### *NCSR “Demokritos”, December 2021*

### Cirriculum Vitae

### George E. Romanos

Research Director

**Personal Data**

***Date of birth***: 16-05-1969

***Place of birth***: Athens

***Parentage:*** Apiranthos, Naxos.

***Marital Status***: Married with Penelope Asiatidou, three (3) children: Anna-2003,

Emmanuel-2005, Dimitrios-2010.

***Place of residence***: Kountouriotou 18, 155 62 Cholargos Attikis, Tel: +30210-6544614

***Place of work***: Institute of Nanoscience and Nanotechnology, NCSR "Demokritos", 153 10,

Aghia Paraskevi Attikis

***Tel***: +30210-6503972, ***Fax***: +30210-6511766,

***e-mail***: [g.romanos@inn.demokritos.gr](mailto:g.romanos@inn.demokritos.gr)

***Mobile phone:*** +306936900092

**Studies**

|  |  |
| --- | --- |
| 1988-1994 | Diploma in Chemical Engineering, February 1994, National Technical University of Athens, School of Chemical Engineering, “Grade 7,06” |
| 1995-2000 | PhD in Physical Chemistry from the National Technical University of Athens, School of Chemical Engineering “Grade 10” |

**Foreign Languages**

English, French

**Academic Career – Employment Experience**

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| --- | --- |
| 1995-1998 | Post-Graduate Fellow, Institute of Physical Chemistry, NCSR“Demokritos” |
| 1996-2000 | Assistant of Research, Institute of Physical Chemistry, NCSR“Demokritos” |
| 2000-2001 | Collaborative Researcher – Post doc in contract - Institute of Physical Chemistry, NCSR“Demokritos” |
| 2006-2010 | Researcher Grade C - Institute of Physical Chemistry, NCSR“Demokritos” |
| 2010-2012 | Researcher Grade B - Institute of Physical Chemistry, NCSR“Demokritos” |
| 2012-2014 | Researcher Grade B – Institute of Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, NCSR“Demokritos” |
| 2014-2015 | Researcher Grade B – Institute of Nanoscience and Nanotechnology, NCSR“Demokritos” |
| 2015-today | Researcher Grade A – Institute of Nanoscience and Nanotechnology, NCSR“Demokritos” |

**Managerial experience–Research Leadership and Administration**

1. Member of the Financial Committee of NCSR “Demokritos” (2015-2016).
2. Membrer of the Committee of Competitive Projects & Exploitation of Research Results. NCSR “Demokritos” (2013).
3. Member of the Coordinating Committee of the Energy Platform, established by the Greek Secretariat of Research to define the R&D priorities for Greece in the Energy Sector (2014-2020).
4. Evaluator of Proposals (External Expert) for ACT (Accelerating CCS Technologies) invited by the Research Council of Norway– (ACT is a collaboration of research and innovation funding organisations from nine European countries. Their collaboration takes the shape of an ERA NET Cofund under the Horizon 2020 program of the European Commission (EC)).
5. Member of the Scientific Advisory Board of the Institute of Physical Chemistry, NCSR “Demokritos” (2009-2012).
6. Member of the Scientific Advisory Board of the Institute of Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, NCSR “Demokritos” (2012-2014).
7. Member of the Scientific Advisory Board of the Institute of Nanoscience and Nanotechnology, NCSR “Demokritos” (2016-2018).
8. Organiser of the presentation and presenter of the Programe «Nanostructured, Self-Assembled and Complex Materials– Membranes» as representative of 10 Reserachers in the International according to the law (Ν. 1514/1985) evaluation of the Research Centers under the supervision of the Greek General Secretariat for Research and Technology (2014).
9. Coordinator of the European Project “Iolicap”, FP7 (2011-2016).
10. Coordinator of the National Project Collaboration 2011, 11-SYN-8\_936, Novelties on CCS (2013-2015).
11. Member of the evaluation / selection committee for Researchers of the Institute of Nuclear & Radiological Sciences & Technology, Energy & Safety (I.N.RA.S.T.E.S.) NCSR “Demokritos” (2016).
12. Member of the evaluation / selection committee for the recruital of scientific staff in Researcher position, at the Institute of Nuclear & Radiological Sciences & Technology, Energy & Safety (I.N.RA.S.T.E.S.) NCSR “Demokritos” (2016).
13. Responsible for Educational Program of the Institute of Physical Chemistry, NCSR “Demokritos” (2010-2012).
14. Member of the evaluation / selection committee for Researchers of the Institute of Chemical Engineering Sciences, FORTH-ICE-HT, Patras-Greece (2016).
15. Principal organiser of the International Conference: European Conference on Carbon dioxide Capture and Storage, CCS2013, May 28-29, 2013, Antwerp, Belgium (120 participants).
16. Principal organiser of the International Forum: 1st International Forum on Recent developments of CCS Implementation , March 26-27, 2015, Athens, Greece (80 participants).
17. Member of the Organisation Committee of the 2nd  Panhellenic Symposium of Porous Materials, NCSR “Demokritos” September (29-30) 2005.
18. Member of the Scientific Committee of the 7th Panhellenic Symposium of Porous Materials, Ιoannina-Greece (2-4/06-2016).
19. Member of the Scientific Committee of the 22nd Panhellenic Conference on Chemistry, Thessaloniki-Greece (2-4/12-2016).
20. Member of the Organisation Committee of the International Conference, Diffusion Fundamentals III. Athens August 2009.
21. Member of the Organisation Committee, 1st International Workshop NAPEN 2008, Chania Greece, 12-15 October 2008.
22. Principal Organiser of the Workshop “CO2 Capture Technologies” in the framework of the 2nd Hellenic Forum for Science, Innovation and Technology (NCSR “Demokritos” July 2014).
23. Reviewer in Scientific Journals: Journal of Physical Chemistry Letters, Journal of Membrane Science, Microporous and Mesoporous Materials, Journal of Porous Materials, Journal of Hazardous Materials, Journal of Physical Chemistry B, Journal of Physical Chemistry C, Thin Solid Films, Desalination, Separation and Purification Reviews, Applied Catalysis B Environmental, Applied Surface Science, Applied Physics A, Catalysis Communications, Chemical Engineering Journal, Fluid Phase Equilibria, Environmental Science & Technology, Energy & Fuels, International Journal of Thermophysics, Ionics.

**Scientific Activities**

**Α1. Publications**

Α.1 Publications in Peer Reviewed Journals 119

Α.2

Α.2.1 Proceedings of International Conferences with Reviewers 5

Α.2.2 Publications in Proceedings of Greek Conferences with Reviewers 22

##### Α.2.3 Book of Abstracts of International Conferences with Reviewers 41

**Α1.1 Citations**  **3515**  **(Scopus)**

**Α1.2 *h -index*  33 (Scopus)**

##### Β. Scientific and Higher Education text and books (Documentation and Educational Material in general)

##### Β.1 Book Chapters 8

##### C. Educational Experience or equivalent in recognized Research Institutes.

***C.1******Teaching in Pre-and Post-Graduate courses.***

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| --- | --- |
| 1995-1998 | Inorganic Chemistry Lab (1st year), School of Chemical Engineering NTUA, Athens. |
| 1995-1998 | Lab of Physical methods of Analysis (2nd year), School of Chemical Engineering NTUA, Athens. |
| 1995-1998 | Lab of Advanced Inorganic Chemistry (4th year), School of Chemical Engineering NTUA, Athens. |

***C.2 Employment in recognized Research Centers***

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| --- | --- |
| 1995-1998 | Lab of Analytical and Inorganic Chemistry, School of Chemical Engineering NTUA, Athens – Membranes and Materials for Environmental Separations Laboratory, Institute of Physical Chemistry, NCSR “Demokritos” (Research Fellow-PhD Candidate) |
| 1996-2000 | Institute of Physical Chemistry, NCSR “Demokritos” (Assistant Researcher) |
| 2000-2001 | Institute of Physical Chemistry, NCSR “Demokritos” (Collaborating Researcher, in contract) |
| 2006-today | (Researcher)  Institute of Physical Chemistry, NCSR “Demokritos”  Institute of Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, NCSR “Demokritos”  Institute of Nanoscience and Nanotechnology, NCSR “Demokritos” |

# Patents

1. Photocatalytic purification device (P. Falaras, G. Romanos, P. Aloupogiannis), EP2409954, published on 25/01/2012.

**Fellowships-Achievements-Prizes**

1995-98 Post-Graduate Fellowship from NCSR “Demokritos” (4 years, for PhD thesis)

2010 Two members of my Research Group are elected in Professor positions in Greek and International Universities1

2014 Member of the Research Group awarded with **Alternative Water Resources Prize, PSIPW International Prize for Water Award**, Riyadh, Saudi Arabia ([www.psipw.org](http://www.psipw.org))

2013 Best poster competition award for the poster with title “Ionic Liquid modified Zeolite Imidazolate Framework (ZIF-69) membranes for energy efficient CO2 separation from coal fired power plants”, Veziri, Ch.; Karanikolos, G.; Romanos, G.E.; Iliev, B.; Adamova, G.; Schubert, T. J.S.; Kontos, A.G.; Likodimos, V.; Falaras, P., International Congress on Materials and Renewable Energy (MRE 2013) 1-3 July, Athens, Greece.

2010 Figure from the manuscript “A Closer Look Inside Nanotubes: Pore Structure Evaluation of Anodized Alumina Templated Carbon Nanotube Membranes through Adsorption and Permeability Studies”, By Georgios Pilatos, Eleni C. Vermisoglou, Georgios E. Romanos\* *et al.,* Adv. Funct. Mater. 2010, 20, 1–11. Was selected as cover page for the relevant volume of Advanced Functional Materials.

2011 “A promising method against cancer”, Daily Newspaper "Cathimerini", 24 September 2011, for the work with the title: “Magnetic carbon nanotubes with particle- free surfaces and high drug loading capacity”, Eleni C Vermisoglou, George Pilatos, George E Romanos, Eamon Devlin, Nick K Kanellopoulos and Georgios N Karanikolos, Nanotechnology 22 (2011) 355602

<http://www.fee.org.gr/health-news-blog/288-cancer-nanotechnology-chemotherapy.html>

*1Dr. Vlassis Likodimos, elected as Assistant Professor / Physics Department, University of Athens, Greece;*

*Dr. George Karanikolos elected as Assistant Professor Chemical Engineering, The Petroleum Institute Abu Dhabi*

**Research Experience**

***Research Interests***: nanoporous materials and membranes, adsorption and separation in the gaseous and liquid phase, photocatalysis.

Dr. G. E. Romanos is member of the Institute’s program “Nanochemistry and Nanomaterials” and principal member of the Lab “Membranes and Materials for Environmental Separations” at the Institute of Nanoscience and Nanotechnology of NCSR “Demokritos” (Group of 22 scientists).

* Intense research activity in the domains of nanotechnology, environment and energy, with significant contribution in the development of advanced and novel materials, solvents (Ionic Liquids) and technologies for the capture of CO2.
* Focus on the development of ultrathin layered, photocatalytic membranes (photocatalysis and processes), photoelectrochemical processes for the conversion of CO2 to fuels, processes for the capture of CO2 based on solid and liquid adsorbents. Large experience in functional nanocomposite materials (polymeric membranes with carbon nanotube and graphene based fillers for gas separation and desalination).

More information: <https://inn.demokritos.gr/en/>

**Significant contribution in the nomination of Young Researchers and in the exploitation and application of research results.**

# Post-doc researchers supervised: Dr. Marta Pedrosa 2017 (LCM – Laboratory of Catalysis and Materials, Department of Chemical Engineering, Faculty of Engineering. University of Porto), Dr. Sergio Morales Torres -2012 (LCM – Laboratory of Catalysis and Materials, Department of Chemical Engineering, Faculty of Engineering. University of Porto), Δρ. George Karanikolos (2013-2014), Dr. Vlassis Likodimos (2014-2016), Dr. Irini Siranidi (2014-2015), Dr. George Kritikos (2014-2015), Dr. Olga Vangeli(2013-2014), Dr. Anastasios Labropoulos (2013-2014), Dr. Ch. Veziri (2013-2014, 2016-2017), Dr. Theodore Tsoufis (2016-2017), Dr. N. Panopoulos (2016-2017).

# Two (2) of the supervised Post docs are currently Professors in Greek Universities and Universities abroad. (Dr. Vlassis Likodimos, Assistant Professor / Physics Department, University of Athens, Greece; Dr. George Karanikolos, Assistant Professor Chemical Engineering, The Petroleum Institute Abu Dhabi.

* My Research Group has designed and implemented in collaboration with a Greek Construction Company (N&G Goliopoulos S.A.) and the Public Power Corporation S.A. (power provider in Greece) the larger Greek Unit for the capture of CO2 (20 ton/day) from the thermoelectric, lignite burning power plant of Megalopolis-Greece (THS IV-Megalopolis-Greece).

# Education Activities (PhDs-MSCs-Training)

# PhDs Supervision

1. Supervision of the PhD thesis and participant in the 3-membered Election Committee of Dr. M Tsigonias. Greek Open University. Title: «Holistic and environmental packaging development: development and study of materials and technologies for the environmental demands of the printing and packaging industry.». Defense: 2016
2. Supervision of the PhD thesis and participant in the 7-membered Election Committee of Dr. C. Athanasekou. School of Chemical Engineering NTUA Athens Greece. Title: «Chemical modification of ceramic membranes for environmental applications». Defense: 2012.
3. Supervision of the PhD thesis and participant in the 7-membered Election Committee of Dr. G. Pilatos. School of Chemical Engineering NTUA Athens Greece. Title: «Synthesis and modification of graphitic nanostructures and composites for the production of adbanced technology products. Defense: 2013.
4. Supervision of the PhD thesis and participant in the 7-membered Election Committee of Dr. Eleni Androulaki, Department of Materials science and Technology, University of Crete Title: «Molecular Simulation of Ionic Liquids for Environment-Friendly Technological Applications». Defense 2014.
5. Supervision of the PhD thesis and participant in the 7-membered Election Committee of Dr. O. Vangeli (Chemist), Department of Materials Science and Engineering, University of Ioannina. Title: «Ionic Liquid Modified Adsorbents and Membranes for Separation and Catalysis». Defense: 2013.
6. Supervision of the PhD thesis and participant in the 7-membered Election Committee of Dr. A. Perdikaki (Chemist), School of Chemical Engineering NTUA Athens Greece. Title: “ Growth of functional hybrid systems of nanoparticles for environmental and biological systems”. Defense 2016
7. Supervision of the PhD thesis and participant in the 3-membered Election Committee of Mr. Panagiotis Kastanidis (MSc), PhD candidate, School of Chemical Engineering NTUA Athens Greece. Title: «Experimental and theoretical study of inhibition or promotion of hydrates formation for applications of high industrial interest». (In Progress).
8. Supervision of the PhD thesis and participant in the 3-membered Election Committee of Ms. O. Tzialla (MSc), Department of Materials Science and Engineering, University of Ioannina. (Defense 2019).
9. Supervision of the PhD thesis and participant in the 7-membered Election Committee of Ms. L. Gkoura, NATIONAL TECHNICAL UNIVERSITY OF ATHENS SCHOOL OF CHEMICAL ENGINEERING DEPARTMENT I: DEPARTMENT OF CHEMICAL SCIENCES. (Defense July 2019).
10. Supervision of the PhD thesis and participant in the 7-membered Election Committee of Mr. Mohammed Subrati. Title: Synthesis and Characterization of Magnetic Nanoparticles for Applications in the Oil and Gas Industry. Department of Materials Science and Engineering, University of Ioannina Defense January 2020.
11. Supervision of the PhD thesis and participant in the 3-membered Election Committee of Ms. E. Galata (MSc), PhD candidate in the School of Chemical Engineering NTUA Athens Greece. (In Progress).
12. Supervision of the PhD thesis and participant in the 3-membered Election Committee of Mr. George Theodorakopoulos, PhD candidate in the School of Chemical Engineering NTUA Athens Greece. (In Progress).
13. Supervision of the PhD thesis and participant in the 3-membered Election Committee of Mr. Leonidas Spyrogiannopoulos, PhD candidate in the School of Chemical Engineering NTUA Athens Greece. (In Progress).

Master Theses Supervision

1. Supervision of the MSc (2012-2013) of Ms O. Tzialla, University of Ioannina, Intersectorial Master Program «Chemistry and Technology of Materials» Title: “Ionic Liquid Membranes for CO2 separation”. Defense 2013.
2. Supervision of the MSc (2012-2013) of Mr. X. Papatryfon, University of Ioannina, Intersectorial Master Program «Chemistry and Technology of Materials» Title: “Development of Physicochemical Process for CO2 Capture and Release with Gas/Liquid contact and exploitation of Ionic Liquids as new CO2 capture solvents”. Defense 2013.
3. Supervision of the MSc (2014-2015) of Ms. E. Galata, University of Ioannina, Intersectorial Master Program «Chemistry and Technology of Materials» Title: “Development and study of composite nanostructured carbon membranes for gas separation”. Defense 2015.
4. Supervision of the MSc (2016-2017) of Mr. E. Balis, University of Ioannina, Intersectorial Master Program «Chemistry and Technology of Materials» Title: “ Development and characterisation of PVDF and PVDF-HFP hollow fibers with the method of Direct Contact Membrane Distillation” Defense 2017.
5. Supervision of the MSc (2016-2017) of Mr. G. Kakosimos, University of Ioannina, Intersectorial Master Program «Chemistry and Technology of Materials» (Defence 2018).

**Lectures in International Conferences, Workshops and Fora.**

1. “Study of ionic liquid confinement into the pores of ordered nanoporous silicas” G.E. Romanos (Oral), National Center for Scientific Research, Greece, 1st International Conference on Ionic Liquids in Separation and Purification Technology : ILSEPT : Sitges, Spain, 4-7 September 2011.
2. EuroNanoForum 2009, Prague 2-5 June, Parallel Session: Nanotechnology for clean Water: Water Detoxification Using Innovative vi-Nanocatalysts, Workshop: CleanWater-227017 Water Detoxification Using Innovative vi-Nanocatalysts, Press Briefings: Nanotechnology for clean Water: Water Detoxification Using Innovative vi-Nanocatalysts.
3. “Clean Water”, Joint Dissemination Workshop of the nano4water cluster, 26 October 2010, Aachen, Germany.
4. "Ionic liquid-modified nanoporous materials for gas separation and heterogeneous catalysis" Dr. G. Romanos (NCSRD-MESL), Nano 2012 (XI International Conference on Nanostructured Materials), August 26th-31th in Rhodes Island, Greece.
5. EXPERIMENTAL INVESTIGATION OF NEW IONIC LIQUID SOLVENTS REPLACING AMINES IN SCRUBBING / STRIPING UNITS FOR CO2 CAPTURE, G. Romanos, European CCS conference (28-29 May 2013, Antwerp, Belgium).
6. IOLICAP project introduction, G. Romanos, European CCS conference (28-29 May 2013, Antwerp, Belgium).
7. ZEOLITE IMIDAZOLATE FRAMEWORK - IONIC LIQUID HYBRID MEMBRANES FOR CO2 SEPARATION, G. Romanos, European CCS conference (28-29 May 2013, Antwerp, Belgium).
8. Structural and photocatalytic properties of hybrids consisting of TiO2 and carbon nanotubes, G. Romanos, 13th INTERNATIONAL CONFERENCE ENVIRONMENTAL SCIENCE AND TECHNOLOGY, 5-7 September, Athens, Greece
9. Ceramic membranes in hybrid photocatalysis/ultrafiltration processes, G. Romanos 13th INTERNATIONAL CONFERENCE ENVIRONMENTAL SCIENCE AND TECHNOLOGY, 5-7 September, Athens, Greece.
10. Development of Titania Decorated Multi Wall Carbon Nanotubes with CVD techniques, G. Romanos, 3rd International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems, (3rd IC4N), 26-29 June 2011, Herakleion (GR).
11. Iolicap Project Results George Romanos (NCSR Demokritos, Greece), International Forum on Recent Developments of CCS Implementation, Athens 16-17 December 2015.
12. Opening: Welcome and Introduction by IoLiCAP P.I., Dr. G. Romanos (NCSRD, Greece) International Forum on Recent Developments of CCS Implementation – 26th-27th March 2015 – Athens, Greece.
13. On the Use of Ionic Liquids in Order to Inhibit/Promote CO2 Hydrates, George Romanos (NCSRD, Greece) International Forum on Recent Developments of CCS Implementation – 26th-27th March 2015 – Athens, Greece.
14. Ionic Liquids for CO2 capture, George Romanos, CO2TRACCS – BLACK SEA ERA.NET project, International Workshop, 2013 May 13, Athens, Greece, National Technical University of Athens.
15. Ionic Liquids as new solvents for CO2 capture, Dr G. Romanos, Senior Researcher, Institute of Nanoscience and Nanotechnology, NCSR “Demokritos”, Greece - Project FP7 IOLICAP, 2nd Hellenic Forum for Science and Technology, 30/06-4/07/2014, NCSR “Demokritos”, Athens, Greece.
16. Mercury porosimetry in pharmaceutical technology, Dr G. Romanos, Senior Researcher, Institute of Nanoscience and Nanotechnology, NCSR “Demokritos”, Greece, 2nd Hellenic Forum for Science and Technology, 30/06-4/07/2014, NCSR “Demokritos”, Athens, Greece.
17. G. Romanos. Kick-Off Meeting for ENV and GIE LIFE17 projects, 6-7 November 2018, Brussels (invitation by EASME to represent LIFE17 ENV/GR/000387 - LIFE PureAgroH2O)
18. G. Romanos, P. Falaras, E. Markellou, E. Georgaki, D. Kizis and E. Karanasios. “POLLUTANT PHOTO-NF REMEDIATION OF AGRO-WATER”. 5th International Conference on Small and Decentralized Water and Wastewater Treatment Plants, August 26-29 2018, Thessaloniki, Greece (G. Romanos Oral)
19. G. Romanos, Oral: «Τεχνολογίες CCS/U», Ημερίδα Διαβούλευσης, Εθνική Επιτροπή για την Ενέργεια και το Κλίμα, Eρευνα και Καινοτομικές Εφαρμογές Τεχνολογιών Απεξάρτησης από τον Άνθρακα – ΑΠΕ, Τεχνολογίες Η2, CCS/U, 2018, Πέμπτη 29 Νοεμβρίου 2018, Τεχνόπολη Δήμου Αθηναίων (@INNOVATHENS powered by Samsung), Γκάζι.
20. G. Romanos, LifepureagroH2O – Innovative photocatalytic nanofiltration technology for pollutant removal and water reuse of agro-industrial effluents, Water Reuse Europe, Knowledge Exchange Event, Lille, France 21 Oct. 2019.
21. G. Romanos. Innovative photocatalytic nanofiltration technology for micropollutants abatement and water reuse of Agro-industrial effluents-LIFE PureAgroH20, Innovative Technologies for Wastewater Treatment and Water Reuse in Food Industry, Athens 17th January 2020.
22. G. Romanos. “Innovative photocatalytic nanofiltration technology for pollutant removal and water reuse of agro-industrial effluents-LIFE17 ENV/GR/000387 LIFE Pure AgroH2O”, LIFE WASTE-WATER TREATMENT PLATFORM MEETING, Making Water Fit for LIFE. January 29th and 30th 2020, Barcelona, Spain

**Visits in labs abroad**

1. University of Erlangen, 2 days for collaboration with the group of Chemical Processes Technology (CRT group) of Prof. P. Wasserscheid and 2 days with the group of Advanced Optical Methods for Analysis of Prof. Andreas Paul Froba. (2014)
2. Technical University Eindhoven, 2 days for collaboration with the group of Separations Technology of Prof. Maaike Kroon (2013).
3. SINTEF (Trondheim). 7 days (2005). Implementation of oil & gas permeability experiments in cores under conditions of very high pressure and temperature.
4. Rutherford Appleton Laboratory, Chilton, Didcot, Oxfordshire, UK, 6, (2000). 7 days for the implementation of SANS experiments in porous alumina.
5. Laboratoire Leon Brillouin, CEA/CNRS UMR 12, CEA-Saclay, 91191 Gif-sur-Yvette Cedex, France, 5 days for the implementation of SANS experiments in hybrid systems of porous silica with Ionic Liquids. (2011).

**Funding**

As coordinator:

* Coordinator of the European Project: IOLICAP, “Novel IOnic LIquid and supported ionic liquid solvents for reversible CAPture of CO2 ", FP7-Energy, Grant agreement no: 283077 (DURATION 12/2011-02/2016), Total budget: 5,770,719.00€, NCSRD budget: 1,048,161.00€.
* Coordinator of the National Project: 11ΣΥΝ\_8\_936, NOVEL TechnologIES ON the implementation of CCS, (ESPA 2007-2011, SYNERGASIA 2011, (DURATION 11/2013-06/2015)), total budget 683,165.00€, NCSRD budget: 124,300.00€, Partners: CERTH/CPERI, NTUA, AMBIO S.A., SINARTIA.
* Principal Investigator of the International Project: Novel, Highly Selective Nanocomposite Adsorbents for High Capacity CO2 Capture from Tail Gas and Cost Effective Regeneration for EoR use. Total budget: 1,203,000 USD, NCSRD budget: US $ 253,000.00, duration: 01/04/2016-31/03/2019.
* Coordinator of the Proposal, Horizon 2020 (ISIB-06-2015) with title “Innovative photoelectrocatalystS and phOtoanodes based on 3-Dimensional, “BLAck TiO2”- pillared graphene derivatives, applied into intensified CO2 capture and photocatalytic conversion processes”, marked with 14/15 and put in the reserve list for funding.

**As participant:**

* **HORIZON 2020**, Project ZEOCAT-3D, GRANT AGREEMENT NUMBER 814548 **Scientific Responsible for NCSR**,— Budget for NCSRD 423750€.
* LIFE Environment and Resource Efficiency project application, **LIFE17 ENV/GR/000387**, Pollutant Photo-NF remediation of Agro-Water, LIFE PureAgroH2O. **Scientific Responsible for NCSR**,— Budget for NCSRD 784363€, EU contribution 470618€.
* Contribution in the preparation of Research Infrastructure Proposal “National Nanotechnology and Nanoscience Infrastructure (Nano-GR)” of the Institute of Nanoscience and Nanotechnology, which was marked with 20/20. Accepted for funding with total budget of 4M€ (Project number 5002772)
* FP7-NMP, Water Detoxification Using Innovative vi-Nanocatalysts, CLEAN WATER, NCSRD budget 570.000 € .
* FP7-NMP, Development of NEXT Generation cost efficient automotive catalysts (Contract no 280890), NCSRD budget 680000€.
* National Project, Scientific Excellence ΙΙ, “SolMeD-Desalination by Solar Powered Membrane Distillation: Material and Process Optimization”, ARISTEIA, GSRT, 65 K€.
* Greece-China Collaboration “Development of Ionic Liquid based selective adsorbents and membranes for the flue gas and carbon dioxide PURification with novel hybrid adsorbent-mEmbrane process”-IOLIPURE, Coordinator: SINARTIA, Scientific responsible for NCSRD: A. Sapalidis, NCSRD budget 225,000.00€, (DURATION 2013-2015).
* CERAMEM GRD2-2000-30372 “Ceramic Membranes for Olefin-Parafin Separations”.
* ΒRITE-ΕURAM BRPR-CT96-0313 “Development and Testing of Zeolite Membranes for Gas Separations”.
* PROTOP (EVK3-CT-2-2-30004) Craft-1999-71938 “Production of Tensioactives from Oleaginous Plants Chains and Polysaccharides from Ulva”.
* COBRA G1st-CT-2000-50195 “Low Energy Consumptive Liquid and Supercritical CO2 Recycling”.
* VISLATEX (BRITE-EURAM BRPR CT98-0646) “Visible light curable latex and heavily pigmented coating systems”
* ΕPΕΤ ΙΙ E724 “Synthesis of Quartz Membranes with Plasma Treatment and CVD for Gas and Liquid Phase Separations”. Partners : HERACKLES-E.K.E.T. SA (Cement Company), ATLANTIS SA, VIANA SA (Filters Manufacturing), Ministry of Agriculture Research Center (Public Research), LAVA-BIOR SA (Cement Company), NCSR “Demokritos”.
* Joule JOE-CT95-0008 “Optimal Massive Gas Injection Conditions for Oil Recovery Enhancement”. Partners: Institute Francais du Petrole (France), IFE (Norway), NCSR “Demokritos” (Hellas).
* FAIR CT98-4416, (BIONANOPACK): “Biodegradable nanocomposite food packaging”, Partners: NCSR “Demokritos” (Hellas), TNO-ITT (The Netherlands), CNR-IPT (Italy), Biop Biopolymer GmBh (Germany), Laviosa Chimica Mineralia Spa (Italy), Ortobell Srl (Italy), INSTM (Italy).

## International Collaboration

Peter Wasserscheid (University of Erlangen), Peter Schulz (University of Erlangen), Andreas Paul Froba (University of Erlangen), Paul Cobden (ECN, the Netherlands), Haroun Mahgerefteh (UCL (London)), D.D. Dionysiou (Cincinatti, USA), Α. Silva (Porto, Portugal), J. Dona Rodriguez (Las Palmas, Spain), Hequet (Ecole des Mines Nantes, France), E. Kantilaftis (Osmosistemi, Fano, IT), P. Aloupogiannis (IRT, London, UK), G. Thompon (Manchester, UK), Boyan Iliev (Iolitec), R. Sainz (NanoInnova Spain), Maaike kroon (TU/e the Netherlands, Petroleum Institute Abu Dhabi).

**Companies**

BASF (Dr. Maria Franscisco Casal), Evonik (Dr. Gabriela Adamova), Iolitec (Dr. Boyan Iliev), Titan S.A. (Dr. Marios Katsiotis), Public Power Corporation S.A. (Mr. C. Papapavlou), NanoInnova (Dr. Raquel Sainz), Petkim Petrochemicals (Dr. Gurbuz Comak).

**Α. Published Research Work**

**Α.1 Publications in International Journals with Reviewers**

**Α.1 Papers in International refereed journals (Dr. G. Romanos)**

119. A diamino-functionalized silsesquioxane pillared graphene oxide for CO2capture

Open AccessmThomou, E., Sakavitsi, V., Angeli, G.K., (...), Gournis, D., Rudolf, P. RSC Advances 11(23), 2021, pp. 13743-13750.

118. Structuring efficient photocatalysts into bespoke fiber shaped systems for applied water treatment Theodorakopoulos, G.V., Romanos, G.E., Katsaros, F.K., Beazi-Katsioti, M., Falaras, P. 2021 Chemosphere 277, 2021, 130253

117. Singh, S., Varghese, A.M., Reddy, K.S.K., Romanos, G.E., Karanikolos, G.N. Polysulfone Mixed-Matrix Membranes Comprising Poly(ethylene glycol)-Grafted Carbon Nanotubes: Mechanical Properties and CO2 Separation Performance, Industrial and Engineering Chemistry Research, 2021, 60(30), pp. 11289–11308.

116. Karanikolos GN, Romanos G and Vega LF (2021) Editorial: Chemical Modification of Adsorbents for Enhanced Carbon Capture Performance. Front. Chem. 9:657669. doi: 10.3389/fchem.2021.657669

115. Mild temperature-gas separation performance of graphene oxide membranes for extended period: micropore to meso- and macropore readjustments and the fate of membranes under the influence of dynamic graphene oxide changes, Chrysoula P. Athanasekou, Marta F. Pedrosa, Adrián M.T. Silva, Vassilis P. Psycharis, George E. Romanos, Chemical Engineering Journal Advances Volume 5, 2021, 100066.

114. Boosting visible light harvesting and charge separation in surface modified TiO 2 photonic crystal catalysts with CoOx nanoclusters Alexia Toumazatou, Maria Antoniadou, Elias Sakellis, Dimitra Tsoutsou, Spyros Gardelis, George Em Romanos, Nikolaos Ioannidis, Nikos Boukos, Athanassios Dimoulas, Polycarpos Falaras, Vlassis Likodimos, Materials Advances 1 (7), 2310-2322

113. Surfactant Effects on the Synthesis of Redox Bifunctional V2O5 Photocatalysts

Islam Ibrahim, George V Belessiotis, Michalis K Arfanis, Chrysoula Athanasekou, Athanassios I Philippopoulos, Christiana A Mitsopoulou, George Em Romanos, Polycarpos FalarasMaterials 13 (20), 2020, 4665

112. Synechococcus elongatus PCC7942: a cyanobacterium cell factory for producing useful chemicals and fuels under abiotic stress conditions, D Vayenos, GE Romanos, GC Papageorgiou, K Stamatakis, Photosynthesis Research, 1-11

111. Composite porous nanostructures as multi-action adsorbents and membrane fillers for carbon dioxide separation: Comparative performance of metal organic framework–graphene oxide, Nidhika Bhoria, Jeewan Pokhrel, Stavroula Anastasiou, K Suresh Kumar Reddy, George Romanos, Georgios N Karanikolos, <https://doi.org/10.1016/j.matpr.2020.07.466>

110. Recent Advances in Experimental Measurements of Mixed-Gas Three-Phase Hydrate Equilibria for Gas Mixture Separation and Energy-Related Applications, Kastanidis, P., Tsimpanogiannis, I.N., Romanos, G.E., Stubos, A.K., Economou, I.G., Journal of Chemical and Engineering Data 64(12), 2020, pp. 4991-5016

109. The peculiar size and temperature dependence of water diffusion in carbon nanotubes studied with 2D NMR diffusion–relaxation D –T2eff spectroscopy L Gkoura, G Diamantopoulos, M Fardis, D Homouz, S Alhassan, M Beazi-Katsioti, M Karagianni, A Anastasiou, G Romanos, J Hassan, G Papavassiliou, Biomicrofluidics 14 (3), 034114

108. Correlating vibrational properties with temperature and pressure dependent CO2 adsorption in zeolitic imidazolate frameworks AG Kontos, GE Romanos, CM Veziri, A Gotzias, MK Arfanis, E Kouvelos, ... Applied Surface Science 529, 147058

107. Athanasekou, C., Sapalidis, A., Katris, I., Savopoulou, E., Beltsios, K., Tsoufis, T., Kaltzoglou, A., Falaras, P., Bounos, G., Antoniou, M., Boutikos, P., Romanos, G.E., “Mixed Matrix PVDF/Graphene and Composite-Skin PVDF/Graphene Oxide Membranes Applied in Membrane Distillation” Polymer Engineering and Science 59, 2019, E262-E278.

106. Balis, E., Sapalidis, A., Pilatos, G., Kouvelos, E., Athanasekou, C., Veziri, C., Boutikos, P., Beltsios, K.G., Romanos, G. “Enhancement of vapor flux and salt rejection efficiency induced by low cost-high purity MWCNTs in upscaled PVDF and PVDF-HFP hollow fiber modules for membrane distillation”, Separation and Purification Technology, 224, 2019, 163-179

105. Filatzikioti, A., Glezos, N., Kantarelou, V., Kyriakis, A., Pilatos, G., Romanos, G., Speliotis, T., Stathopoulou, D.J., “Carbon nanotube Schottky type photodetectors for UV applications” Solid-State Electronics 151, 2019, 27-35.

104. Diamantopoulou, A., Sakellis, E., Romanos, G.E., Gardelis, S., Ioannidis, N., Boukos, N., Falaras, P., Likodimos, V. “Titania photonic crystal photocatalysts functionalized by graphene oxide nanocolloids” Applied Catalysis B: Environmental

240, 2019, 277-290.

103. Pokhrel, J., Bhoria, N., Tsoufis, T., Romanos, G., Karanikolos, G.N. “Carbon dioxide capture by amine-grafted nanoporous adsorbents” (Conference Paper), SEG/AAPG/EAGE/SPE Research and Development Petroleum Conference and Exhibition 2018, RDP 2018, 2018, Page 220

SEG/AAPG/EAGE/SPE Research and Development Petroleum Conference and Exhibition 2018, RDP 2018; Abu Dhabi; United Arab Emirates; 9 May 2018 through 10 May 2018; Code 138805

102. Pokhrel, J., Bhoria, N., Wu, C., Reddy, K.S.K., Margetis, H., Anastasiou, S., George, G., Mittal, V., Romanos, G., Karonis, D., Karanikolos, G.N., “Cu- and Zr-based metal organic frameworks and their composites with graphene oxide for capture of acid gases at ambient temperature” Journal of Solid State Chemistry, 266, 2018, 233-243.

101. Pokhrel, J., Bhoria, N., Anastasiou, S., Tsoufis, T., Gournis, D., Romanos, G., Karanikolos, G.N., CO2 adsorption behavior of amine-functionalized ZIF-8, graphene oxide, and ZIF-8/graphene oxide composites under dry and wet conditions, Microporous and Mesoporous Materials, 267, 2018, 53-67

100. Tsimpanogiannis, I.N., Costandy, J.b,, Kastanidis, P., El Meragawi, S., Michalis, V.K., Papadimitriou, N.I., Karozis, S.N., Diamantonis, N.I., Moultos, O.A., Romanos, G.E., Stubos, A.K., Economou, I.G., “Using clathrate hydrates for gas storage and gas-mixture separations: experimental and computational studies at multiple length scales” Molecular Physics , 116, 15-16, 2018, 2041-2060.

99. Karousos, D.S., Labropoulos, A.I., Tzialla, O., Papadokostaki, K., Gjoka, M., Stefanopoulos, K.L., Beltsios, K.G., Iliev, B., Schubert, T.J.S., Romanos, G.E., “Effect of a cyclic heating process on the CO2/N2 separation performance and structure of a ceramic nanoporous membrane supporting the ionic liquid 1-methyl-3-octylimidazolium tricyanomethanide”, Separation and Purification Technology 200, 2018, 11-22.

98. Kastanidis, P., Michalis, V.K., Romanos, G.E., Stubos, A.K., Economou, I.G., Tsimpanogiannis, I.N., “Solubility of Methane and Carbon Dioxide in the Aqueous Phase of the Ternary (Methane + Carbon Dioxide + Water) Mixture: Experimental Measurements and Molecular Dynamics Simulations” Journal of Chemical and Engineering Data, 63, 4, 2018, 1027-1035.

97. Pokhrel, J., Bhoria, N., Tsoufis, T., Romanos, G., Karanikolos, G.N., “Co2 capture by amine-functionalized metal-Organic frameworks (MOFs), graphene oxide (GO), and MOF/GO composites” (Conference Paper) Environmental Division 2017 - Core Programming Area at the 2017 AIChE Annual Meeting Volume 2017-October, 2017, Pages 5-15. Environmental Division 2017 - Core Programming Area at the 2017 AIChE Annual Meeting; Minneapolis; United States; 29 October 2017 through 3 November 2017; Code 136250

96. Dimitris Tsiourvas, Aggeliki Papavasiliou, Evangelia G. Deze, Sergios K. Papageorgiou, Fotios K. Katsaros, George E. Romanos, Evangelos Poulakis, Constantine J. Philippopoulos, Qi Xin and Pegie Cool, A Green Route to Copper Loaded Silica Nanoparticles Using Hyperbranched Poly(Ethylene Imine) as a Biomimetic Template: Application in Heterogeneous Catalysis, Catalysts 2017, 7, 390; doi:10.3390/catal7120390.

95. Panagiotis Kastanidis, George E. Romanos, Athanassios K. Stubos, Ioannis G. Economou, and Ioannis N. Tsimpanogiannis, Two- and Three-Phase Equilibrium Experimental Measurements for the Ternary CH4 + CO2 + H2O Mixture, Fluid Phase Equilibria, 451, 2017, 96-105.

94. D. Karousos, A.I. Labropoulos, A. Sapalidis, N.K. Kanellopoulos, B. Iliev, T. J.S. Schubert, G.E. Romanos, **Nanoporous ceramic supported ionic liquid membranes** for CO2 and SO2 removal from flue gas, Chemical Engineering Journal 313 (2017) 777-790.

93. Comparison of self-standing and **supported graphene oxide membranes** prepared by simple filtration: gas and vapor separation, pore structure and stability, C. Athanasekou, M. Pedrosa, T. Tsoufis, L.M. Pastrana-Martínez, G. Romanos\*, E. Favvas, F. Katsaros, A. Mitropoulos, V. Psycharis, A.M.T. Silva, Journal of Membrane Science 522 (2017) 303–315.

92. Graphene-based materials via benzidine-assisted exfoliation and reduction of graphite oxide and their electrochemical properties, E.C. Vermisoglou, T. Giannakopoulou, G. Romanos, N. Boukos, V. Psycharis, C. Lei, C. Lekakou, D. Petridis, C. Trapalis, Applied Surface Science 392 (2017) 244–255

91. Photocatalytic Degradation of Hexavalent Chromium Emerging Contaminant via Advanced Titanium Dioxide Nanostructures C. Athanasekou, G. Em. Romanos, S.K. Papageorgiou, G. Manolis, F. Katsaros, P. Falaras, Chemical Engineering Journal, 318 (2017) 171-180.

90. Metal loaded nanoporous silicas with tailor-made properties through hyperbranched polymer assisted templating approaches, E.G. Deze, A. Papavasiliou, S.K. Papageorgiou, F.K. Katsaros, E.P. Kouvelos, G.E. Romanos, N. Boukos, Q. Xin, J.L. Nyalosaso, P. Cool, Microporous and Mesoporous Materials 235 (2016) 107-119

89. Physically bound and chemically grafted activated carbon supported 1-hexyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide and 1-ethyl-3-methylimidazolium acetate ionic liquid absorbents for SO2/CO2 gas separation, D.S. Karousos, O.C. Vangeli, C.P. Athanasekou, A.A. Sapalidis, E.P. Kouvelos, G.Em. Romanos, N.K. Kanellopoulos, Chemical Engineering Journal, 306, 2016, 146-154.

88. Tubular **C/Cu decorated gamma-alumina membranes** for NO abatement Yakoumis, Iakovos; Theodorakopoulos, George; Papageorgiou, Sergios K.; Romanos, George E.; et al.. Journal of Membrane Science 515 (2016) 134–143.

87. Gas permeance properties of asymmetric **carbon hollow fiber membranes** at high feed pressures, Favvas, Evangelos P.; Romanos, George Em.; Katsaros, Fotios K.; et al. JOURNAL OF NATURAL GAS SCIENCE AND ENGINEERING, 31 2016, 842-851.

86. Novel Inverse Supported Ionic Liquid Absorbents for Acidic Gas Removal from Flue Gas, D. S. Karousos, E. Kouvelos, A. Sapalidis, K. Pohako-Esko, M. Bahlmann, P. S. Schulz, P. Wasserscheid,\*, E. Siranidi, O. Vangeli, P. Falaras, N. Kanellopoulos, and G. Em. Romanos\*, INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH , 55 (19) 2016 5748-5762.

85. Porous carbons from ionic liquid precursors confined within nanoporous silicas, Tzialla, O., Kakosimos, G., Athanasekou, C., Galata, E., Romanos, G.E., Pilatos, G., Zubeir, L.F., Kroon, M.C., Iliev, B., Schubert, T.J.S., Beltsios, K.G., Microporous and Mesoporous Materials, 223, 2016, 163-175.

84. Design and optimization of a photocatalytic reactor for water purification combining optical fiber **and membrane technologies**, Dimitrios A. Athanasiou, George Em. Romanos, Polycarpos Falaras, Chemical Engineering Journal, 305 (2016) 92-103.

83. A study on natural clinoptilolite for CO2 / N2 gas separation Dionysios S. Karousos, Andreas A. Sapalidis, Evangelos P. Kouvelos, George Em. Romanos and Nickolaos K. Kanellopoulos, Separation Science and Technology, 51, 2016, 83-95

82. Efficient CO oxidation in an ionic liquid-modified, Au nanoparticle loaded membrane contactor Anna V. Perdikaki, Anastasios I. Labropoulos, Eirini Siranidi, Ioannis Karatasios, Nikos Kanellopoulos, Nikos Boukos, Polycarpos Falaras, Georgios N. Karanikolos, Georgios E. Romanos, Chemical Engineering Journal 305 (2016) 79-91.

81. Development of a novel experimental apparatus for hydrate equilibrium measurements, Panagiotis Kastanidis, George E. Romanos, Vasileios K. Michalis, Ioannis G. Economou, Athanassios K. Stubos, Ioannis N. Tsimpanogiannis, FLUID PHASE EQUILIBRIA Volume: 424 Special Issue: SI Pages: 152-161 Published: SEP 25 2016

80. **Carbon Nanotube Selective Membranes** with Subnanometer, Vertically Aligned Pores, and Enhanced Gas Transport Properties, Labropoulos, A.,Veziri, C., Kapsi, M., Pilatos, G., Likodimos, V., Tsapatsis, M., Kanellopoulos, N.K., Romanos, G.E.,

Karanikolos, G.N., Chemistry of Materials, 2015, 27, 8198-8210.

79. Non-activated high surface area expanded graphite oxide for supercapacitors, E.C. Vermisoglou, T. Giannakopoulou, G.E. Romanos, N. Boukos, M. Giannouri,C. Lei, C. Lekakou, C. Trapalis, Applied Surface Science 358 (2015) 110-121

78. Effect of hydrothermal reaction time and alkaline conditions on the electrochemical properties of reduced graphene oxide, E.C. Vermisoglou, T. Giannakopoulou, G. Romanos, M. Giannouri, N. Boukos, C. Lei, C. Lekakou, C. Trapalis, Applied Surface Science, 358 (2015) 100-109

77. “A facile approach for the development of fine-tuned self-standing **graphene oxide membranes** and their gas and vapor separation performance”, G. Romanos\*, L. M. Pastrana-Martínez, T. Tsoufis , C. Athanasekou, E. Galata, F. Katsaros, E. Favvas, K. G. Beltsios, E. Siranidi, P. Falaras, V. Psycharis, A.M.T.Silva, Journal of Membrane Science 493 (2015) 734–747.

76. I. S. Molchan, G. E. Thompson, P. Skeldon, R. Lindsay, J. Walton, E. Kouvelos, G. Em. Romanos, P. Falaras, A. G. Kontos, M. Arfanis, E. Siranidi, L. F. Zubeir, M. C. Kroon, J. Klöckner, B. Iliev and T. J. S. Schubert, Microscopic study of the corrosion behaviour of mild steel in ionic liquids for CO2 capture applications, RSC Adv., 2015, 5, 35181–35194

75. Solubility and diffusivity of CO2 in the ionic liquid 1-butyl-3-methylimidazolium tricyanomethanide ([bmim][TCM]) within large pressure range (0.01 to 10 MPa), Lawien F. Zubeir, George E. Romanos, Boyan Iliev, Maaike C. Kroon, Journal of Chemical & Engineering Data. 2015, 60 (6), pp 1544–1562.

74. **Ceramic photocatalytic membranes** for water filtration under UV and visible light. Chrysoula P. Athanasekou, Nikolaos G. Moustakas, Sergio Morales-Torres,Luisa M. Pastrana-Martínez, José L. Figueiredo, Joaquim L. Faria, Adrián M.T. Silva ,José M. Dona-Rodriguez, George Em. Romanos, Polycarpos Falaras, Applied Catalysis B: Environmental 178 (2015) 12–19

73. Ionic liquids for carbon dioxide capture and conversion By: Stiemke, Frank M.; Iliev, Boyan; Kloeckner, Jessica; Schubert, Thomas J. S.; Romanos, George; Kroon, Maaike, ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY Volume: 247 Meeting Abstract: 199-ENFL Published: MAR 16 2014.

72. CO2 Capture by Novel Supported Ionic Liquid Phase systems consisting of Silica nanoparticles encapsulating Amine Functionalized Ionic Liquids. George Em. Romanos\*, Peter S. Schulz, Matthias Bahlmann, Peter Wasserscheid, Andreas Sapalidis, Fotios K. Katsaros, Chrysoula Athanasekou, Konstantinos Beltsios, N. K. Kanellopoulos, J. Phys. Chem. C 2014, 118, 24437−24451

71. Tailor-made graphite oxide-DAB poly(propylene imine) dendrimer intercalated hybrids and their potential for efficient CO2 adsorption T. Tsoufis, F. Katsaros, Z. Sideratou, G. Romanos, O. Ivashenko, P. Rudolf, B.J. Kooi, and M.A. Karakassides. Chem. Commun., 2014, 50, 10967-10970

70. “CO2 Capture Efficiency, Corrosion Properties, and Ecotoxicity Evaluation of Amine Solutions Involving Newly Synthesized Ionic Liquids” Xenophon L Papatryfon, Nikolaos S Heliopoulos, Igor S Molchan, Lawien F Zubeir, Nathan D Bezemer, Michael K Arfanis, Athanassios G. Kontos, Vlassis Likodimos, Boyan Iliev, George Em. Romanos\*, Polycarpos Falaras, Konstantinos Stamatakis, Konstantinos Beltsios, Maaike C. Kroon, George E. Thompson, Jessica Klöckner, and Thomas J. S. Schubert, Ind. Eng. Chem. Res. 2014, 53, 12083−12102.

69. Experimental investigation of the transport mechanism of several gases during the **CVD post-treatment of nanoporous membranes,** A.I. Labropoulos, C.P. Athanasekou, N.K. Kakizis, A.A. Sapalidis, G.I. Pilatos, G.E. Romanos, N.K. Kanellopoulos, Chemical Engineering Journal 255 (2014) 377–393

68. Phase behavior and permeability of Alkyl-methyl-imidazolium tricyanomethanide **Ionic Liquids supported in nanoporous membranes.** Ourania Tzialla, Anastasios Labropoulos, Athanasia Panou, Meropi Sanopoulou, Evaggelos Kouvelos, Chrysoula Athanasekou, Konstantinos Beltsios, Vlassis Likodimos, Polycarpos Falaras, George Romanos, Separation and Purification Technology 135 (2014) 22–34

67. “CO2 captured in zeolitic imidazolate frameworks: Raman spectroscopic analysis of uptake and host-guest interactions”, Athanassios G. Kontos, Vlassis Likodimos, Charitomeni M. Veziri, Evangelos Kouvelos, Nikolaos Moustakas, Georgios N. Karanikolos, George Em. Romanos, Polycarpos Falaras, ChemSusChem, 7, (2014) 1696–1702.

66. ‘**Prototype composite membranes of partially reduced graphene oxide/TiO2** for photocatalytic ultrafiltration water treatment under visible light” Chrysoula P. Athanasekou, Sergio Morales-Torres, Vlassis Likodimos, George Em. Romanos\*, Luisa Pastrana-Martinez Polycarpos Falaras, Joaquim L. Faria, José L. Figueiredo, Adrián M.T. Silva. Applied Catalysis B: Environmental, 2014, 158-159, 361-372

65. “Corrosion behaviour of mild steel in 1-alkyl-3-methylimidazolium tricyanomethanide ionic liquids for CO2 capture applications” Igor S. Molchan, George E. Thompson, Robert Lindsay, Peter Skeldon, Vlassis Likodimos, George Em. Romanos, Polycarpos Falaras, Gabriela Adamova, Boyan Iliev and Thomas J. S. Schubert . RSC Adv., 2014, 4, 5300-5311.

64. “Controlled surface functionalization of multiwall carbon nanotubes by HNO3 hydrothermal oxidation”, Vlassis Likodimos, Theodore A. Steriotis, Sergios K. Papageorgiou, George Em. Romanos, Rita R.N. Marques, Raquel P. Rocha, Joaquim L. Faria, Manuel F.R. Pereira, Jose´ L. Figueiredo, Adria´n M.T. Silva, Polycarpos Falaras, Carbon, 2014, 69, 311-326

63. “One-step, in situ growth of unmodified graphene – magnetic nanostructured composites”, George Pilatos, Eleni C. Vermisoglou, Anna Perdikaki, Eamon Devlin, George S. Pappas, George E. Romanos, Nikos Boukos, Tatiana Giannakopoulou, Christos Trapalis, Nick K. Kanellopoulos, Georgios N. Karanikolos, Carbon 66 (2014) 467 –475.

62. “Reduced graphene oxide/iron carbide nanocomposites for magnetic and supercapacitor applications”, E.C. Vermisoglou , E. Devlin, T. Giannakopoulou, G. Romanos, N. Boukos, V. Psycharis, C. Lei, C. Lekakou, D. Petridis, C. Trapalis, Journal of Alloys and Compounds 590 (2014) 102–109

61. “Pore structure, interface properties and photocatalytic efficiency ofhydration/dehydration derived TiO2/CNT composites”, Sandra M. Miranda, George Em. Romanos\*, Vlassis Likodimos, Rita R.N. Marques,Evangelos P. Favvas, Fotios K. Katsaros, Konstantinos L. Stefanopoulos, Vítor J.P. Vilar, Joaquim L. Faria, Polycarpos Falaras, Adrián M.T. Silva, Applied Catalysis B: Environmental 147 (2014) 65– 81

60. “Visible light active **TiO2 photocatalytic filtration membranes** with improved permeability and low energy consumption” Moustakas, N.G., Katsaros, F.K., Kontos, A.G., Romanos, G.E., Dionysiou, D.D., Falaras, P. Catalysis Today Volume 224, 2014, Pages 56-69

59. “**Zeolite Imidazolate Framework−Ionic Liquid Hybrid Membranes** for Highly Selective CO2 Separation”, O. Tzialla, Ch. Veziri, X. Papatryfon, K.G. Beltsios, A. Labropoulos, B. Iliev, G. Adamova, T.J.S. Schubert, M.C. Kroon, M. Francisco, L.F. Zubeir, G.E. Romanos,\* and G. N. Karanikolos, J. Phys. Chem. C 2013, 117, 18434−18440.

58. “Alkyl-methylimidazolium Tricyanomethanide Ionic Liquids under Extreme Confinement onto **Nanoporous Ceramic Membranes**” A. I. Labropoulos, G. Em. Romanos\*, E. Kouvelos, P. Falaras, V. Likodimos, M. Francisco, M. C. Kroon, B. Iliev, G. Adamova, and Thomas J. S. Schubert, J. Phys. Chem. C 2013, 117, 10114−10127

57. “Enhanced CO2 Capture in Binary Mixtures of 1‑Alkyl-3-methylimidazolium Tricyanomethanide Ionic Liquids with Water” George E. Romanos\*, Lawien F. Zubeir, Vlassis Likodimos, Polycarpos Falaras, Maaike C. Kroon, Boyan Iliev, Gabriela Adamova, and Thomas J. S. Schubert, J. Phys. Chem. B 2013, 117, 12234−12251

56. “Hybrid Ultrafiltration/**Photocatalytic Membranes** for Efficient Water Treatment” G. E. Romanos,\* C. P. Athanasekou, V. Likodimos, P. Aloupogiannis, and P. Falaras, Ind. Eng. Chem. Res. 2013, 52, 13938−13947.

55. “Ionic liquid redox electrolytes based on binary mixtures of 1-alkyl-methylimidazolium tricyanomethanide with 1-methyl-3-propylimidazolium iodide and implication in dye-sensitized solar cells”. Maria Bidikoudi, Thomas Stergiopoulos, Vlassis Likodimos, Georgios Em. Romanos, Maria Francisco, Boyan Iliev, Gabriela Adamova Thomas J. S. Schubert and Polycarpos Falaras, J. Mater. Chem. A, 2013,1, 10474-10486

54. Photocatalytic behaviour of nanocarbon–TiO2 composites and immobilization into hollow fibres Luisa M. Pastrana-Martínez, Sergio Morales-Torres, Sergios K. Papageorgiou, Fotis K. Katsaros, George E. Romanos, José L. Figueiredo, Joaquim L. Faria, Polycarpos Falaras, Adrián M.T. Silva, Applied Catalysis B: Environmental 142– 143 (2013) 101– 111.

53. “Ionic liquids for CO2 capture” Stiemke, F., Adamová, G., Iliev, B., Schubert, T.J.S., Romanos, G., Kroon, M. (Conference Paper), Technical Proceedings of the 2013 NSTI Nanotechnology Conference and Expo, NSTI-Nanotech 2013 Volume 3, 2013, Pages 705-707

52. “Inorganic–organic core–shell titania nanoparticles for efficient visible light activated photocatalysis”, N.G. Moustakas, A.G. Kontos, V. Likodimos, F. Katsaros, N. Boukos, D. Tsoutsou, A. Dimoulas, G.E. Romanos, D.D. Dionysiou, P. Falaras, Applied Catalysis B: Environmental 130– 131 (2013) 14– 24.

51.Few layer graphenes decorated with silver nanoparticles (Conference Paper), Vermisoglou, E., Todorova, N., Pilatos, G., Romanos, G., Likodimos, V., Boukos, N., Lei, C., Markoulidis, F., Lekakou, C. , Trapalis, C., 15th European Conference on Composite Materials: Composites at Venice, ECCM 2012; Venice; Italy; 24 June 2012 through 28 June 2012; Code 106145

50. “Very efficient **composite titania membranes** in hybrid ultrafiltration/photocatalysis water treatment processes” C.P. Athanasekou G.E. Romanos, F.K. Katsaros, K. Kordatos, V. Likodimos, P. Falaras, Journal of Membrane Science 392– 393 (2012) 192– 203.

49. “Double-side active **TiO2-modiﬁed nanoﬁltration membranes** in continuous ﬂow photocatalytic reactors for effective water puriﬁcation”. G.Em. Romanos**\*,** C.P. Athanasekou, F.K. Katsaros, N.K. Kanellopoulos, D.D. Dionysiou, V. Likodimos, P. Falaras, Journal of Hazardous Materials 211– 212 (2012) 304– 316.

48. “Alginate fibers as photocatalyst immobilizing agents applied in hybrid **photocatalytic/ultrafiltration** water treatment processes”, S.K. Papageorgiou, F.K. Katsaros, E.P. Favvas, G. Em. Romanos, C.P. Athanasekou, K.G. Beltsios, O.I. Tzialla, P. Falaras, Water Research 46 (2012) 1858-1872.

47. “Alginate based materials in environmental applications: From metal sorption to advanced catalytic and membrane processes” (Chapter) Papageorgiou, S.K. , Romanos, G.E., Katsaros, F.K. Alginates: Production, Types and Applications 2012, Pages 61-95.

46. “Composite hydroxyapatite/TiO2 materials for photocatalytic oxidation of NOx”, T. Giannakopoulou,N. Todorova, G. Romanos, T. Vaimakis, R. Dillert, D. Bahnemann, C. Trapalis, Materials Science and Engineering B 177 (2012) 1046–1052.

45. “Ionic Liquid-Modified Porous Materials for Gas Separation and Heterogeneous Catalysis”, Anna V. Perdikaki, Olga C. Vangeli, Georgios N. Karanikolos, Konstantinos L. Stefanopoulos,Konstantinos G. Beltsios, Paschalis Alexandridis, Nick K. Kanellopoulos, and George Em. Romanos\*, J. Phys. Chem. C 2012, 116, 16398−16411.

44. “Investigation of Physically and Chemically Ionic Liquid Confinement in Nanoporous Materials by a Combination of SANS, Contrast-Matching SANS, XRD and Nitrogen Adsorption”, G E Romanos\*, K L Stefanopoulos, O C Vangeli, K Mergia, K G Beltsios, N K Kanellopoulos and D Lairez, Journal of Physics: Conference Series 340 (2012) 012087, doi:10.1088/1742-6596/340/1/012087.

43 “Implication of composite photocatalysts incorporating carbon-based nanomaterials with potential use in drinking water treatment: Mechanical and chemical stability” Author(s): Han, C (Han, Changseok); Pelaez, M (Pelaez, Miguel); Likodimos, V (Likodimos, Vlassis); Romanos, GE (Romanos, George E.); Falaras, P (Falaras, Polycarpos); Dionysiou, DD (Dionysiou, Dionysios D.) ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY Volume: 242 Meeting Abstract: 378-ENVR Published: AUG 28 2011

42. “Investigation of Confined Ionic Liquid in Nanostructured Materials by a Combination of SANS, Contrast-Matching SANS, and Nitrogen Adsorption” Konstantinos L. Stefanopoulos, George E. Romanos, Olga C. Vangeli, Konstantina Mergia, Nick K. Kanellopoulos, Alexandros Koutsioubas, and Didier Lairez, Langmuir 2011, 27, 7980–7985

41. “Catalytic NOx removal by single-wall carbon nanotube- supported Rh nanoparticles” Eleni C. Vermisoglou, George E. Romanos\*, Georgios N. Karanikolos, Nick K. Kanellopoulos Journal of Hazardous Materials 194 (2011) 144–155

40. “Magnetic carbon nanotubes with particle- free surfaces and high drug loading capacity », Eleni C. Vermisoglou, George Pilatos, George E Romanos, Eamon Devlin, Nick K Kanellopoulos and Georgios N Karanikolos, Nanotechnology 22 (2011) 355602

39. “A methodology for the morphological and physicochemical characterisation of asymmetric **carbon hollow fiber membranes**”, E.P. Favvas, G.E. Romanos***\**,** S.K. Papageorgiou, F.K. Katsaros, A. Ch. Mitropoulos, N.K. Kanellopoulos, Journal of Membrane Science 375 (2011) 113–123.

38 “Facile synthesis of carbon supported copper nanoparticles from alginate precursor with controlled metal content and catalytic NO reduction properties” Sergios K. Papageorgiou, Evangelos P. Favvas, Andreas A. Sapalidis, George E. Romanos, Fotios K. Katsaros, Journal of Hazardous Materials 189 (2011) 384–390.

37 “The Production of Activated Carbons Using Greek Lignites by Physical and Chemical Activation Methods: A Comparative Study”, N. Pasadakis, G. Romanos, V. Perdikatsis, A.E. Foscolos, Energy Sources, Part A, 33:713–723, 2011.

36 “Controlling and Quantifying Oxygen Functionalities on Hydrothermally and Thermally Treated Single-Wall Carbon Nanotubes”, George E. Romanos, Vlassis Likodimos, Rita R. N. Marques, Theodore A. Steriotis, Sergios K. Papageorgiou, Joaquim L. Faria, Jose L. Figueiredo, Adrian M. T. Silva and Polycarpos Falaras, J. Phys. Chem. C 2011, 115, 8534–8546.

35 “Development and characterization of chemically stabilized **ionic liquid membranes**-Part I: Nanoporous ceramic supports”, Olga C. Vangeli, George E. Romanos***\**,** Konstantinos G. Beltsios, Demosthenes Fokas, Chrysoula P. Athanasekou, Nick K. Kanellopoulos, Journal of Membrane Science 365 (2010) 366–377.

34 “Ceramic-supported Alginate Adsorbent for the Removal of Heavy Metal Ions”, Chrysoula P. Athanasekou, George E. Romanos, Andreas A. Sapalidis and Nick K. Kanellopoulos, Adsorption Science & Technology Vol. 28 No. 3 2010.

33 “Grafting of alginates on **UF/NF ceramic membranes** for wastewater treatment”, C. P. Athanasekou, G. E. Romanos***\**,** K. Kordatos, V. Kasselouri- Rigopoulou, N. K. Kakizis and A. A. Sapalidis, Journal of Hazardous Materials 182 (2010) 611–623.

32. “Metal–carboxylate interactions in metal–alginate complexes studied with FTIR spectroscopy”, Sergios K. Papageorgiou, Evangelos P. Kouvelos, Evangelos P. Favvas, Andreas A. Sapalidis, George E. Romanos, Fotios K. Katsaros, Carbohydrate Research 345 (2010) 469–473.

31. “A Closer Look Inside Nanotubes: Pore Structure Evaluation of Anodized Alumina Templated Carbon Nanotube Membranes Through **Adsorption and Permeability Studies**”, By Georgios Pilatos, Eleni C. Vermisoglou, Georgios E. Romanos***\**,** Georgios N. Karanikolos, Nikos Boukos, Vlassis Likodimos, and Nick K. Kanellopoulos, Adv. Funct. Mater. 2010, 20, 1–11.

30. “Grafting of Imidazolium Based Ionic Liquid on the Pore Surface of Nanoporous Materials-Study of Physicochemical and Thermodynamic Properties”, Olga C. Vangeli, George E. Romanos***\**,** Konstantinos G. Beltsios, Demosthenes Fokas, Evangelos P. Kouvelos, Konstantinos L. Stefanopoulos, and Nick K. Kanellopoulos, J. Phys. Chem. B 2010, 114, 6480–6491.

29.“Hydrogen Storage in Polymer-Functionalized Pd-Decorated Single Wall Carbon Nanotubes”, E.C. Vermisoglou, A. Labropoulos, G.E. Romanos, E. Kouvelos, S. Papageorgiou, G.N. Karanikolos, F. Katsaros, N.K. Kanellopoulos, Journal of Nanoscience and Nanotechnology, Vol.10, 1–10, 2010.

28.“Aligned Carbon Nanotubes with Ferromagnetic Behavior”, Eleni C. Vermisoglou, Georgios N. Karanikolos, Georgios Pilatos, Eamon Devlin, Georgios E. Romanos, Charitomeni U. Veziri, and Nick K. Kanellopoulos, Adv. Mater. 2010, 22, 473–477.

27.“Removal of Reactive Red 195 from aqueous solutions by adsorption on the surface of TiO2 nanoparticles”, V. Belessi, G. Romanos, N. Boukos, D. Lambropoulou and C. Trapalis, Journal of Hazardous Materials 170 (2009) 836–844.

26.“Synthesis of nanocrystalline gold–carbon nanotube composites and evaluation of their sorption and catalytic properties”, E.C. Vermisoglou, G.E. Romanos***\**,** V. Tzitzios , G.N. Karanikolos , V. Akylas , A. Delimitis ,G. Pilatos , N.K. Kanellopoulos, Labropoulos, A.I., Microporous and Mesoporous Materials 120 (2009) 122–131

25.“Comparative study of the rate and locality of silica deposition during the CVD treatment of **porous membranes** with TEOS and TMOS”, Romanos, G.E.***\**,** Karanikolos, G.N., Katsaros, F.K., Kakizis, N.K., Kanellopoulos, N.K., Microporous and Mesoporous Materials 120 (2009) 177–185

24.“Characterization of carbonate rocks by combination of scattering, porosimetry and permeability techniques”, Favvas, E.P., Sapalidis, A.A., Stefanopoulos, K.L., Romanos, G.E., Kanellopoulos, N.K., Kargiotis, E.K., Mitropoulos, A.Ch., Microporous and Mesoporous Materials 120 (2009) 109–114

23.“Methods of evaluating pore morphology in hybrid organic-inorganic porous materials”, Romanos, G.E.***\**,** Vangeli, O.C., Stefanopoulos, K.L., Kouvelos, E.P., Papageorgiou, S.K., Favvas, E.P., Kanellopoulos, N.K., Microporous and Mesoporous Materials 120 (2009) 53–61

22.“Preparation of fluorine-doped TiO2 photocatalysts with controlled crystalline structure”, Trapalis, C., Todorova, N., Giannakopoulou, T., Romanos, G., Vaimakis, T., Yu, J., International Journal of Photoenergy Volume 2008, Article ID 534038, 9 pages doi:10.1155/2008/534038

21.“Characterization of highly selective microporous **carbon hollow fiber membranes** prepared from a commercial co-polyimide precursor”, Favvas, E.P., Kouvelos, E.P., Romanos, G.E., Pilatos, G.I., Mitropoulos, A.C., Kanellopoulos, N.K., 2008 Journal of Porous Materials 15 (6), pp. 625-633

20.“Development and characterization of **silica-based membranes** for hydrogen separation”, Nitodas, S.F., Favvas, E.P., Romanos, G.E., Papadopoulou, M.A., Mitropoulos, A.C., Kanellopoulos, N.K., 2008 Journal of Porous Materials 15 (5), pp. 551-557

19.“Synthesis and characterisation of carbon nanotube modified anodised alumina **membranes**”, Vermisoglou, E.C., Pilatos, G., Romanos, G.E.***\**,** Karanikolos, G.N., Boukos, N., Mertis, K., Kakizis, N., Kanellopoulos, N.K., 2008 Microporous and Mesoporous Materials 110 (1), pp. 25-36

18.“Investigating the evolution of N2 transport mechanism during the cyclic CVD post-treatment of **silica membranes**”, Labropoulos, A.I., Romanos, G.E.***\**,** Kakizis, N., Pilatos, G.I., Favvas, E.P., Kanellopoulos, N.K., 2008 Microporous and Mesoporous Materials 110 (1), pp. 11-24

17.“Development of an innovative mercury intrusion technique to examine defects plugging after CVD treatment of **NF composite membranes**”, Lambropoulos, A., Romanos, G.E.***\**,** Steriotis, T.A., Nolan, J., Katsaros, F.K., Kouvelos, E., Kanellopoulos, N.K., 2008 Journal of Porous Materials 15 (1), pp. 83.

16.“Advanced Techniques for Monitoring and Optimizing Processes Involving Nanoporous Materials”, Anastasios I. Labropoulos, Eleni C. Vermisoglou, Nickolas K. Kakizis, Georgios E. Romanos, Georgios I. Pilatos, Georgios N. Karanikolos and Nick K. Kanellopoulos, Proceedings of the Sixteenth (2007) International Offshore and Polar Engineering Conference Lisbon, Portugal, July 1-6, 2007 Copyright © 2007 by The International Society of Offshore and Polar Engineers(ISOPE) ISBN 978-1-880653-68-5; ISBN 1-880653-68-0(Set); ISSN 1098-6189 (Set), (Conference paper)

15.“Experimental investigation of asphaltene deposition mechanism during oil flow in core samples”, Papadimitriou, N.I., Romanos, G.E., Charalambopoulou, G.Ch., Kainourgiakis, M.E., Katsaros, F.K., Stubos, A.K., 2007 Journal of Petroleum Science and Engineering 57 (3-4), pp. 281-293.

14.“Preparation and characterization of novel poly-(vinyl alcohol)-Zostera flakes composites for packaging applications” Sapalidis, A.A., Katsaros, F.K., Romanos, G.E., Kakizis, N.K., Kanellopoulos, N.K., 2007 Composites Part B: Engineering 38 (3), pp. 398-404.

13.“Application of an innovative mercury intrusion technique and relative permeability to examine the thin layer pores of sol-gel and **CVD post-treated membranes**”, Lambropoulos, A., Romanos, G.***\****, Steriotis, Th., Nolan, J., Katsaros, F., Kouvelos, E., Charalambopoulou, G., Kanellopoulos, N., 2007 Microporous and Mesoporous Materials 99 (1-2), pp. 206-215.

12.“Sorption properties of modified single-walled carbon nanotubes”, Vermisoglou, E.C., Georgakilas, V., Kouvelos, E., Pilatos, G., Viras, K., Romanos, G., Kanellopoulos, N.K., 2007 Microporous and Mesoporous Materials 99 (1-2), pp. 98-105.

11.“Preparation and characterisation of gas selective **microporous carbon membranes**”, Katsaros, F.K., Steriotis, Th.A., Romanos, G.E., Konstantakou, M., Stubos, A.K., Kanellopoulos, N.K., 2007 Microporous and Mesoporous Materials 99 (1-2), pp. 181-189.

10.“Experimental investigation of asphaltene precipitation during oil- Solvent flow in core samples”, Papadimitriou, N.I., Romanos, G.E., Stubos, A.K., Steriotis, T.H.A., Chatzichristos, C., Aurdal, T., 13th European Symposium on Improved Oil Recovery 2005, Pages 602-609, (Conference Paper).

9.“Pore structure of glasses derived from a leachable borosilicate precursor: Thermoanalytical and BET methods”, Romanos, G.E., Kasselouri, V., Beltsios, K., Kanellopoulos, N.K., 2003 Journal of Thermal Analysis and Calorimetry 73 (1), pp. 183-190.

8.“Characterization of composite Al2O3 supported **Silicalite-1 membranes** by single-phase sorption and permeability experiments”, Romanos, G.E., Kasselouri, V., Kanellopoulos, N.K., 2003 Materials Letters 57 (19), pp. 2840-2847.

7.“Adsorption and diffusion in nanoporous materials from stochastic and process-based reconstruction techniques”, Kainourgiakis, M.E., Steriotis, Th.A., Kikkinides, E.S., Romanos, G., Stubos, A.K., 2002 Colloids and Surfaces A: Physicochemical and Engineering Aspects 206 (1-3), pp. 321-334.

6.“Innovative methods for preparation and testing of Al2O3 supported **silicalite-1 membranes**”, Romanos, G.E., Steriotis, Th.A., Kikkinides, E.S., Kanellopoulos, N.K., Kasselouri, V., Ramsay, J.D.F., Langlois, P., Kallus, S, 2001 Journal of the European Ceramic Society 21 (2), pp. 119-126.

5.“**Zeolite membranes** - Characterisation and applications in gas separations”, Kallus, S., Langlois, P., Romanos, G.E., Steriotis, Th., Kikkinides, E.S., Kanellopoulos, N.K., Ramsay, J.D.F., 2000 Studies in Surface Science and Catalysis 128, pp. 467-474.

4.“Experimental investigation on separations of condensable from non-condensable vapors using **mesoporous membranes**”, Tzevelekos, K.P., Romanos, G.E., Kikkinides, E.S., Kanellopoulos, N.K., Kaselouri, V., 1999 Microporous and Mesoporous Materials 31 (1-2), pp. 151-162.

3.“Characterisation of **porous alumina membrane** by adsorption in conjunction with SANS”, Stefanopoulos, K.L., Romanos, G.E., Mitropoulos, A.C., Kanellopoulos, N.K., Heenan, R.K. 1999 Journal of Membrane Science 153 (1), pp. 1-7.

2.“Vycor **membrane** with reduced size surface pores. I. Preparation and characterization”, Beltsios, K., Charalambopoulou, G., Romanos, G., Kanellopoulos, N. 1999 Journal of Porous Materials 6 (1), pp. 25-31.

1.“Diffusion in a fractal system”, Makri, P.K., Romanos, G., Steriotis, T., Kanellopoulos, N.K., Mitropoulos, A. Ch., 1998 Journal of Colloid and Interface Science 206 (2), pp. 605-606.

**Α.2**

**Α.2.1** **Proceedings of International Conferences with Reviewers**

1. P. Falaras, N.G. Moustakas, F. Katsaros, A. Papavasiliou, E. Kouvelos, A.G. Kontos, T. Steriotis, G.Em. Romanos, Visible light active hybrid core-shell TiO2 photocatalysts for the production of useful hydrocarbons from CO2, 4th European Conference on Environmental Applications of Advanced Oxidation Processes – EAAOP4, 21-24 October (2015), Athens, Greece, Poster presentation PP3-39, Proceedings, p. 598-600. <http://www.eaaop4.com/wp-content/uploads/formidable/PP3-39.pdf>
2. “Ceramic Photocatalytic Membranes”, N.G. Moustakas, C.P. Athanasekou, A.M.T. Silva, L.M. Pastrana-Martínez, S. Morales-Torres, J. L. Figueiredo, J. L. Faria, G.E. Romanos, P. Falaras, 8th European Meeting on Solar Chemistry and Photocatalysis: Environmental Applications (SPEA8), 25-28 June 2014, Thessaloniki (GR), Poster presentation, BOOK OF ABSTRACTS, p. 143 and CD of Proceedings 362, PC-3-26, 3 pages.
3. “Optimization of Nitrogen Modified Nanostructured Titania Photocatalysts”. Kontos, A.G.; Moustakas, N.G.; Likodimos, V.; Katsaros, F.; Romanos, G.E.; Dionysiou, D.D.; Falaras, P., 7th European Meeting on Solar Chemistry and Photocatalysis: Environmental Applications - SPEA7, 17-20th June 2012, Porto, Portugal, OC33, Book of Graphical Abstracts page 21 and Book of Proceedings, pages 120-122.
4. “Alginate/TiO2 Photocatalytic Hollow Fiber Membranes for NO Decomposition in Flow Through Membrane Reaction Applications”. Papageorgiou, S.K.; Katsaros, F.K.; Favvas, E.P.; Romanos, G.Em.; Kanellopoulos, N.K.; Falaras, P., 7th European Meeting on Solar Chemistry and Photocatalysis: Environmental Applications - SPEA7, 17-20th June 2012, Porto, Portugal, P81, Book of Graphical Abstracts page 77 and Book of Proceedings, pages 454-455.
5. “Design of photocatalysts based on graphene oxide”. Pastrana-Martínez, L. M.; Morales-Torres, S.; Likodimos, V.; Romanos, G. E.; Figueiredo, J. L.; Faria, J. L.; Falaras, P.; Silva, A. M. T., 2nd European Symposium on Photocatalysis, JEP 2011, Bordeaux, Cité Mondiale Sept 29-30, 2011, Proceedings, P. 4.32.

##### Α.2.3 Book of Abstracts of International Conferences with Reviewers

1. Ν.Κ. Kanellopoulos, T. A. Steriotis, F. K. Katsaros, K. P. Tzevelekos, P. Makri, G. E. Romanos, K. Beltsios, A.Ch. Mitropoulos, U. Keiderling and A. Wiedenmann, «Characterisation of various Membrane Systems by Adsorption in Conjunction with Small-Angle Scattering and Relative Permeability». Proceedings of the 5th World Congress of Chem. Eng., Vol. IV., San Diego California, pp 810-815, 1996.
2. N.K. Kanellopoulos, T. A. Steriotis, F. K. Katsaros, G. Romanos, «Characterisation of Membranes with sorption methods», Proceedings of the 5th Chemistry Congress, pp 321-325, Nicosia, Cyprus 4-7 September, 1996.
3. G.E. Romanos, A.K.Stubos, T.A. Steriotis, A.Ch. Mitropoulos and N.K. Kanellopoulos, “Pore Structure Characterisation of Mesoporous Inorganic Membranes” 3rd International Symposium “Euromembrane 97-Progress in Membrane Science and Technology”, Book of Abstracts p.267, 23-27 June 1997, University of Twente, The Netherlands.
4. G.E. Romanos, E.S. Kikkinides, N. Kanellopoulos, J.D.F. Ramsay, P. Langlois, S. Kallus, "Synthesis, Characterisation and Testing of Zeolite Membranes for Gas Separations”, Fundamentals of Adsorption FOA6 May 24-28, 1998, Giens, France Oral 5D.
5. S. Kallus, P. Langlois, G.E. Romanos, T.A. Steriotis, E.S. Kikkinides, N.K. Kanellopoulos and J. D. F. Ramsay, “Zeolite Membranes-Characterisation and Application in Gas Separations” COPS-V, 5th International Symposium on the Characterisation of Porous Solids, Book of Abstracts pp. O-4.4, May 30- June 2 1999, Heidelberg, Germany.
6. T.A. Steriotis, M. Kainourgiakis, E. Kikkinides G. Romanos, Th. Stubos, “Adsorption and Diffusion in Nanoporous Materials from Stochastic and Process-Based Reconstruction Techniques”, Poster in International TRI/Princeton Workshop “Nanocapillarity: Wetting of Heterogeneous Surfaces and Porous Solids”, Princeton, NJ, USA, June 25-27, 2001.
7. 3rd International Conference, Instrumental Methods of Analysis, Modern Trends and Applications, 23-27 September 2003, Thessaloniki, Greece. G.E. Romanos, V. Kasselouri, K. Beltsios, ‘Study of the pore structure of Glasses derived from Leachable Borosilicate precursor by thermoanalytical (DSC) and BET methods’
8. “Experimental Investigation of Asphaltene Precipitation during Oil-Solvent Flow in Core Samples” N.I. Papadimitriou, G.E. Romanos, A.K. Stubos, Th.A. Steriotis, C. Chatzichristos, T. Aurdal, 13th European Symposium on IOR, Budapest, Hungary, 25-27 April 2005.
9. Diffusion Fundamentals I, Basic Principles of Theory, Experiment and Application September 21st - 24th, 2005 – Leipzig, Germany “Innovative Methods for the Characterization of Ceramic Nanofiltration Membranes Modified by TEOS/O3 Chemical Vapor Deposition” G.E. Romanos, A. Labropoulos, N. Kanellopoulos
10. A. Labropoulos, G. Romanos, Th. Steriotis, J. Nolan, F. Katsaros, E. Kouvelos, G. Charalambopoulou and N.K. Kanellopoulos, Application of an innovative mercury intrusion technique and relative permeability to examine the thin layer pores of sol-gel and cvd derived membranes, 1st International Workshop of the European Network of Excellence INSIDE POReS (IN SItu Study and DEvelopment of Processes Involving NanoPORous Solids), La Grande Motte, Montpellier, France, March 19th rd- 23, 2006
11. F.K. Katsaros, Th.A. Steriotis, G.E. Romanos, A.K. Stubos and N.K. Kanellopoulos Preparation and characterisation of gas selective microporous carbon membranes, 1st International Workshop of the European Network of Excellence INSIDE POReS (IN SItu Study and DEvelopment of Processes Involving NanoPORous Solids), La Grande Motte, Montpellier, France, March 19th rd- 23, 2006
12. E. P. Favvas, G. E. Romanos, S. K. Papageorgiou, A. A. Sapalidis, F. K. Katsaros, A. Ch. Mitropoulos, N. K. Kanellopoulos “High pressure gas permeability of carbon hollow fiber membranes”, 1st International Workshop NAPEN 2008 “NAnoPorous materials in ENergy and ENvironment”, 12 – 15 October, 2008, Chania – Crete, Greece.
13. A. Perdikaki, A. Labropoulos, G. Karanikolos, P. Falaras, G. Romanos, Catalytic nanoporous membrane reactor for CO oxidation, 12th International Conference on Catalysis in Membrane Reactors (ICCMR12), June 22-25, 2015, Szczecin, Poland, poster presentation, Book of Abstracts.
14. “Photoinduced pollutant removal using nanostructured TiO2 thin films”, V. Likodimos, A. G. Kontos, G. Em. Romanos, C. Han, M. Pelaez, D. D. Dionysiou and P. Falaras, Photocatalytic and Superhydrophilic Surfaces Workshop, PSS, 2013, 12th – 13th December 2013, Manchester Museum, Poster presentation-P16, Book of Abstracts, page 49.
15. “Vibrational properties of [Cnmim][C(CN3)] (n=2,4,6,8) ionic liquids and their efficiency in CO2 capture”, Likodimos, V.; Kontos, A. G.; Romanos, G.E.; Falaras, P., European Conference on Carbon dioxide Capture and Storage, CCS2013, May 28-29, 2013, Antwerp, Belgium.
16. “Carbon‐TiO2 nanostructured photocatalysts for water purification”, Pastrana‐Martínez, L.M.; Morales‐Torres, S.; Carabineiro, S.A.C.; Papageorgiou, S.K.; Buijnsters, J.G.; Romanos, G.E.; Falaras, P.; Figueiredo, J.L.; Faria, J.L.; Silva A.M.T., 4rd International Conference from Nanoparticles & Nanomaterials to Nanodevices & Nanosystems and NanoTechnology, 4th IC4N-2013, Corfu, Greece, June 16 – 20, 2013, Book of Abstracts, p. 126.
17. “Ionic Liquid modified Zeolite Imidazolate Framework (ZIF-69) membranes for energy efficient CO2 separation from coal fired power plants”, Veziri, Ch.; Karanikolos, G.; Romanos, G.E.; Iliev, B.; Adamova, G.; Schubert, T. J.S.; Kontos, A.G.; Likodimos, V.; Falaras, P., International Congress on Materials and Renewable Energy (MRE 2013) 1-3 July, Athens, Greece. Best poster competition award
18. “CO2 Capture in Zeolite Imidazole Frameworks (ZIFs) Investigated by Raman Spectroscopy”, Moustakas, N.G.; Kontos, A.G.; Veziri, C.M.; Tzialla, O.I.; Likodimos, V.; Karanikolos, G.N.; Romanos, G.; Falaras, P., 10th International Conference on Nanosciences and Nanotechnologies, Nanotechnology 2013, 6-13 July, Thessaloniki, Greece, Poster presentation.
19. “Structural and photocatalytic properties of hybrids consisting of TiO2 and carbon nanotubes”, Miranda, S.M.; Vilar, V.J.P.; Faria, J.L.; Silva, A.M.T.; Romanos, G.E..; Likodimos, V.; Steriotis, T.A.; Katsaros, F.K.; Stefanopoulos, K.L.; Falaras, P., 5-7 Sep 2013 CEST 2013 Co-Chairman of Session 26 –Adnanced Oxidation Processes (AOPs), Proceedings of the 13th International Conference on Environmental Science and Technology, Athens, Greece, 5-7 September 2013, PAPERID: CEST2013\_0320, Book of Abstracts, P. 307.
20. “Ceramic membranes in hybrid photocatalysis/ultrafiltration processes”, Athanasekou, C.P.; Moustakas, N.G.; Katsaros, F.K.; Kontos, A.G.; Romanos, G.E.; Morales-Torres, S.; Pastrana-Martinez, L.M.; Faria, J.L.; Figueiredo, J.L.; Silva, A.M.T.; Fernández-Rodríguez, C.; Dona-Rodriguez, J.M.; Falaras*,* P., Proceedings of the 13th International Conference on Environmental Science and Technology, Athens, Greece, 5-7 September 2013, PAPERID:CEST2013\_0319, Book of Abstracts, P. 311.
21. “Hybrid Ultrafiltration/Photocatalysis Water Treatment Processes”, Romanos, G.E.; Likodimos, V.; Aloupogiannis, P.; Falaras, P., 2nd Dissemination Workshop of the Nano4water Cluster: Recent Advances in Nanotechnology-based Water Purification Methods 24-25 April 2012, Chalkidiki, Thessaloniki, Greece, Book of Abstracts, p. 93-98.
22. “High flux photocatalytic ceramic nanoporous membranes”, Romanos, G.Em.; Likodimos, V.; Falaras, P., XI International Conference on Nanostructured materials, August 26 – 31, 2012, Rodos Palace Convention Center, Rhodes, Poster Session II 28/8/2012, P175, CD of Abstracts.
23. “Carbon-Based Materials as Catalysts in Advanced Oxidation Processes for Water Treatment”,Silva, A.M.T.; Romanos, G.; Gomes, H.T.; Pastrana-Martínez, L.M.; Morales-Torres, S.; Likodimos, V.; Figueiredo, J.L.; Faria, J.L.; Falaras, P., The 18th International Conference on Advanced Oxidation Technologies for Treatment of Water, Air and Soil (AOTs-18), Crowne Plaza Riverfront, Jacksonville, Florida, USA, November 11 - 15, 2012, Book of Abstracts, pages 44-45.
24. “Single Wall Carbon Nanotube/TiO2 Composite Photocatalysts”, Falaras, P.; Miranda, S. M.; Romanos, G. E.; Likodimos, V.; Silva, A. M. T.; Vilar, V. J. P.; Faria, J. L., 3rd International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems (3rd IC4N), 26-29 June 2011, Herakleion (GR), Oral presentation, BOOK OF ABSTRACTS, p. 81.
25. “Control and Quantification of Oxygen Functional Groups on Single Wall Carbon Nanotubes”, Falaras, P.; Romanos, G. E.; Likodimos, V.; Marques, R. R. N.; Steriotis, T. A.; Papageorgiou, S. K.; Faria, J. L.; Figueiredo, J. L.; Silva, A. M. T., 3rd International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems”, (3rd IC4N), 26-29 June 2011, Herakleion (GR) (poster presentation), BOOK OF ABSTRACTS, p. 111.
26. “Development of Titania Decorated Multi Wall Carbon Nanotubes with CVD techniques”, Romanos, G.E.; Miranda, S.M.; Athanasekou, C.P.; Katsaros, F. K.; Pilatos, G.; Kanellopoulos, N. K.; Falaras, P., 3rd International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems, (3rd IC4N), 26-29 June 2011, Herakleion (GR) (poster presentation), BOOK OF ABSTRACTS, p. 112.
27. “Controlled activation of MWCNT surface upon HNO3 oxidation”, Marques, R. R. N.; Romanos, G. E.; Likodimos, V.; Figueiredo, J. L.; Faria, J. L.; Falaras, P.; Silva, A.M.T., XXII Encontro Nacional SPQ Braga, no Parque de Exposições, 3-6 Julho 2011, Book of abstracts QI-CP 47 (poster presentation)
28. “TiO2-CNT composite photocatalysts for solar degradation of caffeine”, Segundo, R. A.; Marques, R.R.N.; Portillo-Carrizo, D.; Romanos, G. E.; Fernández-Rodríguez, C.; Likodimos, V.; Faria, J. L.; Doña-Rodríguez, J. M.; Falaras, P.; Silva, A. M. T., XXII Encontro Nacional SPQ Braga, no Parque de Exposições, 3-6 Julho 2011, Book of abstracts QF-CP 52 (poster presentation).
29. “Implication of composite photocatalysts incorporating carbon-based nanomaterials with potential use in drinking water treatment: Mechanical and chemical stability”, Han, C.; Pelaez, M.; Likodimos, V.; Romanos, G. E.; Falaras, P.; Dionysiou, D. D., 242nd ACS National Meeting & Exposition, Aug. 28-Sept. 1, 2011, Denver, Colorado (poster presentation).
30. “Clean Water - Development and optimization of photocatalytic nanofiltration membranes”, Falaras, P.; Romanos, G., Joint Dissemination Workshop of the nano4water cluster, 26 October 2010, Aachen, Germany (Falaras P., oral presentation).
31. “Clean Water - Water detoxification using innovative vi-nanocatalysts”, Falaras, P.; Doña-Rodriguez, J. M., Joint Dissemination Workshop of the nano4water cluster, 26 October 2010, Aachen, Germany (oral presentation).
32. “Supported photocatalytic materials and membranes integrated in a novel continuous flow PC membrane reactor”, Romanos, G. E.; Likodimos, V.; Kantilaftis, E.; Aloupogiannis, P.; Falaras, P., Joint Dissemination Workshop of the nano4water cluster, 26 October 2010, Aachen, Germany (poster presentation).
33. “A combination of advanced techniques for characterizing the surface chemistry of SWCNTs”, Romanos, G. E.; Silva, A. M. T.; Likodimos, V.; Marques, R. R. N.; Steriotis, T.; Papageorgiou, S.; Faria, J. L.; Figueiredo, J. L.; Falaras, P., Joint Dissemination Workshop of the nano4water cluster, 26 October 2010, Aachen, Germany (poster presentation).
34. “Tailoring the synthesis of nanostructured TiO2/CNT composites for solar photocatalysis”, Marques, R. R. N.; Segundo, R. A.; Romanos, G. E.; Portillo-Carrizo, D.; Fernández-Rodríguez, C.; Faria, J. L.; Doña-Rodríguez, J. M.; Falaras, P.; Silva, A. M. T., Joint Dissemination Workshop of the nano4water cluster, 26 October 2010, Aachen, Germany (poster presentation).
35. “Novel Supported Ionic Liquid Phase Absorbents Consisting of Silica Nanoparticles encapsulating Amine functionalised Ionic Liquids” Athanasekou C., Romanos G. et al, ILSEPT: 2nd International Conference on Ionic Liquids in Separation and Purification Technology, 29 June – 2 July 2014, Toronto, Canada, Poster Presentation.
36. “Study of ionic liquid confinement into the pores of ordered nanoporous silicas” G.E. Romanos (Oral), National Center for Scientific Research, Greece1st International Conference on Ionic Liquids in Separation and Purification Technology : ILSEPT : Sitges, Spain, 4-7 September 2011.
37. E. P. Favvas, S.K. Papageorgiou, A. A. Sapalidis, G. I. Pilatos, G. E. Romanos, E. P. Kouvelos, A. Ch. Mitropoulos and N. K. Kanellopoulos, SiC Hollow Fiber Membranes for Gas Separation Applications, Poster, 3rd International Workshop on IN-Situ Study and DEvelopment of Processes Involving PORous Solids (INSIDE-POReS), 2007, ALICANTE, SPAIN
38. Hydrate equilibrium measurements of the ternary CH4 + CO2 + H2O system Panagiotis Kastanidis, George E. Romanos, Ioannis G. Economou, Athanassios K. Stubos, Ioannis N. Tsimpanogiannis, 29th ESAT, European Symposium on Applied Thermodynamics, May 18-21 2017, Bucharest, Romania.
39. Falaras P., Romanos G.Em., Likodimos V. and Kontos A.G. Removal of water emerging contaminants using nanostructured titania photocatalysts in advanced oxidation and reduction reactions, 15th International Conference on Environmental Science and Technology (CEST 2017), Rhodes, Greece, 31 August to 2 September 2017, oral presentation (P. Falaras), Friday 1 September 2017.
40. CO2 capture By Amine-Functionalized Metal Organic Frameworks (MOFs), Graphene Oxide (GO), and MOF/GO Composites, oral presentation at the 2017 AIChE Annual Meeting in Minneapolis, MN. Session: Novel Materials for Environmental Applications Date: Sunday, October 29, 2017
41. Tsimpanogiannis, I.N., Kastanidis, P., Michalis, V.K., Papadimitriou N.I., Romanos, G.E., Stubos, A.K., and I.G. Economou, “Using Clathrate Hydrates for Gas storage and Gas-Mixture Separations: Experimental and Computational Studies at Multiple Length Scales,” Paper presented at the Thermodynamics 2017, Edinburgh, Scotland, September 5-8, 2017.

##### Β. Scientific and Higher Education text and books (Documentation and Educational Material in general)

##### Β.1 Book Chapters

1) A.K.Stubos, A.Ch. Mitropoulos, T.A. Steriotis, F.K. Katsaros, G.E. Romanos, and N.K.Kanellopoulos, “Ceramic Membranes: Industrial Applications”, NATO ASI on “Physical Adsorption: Experiment, Theory and Applications”. Published in the NATO ASI Series (NATO Science Series C: Mathematical and Physical Sciences, Physical Adsorption: Experiment Theory and Applications, 1997, 485 (491))

2) A.K. Stubos, T.A. Steriotis, A.Ch. Mitropoulos, G.E. Romanos, F.K. Katsaros and N.K. Kanellopoulos, “Inorganic Membranes: Pore structure Characterisation”, NATO ASI on “Physical Adsorption: Experiment, Theory and Applications”. Published in the NATO ASI Series (NATO Science Series C: Mathematical and Physical Sciences, Physical Adsorption: Experiment Theory and Applications, 1997, 461(491))

3) Sergios K. Papageorgiou, George E. Romanos, Fotios K. Katsaros, “Alginates: Production, Types and Applications”, Chapter “Alginate Based Materials in Environmental Applications: From Metal Sorption to Advanced Catalytic and Membrane Processes”

4) G. N. Karanikolos , F. K. Katsaros , G. E. Romanos , K. L. Stefanopoulos and N. K. Kanellopoulos, “Nanoporous Materials Advanced Techniques for Characterization, Modeling, and Processing” Chapter 5. “Combination of In Situ and Ex Situ Techniques for Monitoring and Controlling the Evolution of Nanostructure of Nanoporous Materials” Pages 165–220, Ed. By N. Kanellopoulos, 2011 CRC Press, Taylor & Francis LLC.

1. Pelaez, M, Han, C, Choi, H, Sharma, V, Byrne, JA, Dunlop, PSM, Romanos, G, Falaras, P and Dionysiou, DD (2012) Nanotechnology, Environmental Applications. In: The Encyclopedia of Environmetrics. John Wiley & Sons, p. 1. ISBN 978-0-4709-7388-2 [Book section]
2. Changseok Han, Bangxing Ren, Mallikarjuna N. Nadagouda, George Em. Romanos, Polycarpos Falaras, Teik Thye Lim, Virender K. Sharma, Natalie Johnson, Pilar Fernandez‑Ibanez, John Anthony Byrne, Hyeok Choi, Rachel Fagan, Declan E. McCormack, Suresh C. Pillai, Cen Zhao, Kevin O’Shea, and Dionysios D. Dionysiou,

“Sustainable Water Management and Technologies”, Vol. 2 Sustainable Water Technologies, Chapter 5. “Nanotechnology Applications”, 2016, CRC Press, ISBN 9781482215236.

7) G. Theodorakopoulos, C. Athanasekou, G.Em. Romanos, S.K. Papageorgiou, “Current photocatalytic systems for intensified water purification applications”, Pages 231-264. In: Handbook of Smart Photocatalytic Materials. Fundamentals, Fabrications, and Water Resources Applications, Ed. By Chaudhery Mustansar Hussain, Ajay Kumar Mishra, 2020, Elsevier, ISBN: 978-0-12-819051-7.

8) Andreas A. Sapalidis, Evangelos P. Kouvelos, G. E. Romanos, Nick k Kanellopoulos, Introduction to Membrane Desalination, In book: Membrane Desalination, August 2020 DOI: 10.1201/9780429020254-1