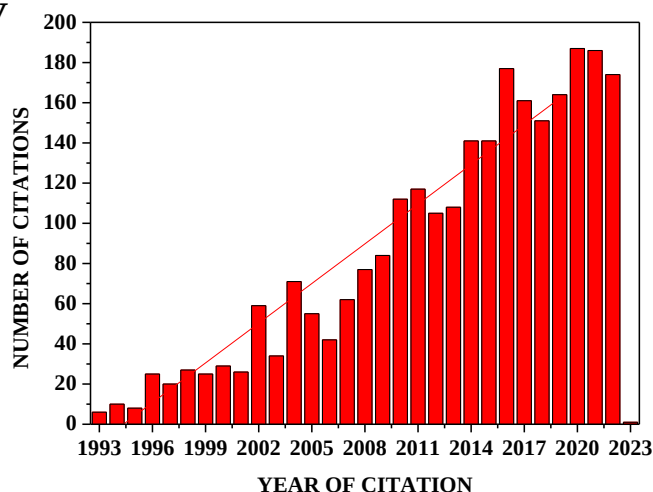
Spin-off companies:

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; 1 pending Greek

External funding of Research Activities of LAMS: ~ 5,600,000.00 €



⁵ Sources: Web of Science, Scopus, Google Scholar

⁶ Journal of Bentham Science Publishers; RPDDF publishes review articles by experts on recent patents on drug delivery and formulation.

⁽⁷⁾ 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	12	3
MScs	17	0
Diploma Works	14*	0

* 18 students

Participation in more than 35 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 (08-04-2109)

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

Doctoral Dissertations in Progress

1. Glykeria Visvini Department of Physics, University of Patras

Title: Study of advanced nano-carbon based polyolefinic breathable composites

2. Konstantinos Papapetros Department of Chemical Engineering, University of Patras

Title: Molecular characterization and study of the anisotropy of nanocellulose composites

3. 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

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 Scлавounaki, 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

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

(11-6-2018)

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 alkanolic) esters (PHAS) as well as the release of molecular species and/or oligomers in their applications in food packaging.

(30-6-2022)

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/scientific collaborations 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 poly(vinyl chloride) drawn film using polarized Raman spectra and birefringence measurements”

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)

Presented 08-07-2003

“Polarized Raman spectra in the molecular orientation study of the bisphenol A polycarbonate”

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)

Presented 13-10-2004

“The release of antimicrobial substances from stretched polypropylene specimens”

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 spect

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. “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

2. “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

3. “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

4. “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 – May 25, **2023**)

Partners: Univ-PATRAS, ADAMANT COMPOSITES Ltd, MIRTEC SA, MOD-GR, SIAMIDIS SA.

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

5. “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, **2022+**)

Partners: THRACE PLASTICS SA (Coordinator); PLASTIKA KRITIS SA

ICE/HT Researchers: **G. Voyiatzis** (Scientific Coordinator), Th. Ioannides, J. Kallitsis, S. Pandis, N. Karamanos

6. “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

7. “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 – April 8, **2022**)

Partners: COLORA SA, SOULIS-KUEHNIS AG; MHK ELVIFA; MIRTEC SA; UNIV. PATRAS
ICE/HT Researchers: **G. Voyiatzis** (*Coordinator*), V. Drakopoulos

8. “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)

9. “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*)

10. “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 Trätek (SE).

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

11. “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)

12. “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)

13. “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 (CLOTEFI SA), THRACE NON WOVENS & GEOSYNTHETICS SA (DON & LOW HELLAS SA), NANOTHINX SA

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

14. “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

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

16. “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

17. “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

18. “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

19. “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

20. “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

21. “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*)

22. “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*)

23. “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 ITET 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**

Participant as FORTH/ICE-HT Principal Investigator:

1. “Development of water soluble inks for imprinting on packaging plastic materials”
Funded by GSRT, Interchem S.A., Drukfarben S.A., and Chatzopoulos S.A. (GR), Program EPET-II 2nd Announcement, Project 97EKBAN2-129
FORTH/ICE-HT Budget: 35 kEURO (November 1998 – April 2001)
Partners: FORTH/IESL (Coordinator), University of Patras (Physics Department), Interchem S.A., Drukfarben S.A., Chatzopoulos S.A. (GR)
ICE/HT Researcher: **G. Voyiatzis**
2. “Development of Environmentally Friendly Materials for Coatings”
Funded by GSRT, Interchem S.A., and Neochem S.A., Program EPET-II 1st Announcement, Project EKBAN-431
FORTH/ICE-HT Budget: 33 kEURO (January 1995 – December 1997)
Partners: FORTH/IESL (Coordinator), NHRF, Interchem S.A., Neochem S.A.
ICE/HT Researcher: **G. Voyiatzis**
3. “Improvement of polymer properties during processing via physical and chemical alteration”
Funded by CEU and GSRT, Program Stride-Hellas, Project 61
Total Budget: 1000 kEURO (July 1991 – December 1993)
Partners: FORTH/IESL, FORTH/CREPI, A.G. Petzetakis S.A. (Coordinator)
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”
2. “Operational Program for Education and Initial Vocational Training on Applied Molecular Spectroscopy”, University of Crete
Funded by Ministry of Education
Lab. Budget: 10 kEURO (January 1998 – December 2004)
Contribution to the organization and teaching of the core graduate course “Laboratory of Raman Spectroscopy”

SERVICES-TECHNICAL REPORTS

Our laboratory was involved in a number of services for companies, institutions, municipalities and privates with ~75.000 € incoming funds to the Institute for the period of time 2005-2018; in all cases, a confidential report was compiled.

A representative *pot-pourri* of reports compiled is given below:

“Identification of unknown impoundments in plastic polyethylene tubes” / “Evaluation of the molecular orientation of fibrils developed in the die land during a PTFE paste extrusion process” / “Investigation of polymeric films (with dye-stuffs) covering composite aluminium panels” / “Investigation of the presence of PVC in PVC-free presumed cables” / “Identification of presumable Nylon electric box and flat bearing samples” / “Investigation-identification of polymer specimens” / “Characterization of Ni & Mo γ -alumina supported catalysts” / “Identification of the contamination of the condensate from refrigerant motor” / “«Standardized» essays on geotextiles-geomembranes” / “Investigation of CuCl existence in Cu samples” / “Long-term behavior of recycled core product” / “Investigation of the presence of Cu(I) species on broken copper hanging bars and on cementation product of Cu-concentrate” / “Expert view on the chemical composition of unknown spare disposals” / “Quantitative determination of the presence of Cr⁺⁶ species in metallic components of refrigerator electric system” / “Identification of sulphates in dust of industrial roasting plant” / “Investigation of the presence of alcohol in coffee drinks” / “Investigation-identification of plastic components” / “Investigation of the ability of sterilized plastic bottles to be refilled with baby milk” / “Analysis of thermoformed film” / “Identify material used in cabinets” / “Control of molecular structure and molecular orientation of films” / “Investigation of contaminations in used oil and water determination in oil-contaminated Freon of a refrigerating unit” / “Determination of the presence of sulphur or/and PbS on a PVC-based cable” / “Determination of the form of the filler in polyolefin-based cables” / “Polymer characterization – impurities identification” / “Investigation of the synergistic effect of disinfectants in the development of resisting stains on textiles of operating theaters” / “Carbon nanotube (CNT) characterization” / “Identify specific chemical components on air-filters” /

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%2F978135179070-5>

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. Boviatisis, 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 MGaCl₈ (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 CsCl-TaOCl₃-TaCl₅ system”
Acta Chem. Scand. **49**, 405-410 (1995). http://acta.chemscand.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 CsCl-NbCl₅-NbOCl₃”
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 POCl₃-FeCl₃ 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. Papadopoulou, **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)29:2<215::JRMN1097-4555(199803)29:2;1-0;FT>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. Papadopoulou, 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)
- [15] G.N. Papatheodorou* and **G.A. Voyiatzis**
 “Vibrational modes and structure of molten iron (III) chloride”
Chem. Phys. Lett. **303**/1-2, 151-156 (1999). [10.1016/S0009-2614\(99\)00213-4](https://doi.org/10.1016/S0009-2614(99)00213-4)
- [16] S.A. Kirillov*, T.S. Perova, O. Faurskov Nielsen, E. Praestgaard, U. Rasmussen, T.M. Kolomiyetz, **G.A. Voyiatzis** and S.H. Anastasiadis
 “Fitting the low frequency Raman spectra to boson peak models: glycerol, triacentin and polystyrene”
J. Mol. Struct. **479**/2-3, 271-277 (1999). [10.1016/S0022-2860\(98\)00878-3](https://doi.org/10.1016/S0022-2860(98)00878-3)
- [17] O. Babuskhina, **G.A. Voyiatzis**, and T. Østvold*
 “Raman and Infrared Spectroscopic Studies of $(\text{NaF-KF})\text{-K}_2\text{MoO}_4\text{-B}_2\text{O}_3$ Melts and the Mechanism of Electrodeposition of Molybdenum”
Acta Chem. Scand. **53**/5, 320-328 (1999). http://actachemscand.dk/pdf/acta_vol_53_p0320-0328.pdf
- [18] Ch. Fountzoula, H.K. Matralis, Ch. Papadopoulou, **G.A. Voyiatzis**, and Ch. Kordulis*
 “Chromia - Vanadia Catalysts Supported on TiO_2 : Effect of composition on the physicochemical properties and the catalytic performance for the selective catalytic reduction of NO with NH_3 ”
J. Catal. **184**/1, 5-18 (1999). [10.1006/jcat.1999.2392](https://doi.org/10.1006/jcat.1999.2392)
- [19] B. Børresen, **G.A. Voyiatzis**, and G.N. Papatheodorou*
 “The Cd_2^{2+} in molten metal halides and at electrode interfaces”
Physical Chemistry/Chemical Physics **1**/14, 3309-3314 (1999). [10.1039/a902843i](https://doi.org/10.1039/a902843i)
- [20] **G.A. Voyiatzis**, A.G. Kalampounias, and G.N. Papatheodorou*
 “The structure of molten mixtures of iron (III) chloride with cesium chloride”
Physical Chemistry/Chemical Physics **1**/20, 4797-4803 (1999). [10.1039/a905655f](https://doi.org/10.1039/a905655f)
- [21] S.A. Kirillov*, **G.A. Voyiatzis**, T.M. Kolomiyets, and S.H. Anastasiadis
 “Spatial Correlations and Exact Solution of the Problem of the Boson Peak Profile in Amorphous Media”
Phys. Lett. A **262**, 186-190 (1999). [10.1016/S0375-9601\(99\)00648-9](https://doi.org/10.1016/S0375-9601(99)00648-9)
- [22] V. Deimede, K.S. Andrikopoulos, **G.A. Voyiatzis***, F. Konstantakopoulou, and J.K. Kallitsis
 “Molecular Orientation of Blue Luminescent Rigid-Flexible Polymers”
Macromolecules **32**, 8848-8856 (1999). [10.1021%2Fma9911041](https://doi.org/10.1021%2Fma9911041)
- [23] O. Bøckman, T. Østvold*, **G.A. Voyiatzis**, and G.N. Papatheodorou
 “Raman spectroscopy of cemented cobalt on zinc surfaces”
Hydrometallurgy **55**, 93-105 (2000). [10.1016/S0304-386X\(99\)00080-8](https://doi.org/10.1016/S0304-386X(99)00080-8)
- [24] **G.A. Voyiatzis***, K. Andrikopoulos, and G.N. Papatheodorou, E.I. Kamitsos*, G.D. Chryssikos, and J.A. Kapoutsis, S.H. Anastasiadis and G. Fytas

- “Polarized Resonance Raman and FT-IR Reflectance spectroscopic investigation of the Molecular orientation in industrial poly(vinyl chloride) specimens”
Macromolecules **33**, 5613-5623 (2000). [10.1021%2Fma991772m](https://doi.org/10.1021%2Fma991772m)
- [25] V.A. Deimede, K.V. Fragou, E.G. Koulouri, J.K. Kallitsis*, and **G.A.Voyiatzis**
 “Miscibility Behavior of Polyamide 11 / Sulfonated Polysulfone Blends Using Thermal and Spectroscopic Techniques”
Polymer **41**, 9095-9101 (2000). [10.1016/S0032-3861\(00\)00289-5](https://doi.org/10.1016/S0032-3861(00)00289-5)
- [26] C. Tsitsilianis*, **G.A. Voyiatzis**, and J.K. Kallitsis
 “Synthesis of coil-rod-coil block copolymers with the aid of anionic polymerization”
Macromol. Rapid Commun. **21**, 1130-1135 (2000). [10.1002/1521-3927\(20001101\)](https://doi.org/10.1002/1521-3927(20001101)21:11<1130::MRCO1130>3.0.CO;2-1)
- [27] V. Deimede, **G.A. Voyiatzis**, J.K. Kallitsis*, L. Qingfeng, and N.J. Bjerrum
 “Miscibility behavior of Polybenzimidazole / Sulfonated Polysulfone blends for use in Fuel Cell Applications”
Macromolecules **33**, 7609-7617 (2000). [10.1021%2Fma000165s](https://doi.org/10.1021%2Fma000165s)
- [28] S.A. Kirillov*, **G.A. Voyiatzis**, I.S. Musiyenko, G.M. Photiadis, and E.A. Pavlatou
 “Ionic interactions in molten complex chlorides from vibrational dephasing”
J. Chem. Phys. **114**, 3683-3691 (2001). [10.1063/1.1340031](https://doi.org/10.1063/1.1340031)
- [29] A. Soto and **G.A. Voyiatzis***
 “Molecular orientation of Poly(ethylene naphthalate) / Poly(ethylene terephthalate) (PEN/PET) Copolymers utilizing Polarized Raman Spectra”
Macromolecules **35**, 2095-2104 (2002). [10.1021%2Fma011229h](https://doi.org/10.1021%2Fma011229h)
- [30] **G.A. Voyiatzis*** and K.S. Andrikopoulos
 “Fast monitoring of the Molecular Orientation in Drawn Polymers using micro-Raman spectroscopy”
Appl. Spectr. **56**, 528-535 (2002). [10.1366/0003702021954999](https://doi.org/10.1366/0003702021954999)
- [31] M. Dakanali, E.T. Kefalas, C.P. Raptopoulou, A. Terzis, **G. Voyiatzis**, I. Kyrikou, T. Mavromoustakos, and A. Salifoglou*
 “A new dinuclear Ti(IV)-Peroxo-Citrate complex from aqueous solutions. Synthetic, structural, and spectroscopic studies in relevance to aqueous Titanium(IV)-Peroxo-Citrate speciation”
Inorganic Chemistry **42**, 4632-4639 (2003). [10.1021%2Fic0343051](https://doi.org/10.1021%2Fic0343051)
- [32] Ch. Papadopoulou, J. Vakros, H.K. Matralis, **G.A. Voyiatzis**, and Ch. Kordulis*
 “Preparation, Characterization and Catalytic Activity of CoMo/Y-Al₂O₃ Catalysts Prepared by Equilibrium Deposition Filtration and Conventional Impregnation Techniques”
J. Colloid Interface Sci. **274**, 159-166 (2004). [10.1016/j.jcis.2003.11.041](https://doi.org/10.1016/j.jcis.2003.11.041)
- ⁸[33] S.M. Iconomopoulou, A.K. Andreopoulou, A. Soto, J.K. Kallitsis, and **G.A. Voyiatzis***
 “Incorporation of low molecular weight biocides into polystyrene-divinyl benzene beads with controlled release characteristics”
J. Controlled Release **102** (1), 223-233 (2005). [10.1016/j.jconrel.2004.10.006](https://doi.org/10.1016/j.jconrel.2004.10.006)
- [34] S.M. Iconomopoulou and **G.A. Voyiatzis***
 “The effect of the molecular orientation on the release of antimicrobial substances from uniaxially drawn polymer matrixes”
J. Controlled Release **103** (2), 451-464 (2005). [10.1016/j.jconrel.2004.12.014](https://doi.org/10.1016/j.jconrel.2004.12.014)
- [35] E. Katsia, E. Amanatides, D. Mataras*, A. Soto, and **G.A. Voyiatzis**
 “Total SiH₄/H₂ pressure effect on microcrystalline silicon thin films growth and structure”
Sol. Energ. Mater. Sol. Cells **87**, 157-167 (2005). [10.1016/j.solmat.2004.07.021](https://doi.org/10.1016/j.solmat.2004.07.021)
- [36] A. Soto, S.M. Iconomopoulou, A. Manikas, and **G.A. Voyiatzis***

⁸ Paper accepted & published as submitted

- “Molecular orientation of Poly(ethylene terephthalate), PET and Poly(butylene terephthalate), PBT: a parallel study”
Appl. Spectrosc. **59** (10) 1257-1269 (2005). [10.1366/000370205774430882](https://doi.org/10.1366/000370205774430882)
- [37] K.S. Andrikopoulos, S.N. Yannopoulos*, **G.A. Voyiatzis**, A.V. Kolobov, M. Ribes, and J. Tomonaga
 “Raman scattering study of the α -GeTe structure and possible mechanism for the amorphous-to-crystal transition”
J. Phys. Condens. Matter, **18**, 965-979 (2006). [10.1088/0953-8984/18/3/014](https://doi.org/10.1088/0953-8984/18/3/014)
- [38] E. Amanatides, E. Katsia, D. Mataras*, A. Soto, and **G.A. Voyiatzis**
 “Temperature effect and stress on microcrystalline silicon thin films deposited under high pressure plasma conditions”
Thin Solid Films **511-512**, 603-607 (2006). [10.1016/j.tsf.2005.12.121](https://doi.org/10.1016/j.tsf.2005.12.121)
- [39] Th.I. Sideroudi, N. Pharmakakis, G.N. Papatheodorou and **G.A. Voyiatzis***
 “Non-invasive detection of antibiotics in the aqueous humour by Raman spectroscopy”
Laser Surg. Med. **38**, 695-703 (2006). [10.1002/lsm.20360](https://doi.org/10.1002/lsm.20360)
- [40] G.C. Psarras*, A. Soto, **G.A. Voyiatzis**, P.K. Karahaliou, S.N. Georga, C.A. Krontiras and J. Sotiropoulos
 “Dielectric and conductivity processes in poly(ethylene terephthalate) and poly(ethylene naphthalate) homopolymers and copolymers”
J Polym. Sci. Pol. Phys. **44**, 3078-3092 (2006). [10.1002/polb.20939](https://doi.org/10.1002/polb.20939)
- [41] D. Nikolova, R. Edreva-Kardjieva*, M. Giurginca, A. Meghea, J. Vakros, **G.A. Voyiatzis**, Ch. Kordulis
 “The Effect of Potassium Addition on the State of the Components in the Oxide Precursor of the (Ni)(Mo)/ γ -Al₂O₃ Water-Gas Shift Catalysts: FT-IR, Diffuse Reflectance and Raman Spectroscopic Studies”
Vib. Spectrosc. **44**, 343-350 (2007). [10.1016/j.vibspec.2007.03.002](https://doi.org/10.1016/j.vibspec.2007.03.002)
- [42] Th.I. Sideroudi, N. Pharmakakis, A. Tyrovolas, G.N. Papatheodorou, G. Chryssikos, and **G.A. Voyiatzis***
 “Non-contact detection of Ciprofloxacin in a model anterior chamber using Raman spectroscopy”
J. Biomed. Opt. **12** (3), Art. No. 034005-6 pages (2007). [10.1117/1.2737385](https://doi.org/10.1117/1.2737385)
- [43] N. Chourdakis and **G.A. Voyiatzis***
 “Molecular orientation study of uniaxially drawn Nafion polymer electrolyte membranes utilizing polarized UV-Raman spectra”
J. Polym. Sci. Pol. Phys. **45**, 2509-2517 (2007). [10.1002/polb.21250](https://doi.org/10.1002/polb.21250)
- [44] J. Vakros, Ch. Papadopoulou, **G.A. Voyiatzis**, A. Lycourgiotis, Ch. Kordulis*
 “Modification of the preparation procedure for increasing the hydrosulfurisation activity of the CoMo/ γ -alumina catalysts”
Catal. Today **127**, 85-91 (2007). [10.1016/j.cattod.2007.02.028](https://doi.org/10.1016/j.cattod.2007.02.028)
- [45] D. Vernardou*, G. Kenanakis, S. Couris, A.C. Manikas, **G.A. Voyiatzis**, M.E. Pemble, E. Koudoumas and N. Katsarakis
 “The effect of growth time on the morphology of ZnO structures deposited on Si (100) by the aqueous chemical growth technique”
J. Cryst. Growth **308**, 105-109 (2007). [10.1016/j.jcrysgro.2007.07.032](https://doi.org/10.1016/j.jcrysgro.2007.07.032)
- [46] S.M. Iconomopoulou, J.K. Kallitsis, and **G.A. Voyiatzis*** (Review article)
 “Incorporation of small molecular weight active agents into polymeric components”
Recent Pat. Drug Delivery Form. **2**, 94-107 (2008). [10.2174/187221108784534108](https://doi.org/10.2174/187221108784534108)
- [47] M.K. Daletou, J.K. Kallitsis, **G. Voyiatzis**, S.G. Neophytides*
 “The interaction of water vapors with H₃PO₄ imbibed PBI/polysulfone copolymer blends”
J. Membrane Sci. **326**, 76-83 (2009). [10.1016/j.memsci.2008.09.040](https://doi.org/10.1016/j.memsci.2008.09.040)
- [48] C. Gabriel, M. Kaliva, J. Venetis, P. Baran, I. Rodriguez-Escudero, **G. Voyiatzis**, M. Zervou, A. Salifoglou*

“Aqueous V(V)-peroxo-amino acid chemistry. Synthesis, structural and spectroscopic characterization of unusual ternary dinuclear tetraperoxo vanadium(V)-glycine complexes”
Inorg. Chem. **48**, 476-487 (2009). [10.1021/ic801427b](https://doi.org/10.1021/ic801427b)

- [49] A.C. Manikas, A. Soto Beobide and **G.A. Voyiatzis***
 “Quantitative analysis by Surface Enhanced Raman Scattering utilizing an oscillating-cell and right angle collection geometry”
Analyst **134**, 587-592 (2009). [10.1039/b815053b](https://doi.org/10.1039/b815053b) [Erratum: *Analyst* **134**, 2484 (2009) : [10.1039/b922964g](https://doi.org/10.1039/b922964g)]
- [50] C. Gabriel, J. Venetis, M. Kaliva, C.P. Raptopoulou, A. Terzis, C. Drouza, B. Meier, **G. Voyiatzis**, C. Potamitis, A. Salifoglou*
 “Probing for missing links in the binary and ternary V(V)-citrate-(H₂O₂) systems. Synthetic efforts and in vitro insulin mimetic activity studies”
J. Inorg. Biochem. **103**, 503-516 (2009). [10.1016/j.jinorgbio.2008.12.018](https://doi.org/10.1016/j.jinorgbio.2008.12.018)
- [51] O. Khavryuchenko*, S. Alekseev, A. Soto Beobide, G. Kandilioti, **G. Voyiatzis**, V. Lisnyak
 “Combined Vibrational Spectroscopic and Theoretical Study on Nature of c-BN Powders Surface”
J. Phys. Chem. C **114**/2, 1102-1109 (2010). [10.1021/jp908711x](https://doi.org/10.1021/jp908711x)
- [52] J. Vakros*, A. Lycourghiotis, **G.A. Voyiatzis**, A. Siokou, Ch. Kordulis
 “CoMo/Al₂O₃-SiO₂ Catalysts prepared by co-Equilibrium Deposition Filtration: Characterization and catalytic behavior for the hydrodesulphurization of thiophene”
Appl. Catal. B-Environ. **96**, 496-507 (2010). [10.1016/j.apcatb.2010.03.011](https://doi.org/10.1016/j.apcatb.2010.03.011)
- [53] P. Fons, A. Kolobov*, M. Krbal, J. Tominaga, K. Andrikopoulos, S. Yannopoulos, **G. Voyiatzis**, T. Uruga
 “Phase transitions in crystalline GeTe: pitfalls of averaging effects”
Physical Review B **82**, 155209-5 (2010). [10.1103/PhysRevB.82.155209](https://doi.org/10.1103/PhysRevB.82.155209)
- [54] Th. Petsi, G. D. Panagiotou, K. Bourikas*, Ch. Kordulis, **G. A. Voyiatzis**, A. Lycourghiotis
 “Interfacial Impregnation Chemistry in the Synthesis of Chromium Catalysts supported on Titania”
ChemCatChem **3** (6), 1072-1082 (2011). [10.1002/cctc.201000446](https://doi.org/10.1002/cctc.201000446)
- [55] M. Kaliva, C. Gabriel, C.P. Raptopoulou, A. Terzis, **G. Voyiatzis**, M. Zervou, C. Mateescu, A. Salifoglou*
 “A unique dinuclear mixed V(V) oxo-peroxo complex in the structural speciation of the ternary V(V)-peroxo-citrate system. Potential mechanistic and structural insight into the aqueous synthetic chemistry of dinuclear V(V)-citrate species with H₂O₂”
Inorg Chem **50** (22), 11423-11436 (2011). [10.1021/ic201204s](https://doi.org/10.1021/ic201204s)
- [56] K. Chrissopoulou*, K. Andrikopoulos, S. Fotiadou, S. Bollas, C. Karageorgaki, D. Christofilos, **G. A. Voyiatzis** and S. H. Anastasiadis
 “On the Crystallinity and Chain Conformation in PEO / Layered Silicate Nanocomposites”
Macromolecules **44** (24), 9710-9722 (2011). [10.1021/ma201711r](https://doi.org/10.1021/ma201711r)
- [57] C. Gabriel, E. Kioseoglou, J. Venetis, V. Psycharis, C. P. Raptopoulou, A. Terzis, **G. Voyiatzis**, M. Bertmer, C. Mateescu, A. Salifoglou*
 “pH-Specific Structural Speciation of the Ternary V(V)-Peroxo-Betaine System. A Chemical Reactivity-Structure Correlation.”
Inorg Chem **51** (11), 6056-6069 (2012). [10.1021/ic2025878](https://doi.org/10.1021/ic2025878)
- [58] J.A. Anastasopoulos, A. Soto Beobide, **G.A. Voyiatzis***
 “Quantitative Surface Enhanced Raman Scattering measurements at the early stage of active agent release processes”
J Raman Spectrosc, **44** (3), 401-405 (2013). [10.1002/jrs.4222](https://doi.org/10.1002/jrs.4222)
- [59] J. Kytariolos, G. Charkoftaki, J.R. Smith, **G. Voyiatzis**, A. Chrissanthopoulos, S.N. Yannopoulos, D. G. Fatouros, P. Macheras*
 “Stability and physicochemical characterization of novel milk-based oral formulations”

Int J Pharmaceut, **444** (1-2), 128-138 (2013).

j.ijpharm.2013.01.022

- [60] A.N. Nochos, C. Kontoyannis, **G.A. Voyiatzis***
 “Incorporation of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) in Polypropylene Matrices for Wound Healing Applications. The case of Ibuprofen”
Macromol Symp, **331-332** (1), 115-122 (2013).
10.1002/masy.201300093
- [61] J. Kolar*, L. Strizik, T. Kohoutek, T. Wagner, **G.A. Voyiatzis**, A. Chrissanthopoulos, S.N. Yannopoulos*
 “Influence of Thermal History on the Photostructural Changes in Glassy As15S85 studied by Raman Scattering and ab initio calculations”
J Appl Phys **114** (20), 203502-7 (2013).
10.1063/1.4832830
- [62] M.K. Daletou, M. Geormezi, E. Vogli, **G.A. Voyiatzis**, S.G. Neophytides*
 “The interaction of H₃PO₄ and steam with PBI and TPS[®] polymeric membranes. A TGA and Raman study”
J Mater Chem A, **2**, 1117-1127 (2014).
10.1039/C3TA13335D
- [63] G. Sfyri, S. Sfaelou, K.S. Andrikopoulos, N. Balis, **G.A. Voyiatzis**, P. Lianos*
 “Composite ZnSe-CdSe quantum dot sensitizers of solid state solar cells and the beneficial effect of added Na₂S”
J Phys Chem C, **118** (30), 16547-16551 (2014).
10.1021/jp412134m
- [64] J.A. Anastasopoulos, A. Soto Beobide, L. Sygellou, S.N. Yannopoulos, **G.A. Voyiatzis***
 “Surface Enhanced Raman Scattering of pyridine-functionalized Multi-Walled Carbon Nanotubes”
J Raman Spectrosc, **45** (6), 424-430 (2014).
10.1002/jrs.4486
- [65] G. Bounos, K.S. Andrikopoulos*, T.K. Karachalios and **G.A. Voyiatzis***
 “Evaluation of multi-walled carbon nanotube concentrations in polymer nanocomposites by Raman Spectroscopy”
Carbon, **76**, 301-309 (2014).
10.1016/j.carbon.2014.04.081
- [66] E. Siarampi, E. Kontonasaki, K. Andrikopoulos, N. Kantiranis, **G.A. Voyiatzis**, T. Zorba, K.M. Paraskevopoulos, P. Koidis*
 “Effect of in vitro aging on the flexural strength and probability to fracture of Y-TZP zirconia ceramics for all ceramic restorations”
Dent. Mater., **30**, e306-e316 (2014).
10.1016/j.dental.2014.05.033
- [67] K. S. Andrikopoulos, G. Bounos*, D. Tasis*, L. Sygellou, V. Drakopoulos, **G. A. Voyiatzis**
 “The Effect of Thermal Reduction on the Water Vapor Permeation in Graphene Oxide Membranes”
Adv. Mater. Interfaces, **1** (8), 1400250-8 (2014).
10.1002/admi.201400250
- [68] N. D. Koromilas, G.Ch. Lainioti, Ch. Gialeli, D. Barbouri, K.B. Kouravelou, N.K. Karamanos*, **G.A. Voyiatzis**, J.K. Kallitsis*
 “Preparation and Toxicological Assessment of Functionalized Carbon Nanotube-Polymer Hybrids”
PLOS ONE, **9** (9), e107029-15 (2014).
10.1371/journal.pone.0107029
- [69] G. Bounos*, K.S. Andrikopoulos, H. Moschopoulou, T. Ioannides, K. Kouravelou, G.C. Psarras and **G.A. Voyiatzis**
 “Water vapour transport enhancement through isotactic polypropylene by incorporating multiwalled carbon nanotubes”
Poroshkovaya Metallurgiya, **53** (11/12) 22-31 (2014).
Powder Metall. Met. C+, **53** (11/12), 634-642 (2015).
[ISSN 0032-4795 / UDC 534.1.2](http://ISSN%20032-4795%2FUDC%20534.1.2)
10.1007/s11106-015-9660-4
- [70] H. Sideroudi*, G. Labiris, A. Soto-Beobide, **G. Voyiatzis**, A. Chryssanthopoulos, V. Kozobolis.
 “The effect of Collagen Cross-linking procedure on the material of Intracorneal Ring Segments”
Current Eye Research, **40** (6), 592-597 (2015).
10.3109/02713683.2014.941071
- [71] A. Moutsiopoulou, A. K. Andreopoulou, G. Bokias*, **G. Voyiatzis** and J. K. Kallitsis

- “Quinoline-functionalized cross-linked poly(vinyl acetate) and poly(vinyl alcohol) nanoparticles as potential pH- responsive luminescent sensors”
Sensors & Actuators B, **211**, 235-244 (2015). [10.1016/j.snb.2015.01.075](https://doi.org/10.1016/j.snb.2015.01.075)
- [72] H. Sideroudi*, G. Labiris, A. Soto-Beobide, I. Perente, **G. Voyiatzis**, A. Chrissanthopoulos, H. Cakir and V. Kozobolis
“The Effect of *In-Vivo* Collagen Cross-Linking Procedure on the Material of Intracorneal Ring Segments”
Journal of Biotechnology & Biomaterials, **5** (4): 10000209-5 (2015). [10.4172/2155-952X.1000209](https://doi.org/10.4172/2155-952X.1000209)
- [73] I. Petrova,* R. Kotsilkova, E. Ivanov, P. Kuzhir, D. Bychanok, K. Kouravelou, Th. Karachalios, A. Soto Beobide, **G. Voyiatzis**, D. Codegoni, F. Somaini and L. Zanotti
“Nanoscale reinforcement of polypropylene composites with carbon nanotubes and clay: Dispersion state, electromagnetic and nanomechanical properties”
Polymer Engineering & Science, **56** (3), 269-277 (2016). [10.1002/pen.24247](https://doi.org/10.1002/pen.24247)
- [74] G.N. Mathioudakis, A. Soto Beobide,* N.D. Koromilas, J.K. Kallitsis, G. Bokias and **G.A. Voyiatzis**
“Evaluation of the release characteristics of covalently attached or electrostatically bound biocidal polymers utilizing SERS and UV-Vis absorption”
Express Polym Lett., **10** (9), 750–761 (2016). [10.3144/expresspolymlett.2016.69](https://doi.org/10.3144/expresspolymlett.2016.69)
- [75] A.N. Nochos, K.S. Andrikopoulos, **G.A. Voyiatzis***
“Manipulation of the drug-release properties of Poly(glycolide-co-trimethylene carbonate)”
J Appl. Polym Sci, **133** (36), 43915-12, (2016). [10.1002/APP.43915](https://doi.org/10.1002/APP.43915)
- [76] G.Ch. Lainioti, G. Bounos, **G.A. Voyiatzis**,* J.K. Kallitsis*
“Enhanced Water Vapor Transmission through Porous Membranes based on Melt Blending of Polystyrene sulfonate with Polyethylene copolymers and their CNTs Nanocomposites”
Polymers, **8** (5), 190-14 (2016). [10.3390/polym8050190](https://doi.org/10.3390/polym8050190)
- [77] G. Bounos, K.S. Andrikopoulos, H. Moschopoulou, G.Ch. Lainioti, D. Roilo, R. Checchetto, T. Ioannides,* J.K. Kallitsis and **G.A. Voyiatzis***
“Enhancing Water Vapor Permeability in Mixed Matrix Polypropylene Membranes Through Carbon Nanotubes Dispersion”
J. Membr. Sci., **524**, 576-584 (2017). [10.1016/j.memsci.2016.11.076](https://doi.org/10.1016/j.memsci.2016.11.076)
- [78] Z.G. Lada, A. Soto Beobide, A. Savvidou, C.P. Raptopoulou, V. Psycharis, **G.A. Voyiatzis**,* M.M. Turnbull* and Spyros P. Perlepes*
“A unique copper(II)-assisted transformation of acetylacetone dioxime in acetone that leads to one-dimensional, quinoxaline-bridged coordination polymers”
Dalton Trans., **46** (1), 260-274 (2017). [10.1039/C6DT03595G](https://doi.org/10.1039/C6DT03595G)
- [79] S. Bollas, K. Chrissopoulou,* K.S. Andrikopoulos, **G.A. Voyiatzis** and S.H. Anastasiadis*
“Polymer Conformation under Confinement”
Polymers, **9** (2), 73-14 (2017). [10.3390/polym9020073](https://doi.org/10.3390/polym9020073)
- [80] A.N. Rissanou, H. Papapanou, V.S. Petrakis, M. Doxastakis, K.S. Andrikopoulos, **G.A. Voyiatzis**, K. Chrissopoulou,* V. Harmandaris* and S.H. Anastasiadis
“Structural and Conformational Properties of Poly(ethylene oxide)/Silica Nanocomposites: Effect of Confinement”
Macromolecules, **50** (16), 6273-6284 (2017). [10.1021/acs.macromol.7b00811](https://doi.org/10.1021/acs.macromol.7b00811)
- [81] J.A. Anastasopoulos, A. Soto Beobide, A.C. Manikas and **G.A. Voyiatzis***
“Quantitative Surface Enhanced Resonance Raman Scattering analysis of Methylene blue using Silver Colloid”
Journal of Raman Spectroscopy, **48**, 1762-1770 (2017). [10.1002/jrs.5233](https://doi.org/10.1002/jrs.5233)
- [82] S. Andrikaki, K. Govatsi, S.N. Yannopoulos, **G.A. Voyiatzis**,* K.S. Andrikopoulos
“Attaining semi-quantitative SERS measurements on Thermally Dewetted Au Films”

Advanced Device Materials, **3** (2), 23-27 (2017).

[10.1080/20550308.2017.1372096](https://doi.org/10.1080/20550308.2017.1372096)

- [83] M. Karamitrou, **G. Voyiatzis**, J.K. Kallitsis, G. Bokias*
 “UV-Triggered Optical Response and Oxygen Scavenging Ability of a Water-Soluble Poly(N,N-dimethylacrylamide-co-2-vinylbenzylanthraquinone) Copolymer”
Macromol. Mater. Eng., **303** (2), Art. Number 1700450-11 (2018). [10.1002/mame.201700450](https://doi.org/10.1002/mame.201700450)
- [84] E.D. Vogli, S.M. Iconomopoulou, O. Turkarslan, D. Korkmaz, A. Soto Beobide* and G.A. Voyiatzis
 “From lab-scale film preparation to up-scale spinning fibre manufacturing of PET/MWCNT composites”
J. Ind. Text., **47** (6) 1241-1260 (2018). [10.1177/1528083716686936](https://doi.org/10.1177/1528083716686936)
- [85] V. Stone, et al. ..., N. Voelcker, **G. Voyiatzis**, S. Yannopoulos, P. Marijn Poortvliet*
 “The Essential Elements of a Risk Governance Framework for Current and Future Nanotechnologies”
Risk Analysis, **38** (7) 1321-1331 (2018). [10.1111/risa.12954](https://doi.org/10.1111/risa.12954)
- [86] S. Andrikaki, K. Govatsi, S.N. Yannopoulos, G.A. Voyiatzis and K.S. Andrikopoulos*
 “Thermal dewetting tunes optimized Surface Enhanced Resonance Raman Scattering (SERRS) performance”
RSC Advances, **8**(51) 29062-29070 (2018). [10.1039/c8ra05451g](https://doi.org/10.1039/c8ra05451g)
- [87] Z.G. Lada, K.S. Andrikopoulos*, A. Chrissanthopoulos, S.P. Perlepes* and **G.A. Voyiatzis***
 “A known Iron(II) Complex in Different Nanoparticle Sizes: Variable-Temperature Raman Study of its Spin-Crossover Behavior”
Inorg. Chem., **58** (8) 5183-5195 (2019). [10.1021/acs.inorgchem.9b00279](https://doi.org/10.1021/acs.inorgchem.9b00279)
- [88] E.C. Mazarakioti, A.Soto Beobide, V. Angelidou, C.G. Efthymiou, A. Terzis, V. Psycharis,* **G.A. Voyiatzis*** and Spyros P. Perlepes*
 “Modelling the Solvent Extraction of Cadmium(II) from Aqueous Chloride Solutions by 2-pyridyl Ketoximes: An Inorganic Chemistry Approach”
Molecules, **24** (12), Art. Nb 2219-16 (2019). [10.3390/molecules24122219](https://doi.org/10.3390/molecules24122219)
- [89] E. Tzanakakis,* E. Kontonasaki, **G. Voyiatzis**, K. Andrikopoulos, I. Tzoutzas,
 “Surface characterization of monolithic zirconia submitted to different surface treatments applying optical interferometry and Raman spectrometry”
Dent. Mater. J., **39** (1) 111-117 (2020). [10.4012/dmj.2018-358](https://doi.org/10.4012/dmj.2018-358).
- [90] G.N. Mathioudakis, A. Soto Beobide,* G. Bokias, P.G. Koutsoukos and **G.A. Voyiatzis***
 “Surface Enhanced Raman Scattering as a tool to study cationic surfactants exhibiting low critical micelle concentration”
J Raman Spectrosc, **51** (3), 452-460 (2020). [10.1002/jrs.5798](https://doi.org/10.1002/jrs.5798)
- [91] V. Alexiou, G.N. Mathioudakis, K.S. Andrikopoulos, A. Soto Beobide* and **G.A. Voyiatzis***
 “Poly(ethylene terephthalate) carbon-based nanocomposites: a crystallization and molecular orientation study”
Polymers, **12** (11), Art. Nb 2626-14 (2020). [10.3390/polym12112626](https://doi.org/10.3390/polym12112626)
- [92] Zoi G. Lada, K.S. Andrikopoulos,* C.D. Polyzou, V. Tangoulis* and **G.A. Voyiatzis***
 “Monitoring the Spin Crossover Phenomenon of Controlled Size [Fe(2-mpz)₂Ni(CN)₄] 2D Hofmann-type Polymer Nanoparticles via Temperature Dependent Raman Spectroscopy”
J Raman Spectrosc, **51** (11), 2171-2181 (2020). [10.1002/jrs.5967](https://doi.org/10.1002/jrs.5967)
- [93] G.N. Mathioudakis, A. Soto Beobide,* S.H. Anastasiadis* and **G.A. Voyiatzis***
 “Surface Enhanced Raman Scattering of Brilliant Green: packing density and stabilizing effect of the cationic surfactant CTAB on the “hotspot” spacing”
Colloids Surf A: Physicochem Eng Asp, **610**, 125912-8 (2021). [10.1016/j.colsurfa.2020.125912](https://doi.org/10.1016/j.colsurfa.2020.125912)
- [94] Zoi G. Lada,* Amaia Soto Beobide, Georgios N. Mathioudakis and **George A. Voyiatzis***
 “Fe(II) Spin Crossover/Polymer Hybrid Materials: Investigation of the SCO behaviour via Temperature Dependent Raman Spectroscopy, Physicochemical Characterization and Migration Release Study”

- [95] Gabriella Nilsson Hall, Wai Long Tam , Konstantinos S. Andrikopoulos, Leire Casas-Fraile , **George A. Voyiatzis** , Liesbet Geris, Frank P. Luyten,* Ioannis Papantoniou*
 “Patterned, organoid-based cartilaginous implants exhibit zone specific functionality forming osteochondral-like tissues in vivo”
Biomaterials, **271**, 120820-14 (2021). [10.1016/j.biomaterials.2021.120820](https://doi.org/10.1016/j.biomaterials.2021.120820)
- [96] N. Prokopi, K.S. Andrikopoulos, A. Soto Beobide, **G.A. Voyiatzis*** and D.J. Papachristou*
 “Collagen orientation probed by polarized Raman spectra can serve as differential diagnosis indicator between different grades of meniscus degeneration”
Scientific Reports, **11**, 20299-10 (2021). [10.1038/s41598-021-99569-2](https://doi.org/10.1038/s41598-021-99569-2)
- [97] Il. Apostolopoulos, G. Bampos, A. Soto Beobide, St. Dailianis, **G. Voyiatzis**, S. Bebelis, G. Lyberatos and G. Antonopoulou*
 “The effect of anode material on the performance of a hydrogen producing microbial electrolysis cell, operating with synthetic and real wastewaters”
Energies, **14** (24), 8375-22 (2021). [10.3390/en14248375](https://doi.org/10.3390/en14248375)
- [98] Zoi G. Lada, Athanassios Chrissanthopoulos, Spyros P. Perlepes,* Konstantinos S. Andrikopoulos* and **George A. Voyiatzis***
 “Wet-Chemistry Assembly of One-Dimensional Nanowires: Switching Characteristics of a Known Spin-Crossover Iron(II) Complex Through Raman Spectroscopy”
Chem Comm, **58**, 521-524 (2022). [10.1039/D1CC05802A](https://doi.org/10.1039/D1CC05802A)
- [99] K. S. Andrikopoulos,* A. Chrissanthopoulos,* A. Soto Beobide, S. M. Iconomopoulou, H. Moschopoulou, and **G. A. Voyiatzis***
 “Peculiar behavior of the ester carbonyl vibrational modes in anisotropic aliphatic and semi-aromatic polyesters”
Spectrochim Acta A Mol Biomol Spectrosc, **269**, 120710-11 (2022). [10.1016/j.saa.2021.120710](https://doi.org/10.1016/j.saa.2021.120710)
- [100] Zoi G. Lada, Konstantinos S. Andrikopoulos*, Georgios N. Mathioudakis, Zoi Piperigkou, Nikos Karamanos*, Spyros P. Perlepes* and **George A. Voyiatzis**
 “Tuning the Spin-Crossover Behaviour in Fe(II) Polymeric Composites towards Food Packaging Application”
Magnetochemistry, **8** (2), 16-16 (2022). [10.3390/magnetochemistry8020016](https://doi.org/10.3390/magnetochemistry8020016)
- [101] Konstantinos S. Andrikopoulos,* Giannis Bounos, Georgia Ch. Lainioti, Theophilos Ioannides,* Joannis K. Kallitsis and **George A. Voyiatzis**
 “Flame Retardant Nano-Structured Fillers from Huntite/ Hydromagnesite Minerals”
Nanomaterials, **12** (14), 2433-14 (2022). [10.3390/nano12142433](https://doi.org/10.3390/nano12142433)
- [102] Ioanna Tzoumani, Amaia Soto Beobide, Zacharoula Iatridi,* **George A. Voyiatzis**, Georgios Bokias and Joannis K. Kallitsis
 “Glycidyl Methacrylate-Based Copolymers as Healing Agents of Waterborne Polyurethanes”
Int J Mol Sci, **23** (15), 8118-21 (2022). [10.3390/ijms23158118](https://doi.org/10.3390/ijms23158118)
- [103] Z.G. Lada , **G.A. Voyiatzis***, C.A. Aggelopoulos*
 “A Novel, Green, Low-cost Regeneration Method for Surface Enhanced Raman Scattering (SERS) Solid Substrates Based on Nanosecond Pulsed Cold Plasma Technology”
Surf Interfaces, **34**, 102330-12 (2022). [10.1016/j.surfin.2022.102330](https://doi.org/10.1016/j.surfin.2022.102330)
- [104] Joannis K. Kallitsis,* Efterpi Avdelioti, Amaia Soto Beobide, **George A. Voyiatzis**, Georgios Bokias
 “Novolac-based microcapsules containing isocyanate reagents for self-healing applications”
Prog Org Coat, **173**, 107204-13 (2022). [10.1016/j.porgcoat.2022.107204](https://doi.org/10.1016/j.porgcoat.2022.107204)

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.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).
- [2] **G.A. Voyiatzis** and S. Boghosian (*Reviewed*)
 “A Raman spectroscopic study of “adduct” compound formation in $\text{GaCl}_3\text{-MCl}_5$ ($\text{M}=\text{Nb, Ta}$) and $\text{POCl}_3\text{-FeCl}_3$ systems in liquid and gaseous state”
Molten Salt Chemistry & Technology **3 / ECS 93-9**: 14-30 (1993).
- [3] **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).
- [4] **G.A. Voyiatzis** and S. Boghosian (*Reviewed*)
 “Changes of vibrational modes upon melting CsHgCl_3 , Cs_2HgCl_4 and Cs_3HgCl_5 solids and Raman spectra of $\text{HgCl}_2\text{-ACl}$ ($\text{A}=\text{Li, Na, K, Cs}$) molten salt mixtures”
Molten Salts **IX / ECS 94-13**: 242-249 (1994).
- [5] 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).
- [6] G.M. Photiadis, **G.A. Voyiatzis**, G.J. Kipouros, and G.N. Papatheodorou (*Reviewed*)
 “Raman Spectroscopic Study of $\text{NdCl}_3\text{-ACl}$ ($\text{A}=\text{Li, Na, K, CA}$) Systems in the Solid and Liquid State”
Proc. Int. Harald A. Øye Symp. 313-324 (1995).
- [7] 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).
- [8] 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).
- [9] A.S. Beobide, J. Anastasopoulos, G.A. Voyiatzis, G.C. Lainioti, J. Kallitsis, K. Kouravelou
 “Embedment of functionalized carbon nanotubes into water purification membrane”
Procedia Engineering **44**: 1918-1919 (2012).

~ 150 PUBLICATIONS IN CONFERENCE PROCEEDINGS

~ 150 CONFERENCE ORAL - POSTER PRESENTATIONS

~ 25 INVITED LECTURES – SEMINARS

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

2.⁹

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
 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. Papadopolou, 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

1.¹⁰

Title: “Controlled release of antimicrobial substances from polymer matrices”
 Appl. No.: /13.02.2004 (European Patent Application)
 Patent number: EP1460089
 Publication date: 22.09.2004
 Withdrawal of application: 31.01.2007
 Reason: Renewal fee not paid in time
 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: **G. Voyiatzis**, K. Andrikopoulos, A. Soto-Beobide, L. Sygellou, K. Papapetros, J. Kallitsis, G. Bokias, H. Anastasopoulos, L. Tsimpouki, A. Apostolidis, A. Soulis
 Depositors: COLORA SA, FORTH/ICE-HT, SOULIS-KUENIS AG, UNIVERSITY OF PATRAS

⁹ With a Search Report with only 1 (one) relevant document of technological background (Category A)

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

Impact factor of scientific journals

A/A	* ¹¹	JOURNAL	No	2015	2016	2017	2018	2019	2020	2021
1.		ACTA CHEM SCAND	2	-	-	-	-	-	-	-
2.	*	ADV DEV MATER	1			N/A	ceased	-	-	-
3.		ADV MATER INTERFACES	1	3,365	2,800	4,834	4,713	4,948	6,147	6,389
4.	*	ANALYST	1	4,033	3,885	3,864	4,019	3,978	4,616	5,227
5.		APPL CATAL B-ENVIRON	1	8,328	9,446	11,698	14,229	16,683	19,503	24,319
6.	**	APPL SPECTROSC	2	1,798	2,014	1,642	2,064	2,087	2,193	2,388
7.		BER BUNSEN PHYS CHEM	2	-	-	-	-	-	-	-
8.		BIOMATERIALS	1	8,387	8,402	8,806	10,273	10,317	12,479	15,304
9.	*	CARBON	1	6,198	6,337	7,082	7,466	8,821	9,594	11,307
10.		CATAL TODAY	1	4,312	4,636	4,667	4,888	5,825	6,766	6,562
11.		CHEMCATCHEM	1	4,724	4,803	4,674	4,495	4,853	5,686	5,497
12.	*	CHEM COMM	1	6,567	6,319	6,290	6,164	5,996	6,222	6,065
13.		CHEM PHYS LETT	1	1,860	1,815	1,686	1,901	2,029	2,328	2,719
14.	*	COLLOIDS SURF A: PHYSICO-CHEM ENG ASP	1	2,760	2,760	2,714	2,829	3,990	4,539	5,518
15.		CURR EYE RES	1	2,025	2,238	2,120	1,672	1,754	2,424	2,555
16.		DENT MATER	1	3,931	4,070	4,039	4,440	4,495	5,304	5,687
17.		DENT MATER J	1	1,087	1,073	1,205	1,424	1,359	2,102	2,418
18.		ENERGIES	1	2,077	2,262	2,676	2,707	2,702	3,004	3,252
19.		EXPRESS POLYM LETT	1	2,965	2,983	3,064	2,875	3,083	4,161	3,952
20.		HYDROMETALLURGY	1	2,290	2,605	3,300	3,465	3,338	4,156	4,217
21.	*	INORG CHEM	7	4,820	4,857	4,700	4,850	4,825	5,165	5,436
22.		INT J MOL SCI	1	3,257	3,226	3,687	4,183	4,556	5,923	6,208
23.		INT J PHARMACEUT	1	3,994	3,649	3,862	4,213	4,845	5,875	6,510
24.		J APPL ELECTROCHEM	1	2,223	2,235	2,262	2,366	2,384	2,800	2,925
25.		J APPL PHYS	1	2,101	2,068	2,176	2,328	2,286	2,546	2,877
26.	*	J APPL POLY SCI	1	1,866	1,860	1,900	2,188	2,520	3,125	3,057
27.	*	J BIOMED OPT	1	2,556	2,530	2,367	2,555	2,785	3,170	3,758
28.		J BIOTECHNOL BIOMATER	1	(2,0)	1,750	1,750	1,750	1,750	1,750?	1,750?
29.		J CATAL	2	7,354	6,844	6,759	7,723	7,888	7,920	8,047
30.		J CHEM PHYS	1	2,894	2,965	2,843	2,997	2,991	3,488	4,304
31.	*	(J CHEM S) DALTON	2	4,177	4,029	4,099	4,052	4,174	4,390	4,569
32.		J COLLOID INTERF SCI	1	3,782	4,233	5,091	6,361	7,489	8,128	9,965
33.	**	J CONTROL RELEASE	2	7,441	7,786	7,877	7,901	7,727	9,776	11,467
34.		J CRYST GROWTH	1	1,462	1,751	1,742	1,573	1,632	1,797	1,830
35.		J IND TEXT	1	1,120	1,750	1,283	1,884	2,010	3,721	2,926
36.		J INORG BIOCHEM	1	3,205	3,348	3,063	3,224	3,212	4,155	4,336
37.		J MAT CHEM A	1	8,262	8,867	9,931	10,733	11,301	12,732	14,511

A/A	*	JOURNAL	No.	2015	2016	2017	2018	2019	2020	2021
38.	*	J MEMBRANE SCI	2	5,557	6,035	6,578	7,015	7,183	8,742	10,530
39.		J MOL STRUCT	1	1,780	1,753	2,011	2,120	2,463	3,196	3,841
40.		J PHYS CHEM B	1	3,187	3,177	3,146	2,923	2,857	2,991	3,466
41.		J PHYS CHEM C	2	4,509	4,536	4,484	4,309	4,189	4,126	4,177
42.		J PHYS-CONDENS MAT	1	2,209	2,649	2,617	2,711	2,707	2,333	2,745
43.	*	J POLYM SCI (POL PHYS) ¹²	2	3,318	2,838	2,499	2,596	2,499	2,435	3,046
44.	*****	J RAMAN SPECTROSC	6	2,395	2,969	2,879	2,809	2,000	3,133	2,727
45.	*	LASER SURG MED	1	2,135	2,312	2,726	3,262	3,020	4,025	4,025
46.		MACROM MATER ENG	1	2,834	2,863	2,690	3,038	3,853	4,367	4,402
47.		MACROMOL RAPID COMM	1	4,638	4,265	4,441	4,078	4,886	5,734	5,006
48.	*	MACROMOL SYMP	1	0,670	0,734	0,577	0,624	0,692	0,858	?
49.	***	MACROMOLECULES	8	5,554	5,835	5,914	5,997	5,918	5,985	6,057
50.		MAGNETOCHEMISTRY	1					1,947	2,193	3,336
51.	**	MOLECULES	2	2,465	2,861	3,098	3,060	3,267	4,411	4,927
52.		NANOMATERIALS	1	2,690	3,553	3,504	4,034	4,234	5,076	5,719
53.		PHYS CHEM CHEM PHYS	2	4,449	4,123	3,906	3,567	3,430	3,676	3,945
54.		PHYS LETT A	1	1,677	1,772	1,863	2,087	2,278	2,654	2,707
55.		PHYS REV B	1	3,718	3,836	3,813	3,736	3,575	4,036	3,908
56.		PLOS ONE	1	3,057	2,806	2,766	2,776	2,740	3,240	(3,580)
57.		POLYHEDRON	2	2,108	1,926	2,067	2,284	2,343	3,052	2,975
58.		POLYMER	1	3,586	3,684	3,483	3,771	4,231	4,430	4,432
59.		POLYM ENG SCI	1	1,719	1,449	1,551	1,920	1,917	2,428	2,573
60.	**	POLYMERS	3	2,944	3,364	2,935	3,164	3,426	4,329	4,967
61.		POWDER METALL MET C+	1	0,235	0,342	0,326	0,381	0,388	0,511	0,913
62.		PROG ORG COAT	1	2,632	2,858	2,955	3,420	4,469	5,161	6,206
63.		RISK ANAL	1	2,225	2,518	2,898	2,564	3,137	4,000	4,302
64.	*	RPDDF (Changed name)	1	1,06	1,13 ¹³			1,250 ¹⁴	1,730	?
65.		RSC ADVANCES	1	3,289	3,108	2,936	3,049	3,119	3,361	4,036
66.	*	SCI REP	1	5,288	4,259	4,122	4,011	3,998	4,379	4,966
67.		SENSOR ACTUAT B-CHEM	1	4,758	5,401	5,667	6,393	7,100	7,460	9,221
68.		SOL ENERG MATER SOL C	1	4,732	4,784	5,667	5,018	6,984	7,267	7,305
69.	*	SURF INTERFACES	1	-	-	1,333	2,550	3,724	4,837	6,137
70.	*	SPECTROCHIM ACTA A	1	2,653	2,536	2,880	2,931	3,232	4,098	4,831
71.		THIN SOLID FILMS	1	1,761	1,879	1,939	1,888	2,030	2,183	2,358
72.		VIB SPECTROSC	1	1,682	1,740	1,363	1,861	1,917	2,507	2,382
	34		104							

¹¹ * Corresponding author

¹² J POLYM SCI since Jan 2020

¹³ Research Gate Impact Factor

¹⁴ Scopus cite score metrics for *Recent Patents on Drug Delivery & Formulation*; Journal released in 2007 Now as Recent Advances in Drug Delivery and Formulation