CURRICULUM VITAE

Dr. Fotios K. Katsaros

PERSONAL

Date of Birth	:	June 18, 1969
Place of Birth	:	Athens, Greece
Nationality	:	Greek
Personal Status	:	Married
Current Address	:	Pellis 15B, Gerakas, 15344, Athens, Greece
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EDUCATION

1993-1999	Ph.D. in Chemistry NKUA, School of Sciences, Department of Chemistry - NCSR "Demokritos", Institute of Physical Chemistry, Membranes and Microporous materials for Environmental Separations **Dissertation**: "Pore structure characterisation and evaluation of selectivity of Al_2O_3 and Carbon membranes using permeability techniques".
1987-1992	Diploma in Chemistry, November 1992 NKUA, School of Sciences, Department of Chemistry, Athens, Greece GPA: 7.32/10
Languages	Greek (native) - English (Proficiency), June 1994

POSTGRADUATE EDUCATION

1. Postgraduate lessons at Institute of Physical Chemistry, NCSR «Demokritos» (1993-1994).
2. Attendance of the seminars of Institute of Physical Chemistry, NCSR «Demokritos» (1993-1998).

HONOURS

Scholarship received from the NCSR "Demokritos", Institute of Physical Chemistry (March 1993 - March 1997)

RESEARCH EXPERIANCE

2014-	NCSR Demokritos – Research Director
2010-2014	NCSR Demokritos – Researcher B'
2006-2010	NCSR Demokritos – Researcher C'
2001-2006	NCSR Demokritos – Scientific Personnel
2000-2001	Kleva Ltd Pharmaceuticals - QCA Department
1996-1997	Contract researcher in i) SYN Projects entitled "Activated Carbon from Agricultural by-products for gas pollutant removal" ii) YPER entitled «Filters for toxic gases and atmospheric pollutant removal from activated carbon produced from Agricultural by-products
1995-1996	Contract researcher in BRITE EURAM, BREU-CT94-0572 entitled "Synthesis of ultra-thin membrane coatings using plasma treated Langmuir-Blodgett and self-assembled films"
1993-1997	Ph.D thesis (Laboratory of Adsorption of Atmospheric Pollutants).
1993-1995	Contract researcher in BRITE EURAM, BREU-CT92-0568 entitled "Microporous Carbon membranes for Gas Separations"

RESEARCH INTERESTS

The research activities are focused on the preparation and characterization of nano-structured materials as well as evaluation of their performance in real industrial applications

Synthesis of Nanomaterials

Nanomaterials play an important role in chemical processing, as in many cases they can successfully replace traditional materials in pollution-prone and energy-

consuming processes. These materials are abundantly used as membranes, sorbents catalysts and thin films, while novel nanostructures may form the basis of innovative technologies. The main advantages of such structures are the molecular nano-confinement coupled with a large interfacial area. Both properties can be efficiently tailored to meet the specific needs of each process.

In the field of novel nanomaterials, the scientific interests are focused on the synthesis of:

- Ceramic and polymeric membranes for gas separation and water treatment
- Membranes for CO_2 separation
- Hollow fiber membranes and mix matrix membranes
- Sorbents based on activated carbon, zeolites and hybrid materials for the removal of toxic pollutants (NO, VOCs, Persistent and organic chemicals etc.)
- Biosorbents for the removal of heavy metal ions
- Graphene, Graphene based materials and hybrids for environmental and energy applications
- Ordered mesoporous ceramic and zeolites as supports (EISA, soft and hard templated approaches, hydrothermal)
- Supported metal nanoparticles for heterogeneous catalytic applications including: deNOx, CO oxidation, CH4, WGS reaction, HC reforming and methane direct aromatization
- Photocatalysts for the abatement of toxic pollutants as well as the photocatalytic conversion of CO_2 to fuels and chemicals
- mesoporous semiconductors loaded with metal NPs with enhance plasmon-exciton interactions and charge transfer
- polymers and polymer/clay nanocomposites with improved barrier properties, for packaging and coatings applications.
- carbon and inorganic based nano-composites with antifouling and antibacterial properties

Characterisation of nanomaterials

A large number of individual (microscopic, spectroscopic, adsorption and permeation) and combinations of techniques (Small Ange Scattering in conjunction sorption, in-situ spectroscopic and microscopic techniques) are currently used for the characterisation of the porous materials and the membranes (nano-sieving). However,

these methodologies can only be used for research purposes limiting their applicability for industrial purposes. As it concerns their operation, fouling/scaling effects, which deteriorate significantly membranes' performance, can be detected by monitoring of the working conditions (pressure drop, permeate flow etc.) of these nano-sieving systems.

The structural characterization of the nano-materials can prove to be an essential tool for the investigation of the materials characteristics in regards with their properties.

The characterization techniques can be classified into:

i) static techniques leading to morphology-related parameters and

ii) dynamic techniques leading to permeation-related parameters.

In addition, certain combinations of static and dynamic techniques simultaneously applied will be used such as adsorption in conjunction with diffraction and small angle scattering (SAS) and relative permeability as they can provide information not obtainable from the application each technique independently. The applicability of each technique depends on many criteria such as the nature and the form of the material, whether the membrane is supported or not, the range of pore size etc. For instance, gas or vapor adsorption is appropriate for open, i.e., conducting or blind (dead-end), micro- and mesopores, whereas mercury porosimetry is suitable for open macropores and mesopores with a diameter of up to about 5 nm. Permeability experiments are sensitive to conducting pores. Small angle scattering (SAS) can detect inhomogeneities covering a range from 1 to approximately 200 nm such as open (either conducting or blind) and closed pores. Yet, a full characterization of a membrane material remains a difficult and frequently a controversial problem, even if the equilibrium and transport mechanisms themselves are quite simple and well-defined. This is mainly due to the great difficulty in representing accurately the complex morphology of the pore matrix. Combined techniques such as adsorption in conjunction with SAS or diffraction, or relative permeability, together with advanced stochastic model analysis are the next logical step.

Performance evaluation of nanomaterials

In addition, significant part of the research activities is related with the evaluation – prediction of the performance of nano-materials in certain environmental applications, involving mainly adsorption processes (removal of heavy metal ions and organic pollutants from waste water, upgrading of natural gas, storage of Hydrogen), membrane technology in both the gas and liquid phase (caption and sequestration of CO_2,

separation of gas mixtures, water treatment, Treatment and exploitation of Natural Gas and the gas streams of Oil refineries) and catalysis/photocatalysis (abatement of automotive emissions, conversion of CO_2, methane conversion to aromatics etc.). Lately efforts have been devoted in the performance evaluation coatings for marine applications, as antibacterial agents and as super-hydrophobic nanostructured top coatings for aircraft

The experimental techniques in combination with predictive models enable the multi-parametric study of these processes and the determination of the optimal conditions for every specific application.

EDUCATIONAL ACTIVITIES

• Supervision of the following PhD theses:

1. S. Papageorgiou, "Sorption of Heavy metal ions by Ca-alginate obtained from Laminaria digitata", NKUA, Chemistry and Pharmaceutical Department 2008.
2. A. Sapalidis, "Preparation and characterization of polymeric nanocomposite membranes", NKUA, Chemistry Department, 2010.
3. E. Deze, "Development and study of composite materials with metal nanoparticles for catalytic applications", University of Crete, School of Sciences & Engineering, Department of Chemistry, 2017.
4. N. Heliopoulos, "Preparation and study of nanocomposite polymeric materials for textile applications by using of conventional and modified nanofillers" National & Kapodistrian University of Athens, Chemistry Department, 2015.
5. N. Moustakas, "Preparation of modified TiO_2 nanoparticles for the photocatalytic conversion of CO_2 to hydrocarbons", University of Ioannina, Chemistry Department, May 2017.

• Partial Supervision of 3 PhD theses on the characterization of nano-materials

• Supervision of the following MSc dissertations:

1. A. Sapalidis, «Study and characterization of PVA films as packaging materials» NKUA, Chemistry Department (2004).
2. E. Favvas, « Study of permeability and selectivity of asymmetric polymeric and carbonized polyimide hollow fiber membranes », NKUA, Chemistry Department (2004).

3. N. Heliopoulos, “Preparatioon of magnetic nanoparticles of γ-Fe_2O_3 and composite γ-Fe_2O_3/ follow fibers and study of the magnetic field in their efficiency for gas separations”, NKUA, Chemistry Department (2011).
4. E. Deze, “Preparation of porous Alginate beads from Laminaria Digitata for heavy metal removal», NKUA, Chemistry Department (2012).

OTHER ACTIVITIES

- Reviewer in several scientific journals including: Applied Catalysts B: Environmental, Chemical Engineering Journal, Journal of Hazardous Materials, Catalysis Communications, Catalysis Letters, Topics in Catalysis, Composites Part B: Engineering, Microporous and Mesoporous Materials, Desalination, Applied clay Science, Journal of Applied Polymer Science, Chemical Engineering Science etc
- Scientific Project evaluator (EU, Greece, Cyrpus, Latvia)
- Editorial board Member of Material, Catalytic Materials section (MDPI)

OTHER INFORMATION

Number of publications in peer reviewed journals:	85
Presentations in conferences:	108
Patents:	4
Book chapters:	4
Citations:	4507
Oral Presentations:	30 (20 invited)

COLLABORATIONS

- Hellenic Petroleum S.A. for the synthesis of novel catalytic zeolites
- Hahn-Meitner Institute – Berlin Neutron Scattering Center (Berlin – DE) and CCLRC Rutherford Appleton Laboratory - ISIS (Appleton – UK) for the characterization of nano-materials using neutron scattering, 6th Framework Programme through the Key Action: Strengthening the European Research Infrastructures. Contract n°: RII3-CT-2003-505925 (NMI 3).

- Dokuz Eylül University, Faculty of Science, Department of Chemistry, Division of Biochemistry, İzmir-Turkey (Dr. Levent Cavas) - Development of novel biosorbents from marine biomass
- Université des Sciences et Technologies de Lille (Dr. Elise Berrier) – Development of novel porous support and catalysts.
- Università degli Studi di Padova, Dipartimento di Scienze Chimiche (prof. Antonella Glisenti), Dipartimento di Ingegneria Industriale (prof. Paolo Canu) for the development of effective PGM free catalysts.
- Univerisiteit Antwerpen, Departement Chemie (prof. Pegie Cool) for the development of novel silica based catalysts and functional ordered porous materials
- National Technical University of Athens, School of Chemical Engineering (prof. G. Stefanidis) cooperation towards Process intensification of Carbon dioxide and methane valorization by microwave heating.
- National Technical University of Athens, School of Mining & Metallurgical Engineering (prof. A. Xenidis) on the utilisation of carbon wastes
- University of Birmingham, Department of Mechanical Engineering (prof. A. Tsolakis and prof. S. Zeraati Rezaei) on primary and secondary aerosols formation and their characterisation.
- International Iberian Nanotechnology Laboratory – INL (Portugal) (Dr. Yury Kolenco) on the preparation of novel carbon based electrocatalysts
- Foundation for Technical and Social Development – LUREDERRA (Spain) on the synthesis of novel Zn and Ce based nanomaterials with antimicrobial properties
- Moravia Ltd (Istanbul- Turkey) for the development of novel antifouling paints for marine applications.
- Jonhson Matthey PLC (UK) for the preparation and performance evaluation of automotive catalysts.
- British Airways PLC (UK) for the development of novel aircraft paints with improved anti icing properties.
- CELABOR SCRL (Belgium) on the development of novel hybrid nanomaterials using bio-extracts
- Asociacion Centro Tecnologico (Spain), on the development of novel sensors as well as utilisation of plasma techniques for the surface treatment of materials

- Eczacibasi Yapi Gerecleri Sanayi Ve Ticaret AS (Turkey) on the synthesis of antimicrobial metallic surfaces
- YEŞIM - ALMAXTEX Textile Industry (Turkey) on the synthesis and application of nanomaterials on textiles
- PANASONIC Life Solutions Elektrik Sanayi Ve Ticaret Anonim Sirketi (Turkey) on the synthesis of antimicrobial plastic surfaces
- Association Pour La Recherche Et Le Developpement D'innovations Et De Technologies Pour La Protection De L'heritage Environnemental, Social, on the environmental impact of the synthesis of various types of nanomaterials
- Fiaxell (Switzerland) on the development of novel SOEC/FC as well on the nanostructuring of perovskite oxides
- C2C-NEW CAP (Portugal) on the development of HPCs as electrode materials for supercapacitors
- KNOW CENTER (Austria) for the utilisation of ML tools for the optimisation of the synthesis of electrospun perovskite fibers and carbons using laser treatment.

PARTICIPATION IN RESEARCH PROJECTS

1. BRITE-EURAM BREU-CT92-0568: “Microporous Carbon Membranes for Gas Separations”. Demokritos Budget: 420.000 ECU.
2. BRITE-EURAM BREU-CT94-0572: “Synthesis of Ultra-Thin Membrane Coatings using Plasma treated Langmuir-Blodgett and Self-Assembled films”. Demokritos Budget: 330.000 ECU.
3. SYN: "Activated Carbon from Agricultural Byproducts for Gas Pollutant Removal".
4. YPER /94: "Filters and protective equipment against toxic gases and atmospheric pollutants using activated carbon produced through treatment of agricultural by-products"..
5. JOULE JOE-CT95-0018: “Gas Transport in Microporous Ceramic Membranes”. Demokritos Budget: 152.800 ECU.
6. BRITE-EURAM Project No BPRP-CT98-0722: “Innovative adsorption system and process for cost efficient natural gas treatment”. "ADPRONAG". Demokritos Budget 420.000 ECU.

7. EPET II «Development of novel diadermic and osmotic pharmaceutical systems" Participants: Lavipharm A.E, Budget 135.400 ECU
8. FAIR CT98-4416, (BIONANOPACK): "Biodegradable nanocomposite food packaging", Demokritos Budget: 100.00 ECU
9. GRD2-2000-30372 "Ceramic Membranes for Olefin-Parafin Separations", NCSR "DEMOKRITOS", Demokritos Budget: 680.000 €
10. QLK5-CT-2002-02431: "Algae as raw material for production of bioplastics contributing to sustainable development of European coastal regions", Demokritos Budget: 414.000 €.
11. EPAN - HYDROCELL F.P. 39 14010/19-10-2003, "Development of Production Technologies for Hydrogen used in Fuel Cells" Demokritos Budget: 299.4 kEuro
12. EPAN - BIMETAL F.P. 39 14010/19-10-2003, "Exploitation of Bioactive Metabolites from Marine Algae" Demokritos Budget: 245.4 kEuro
13. Network of Excellence (NoE) : Inside_Pores, "IN-SItu study and DEvelopment of processes involving nano-PORous Solids", National Center for Scientific Research "Demokritos", Coordinator: NCSRD.
14. EPAN - NANOFOOD, "Ceramic Membranes Development And Application In Food Processing Industry", Demokritos Budget: 112.8 kEuro.
15. The Operational Programme 'Competitiveness', PRIORITY AXIS 4: TECHNOLOGICAL INNOVATION AND RESEARCH MEASURE 4.5: JOINT VENTURES IN RESEARCH AND TECHNOLOGICAL DEVELOPMENT IN AREAS OF NATIONAL PRIORITY. Title "Integrated National Center of Environmental Technology" Demokritos Budget:1.772.500 €
16. National proposal PEP Attikis PRIORITY AXIS 1: Task 1.2: Π entitled: "Development of novel RO systems for desalination and wastewater treatment using double layer hollow fibers" Demokritos Budget: 141.500€.
17. High-throughput development of carbon-polymer nanocomposites for marine applications – CARBONCOMP (FP7-PEOPLE-2011-IAPP) Contract No: 286413. Total Budget: 1537194 €, NCSRD budget: 388211 €.
18. Exploitation of marine algal biomass and algal metabolites in wastewater treatment and gas separation environmental processes - 20NEWE2009- ESPA-GSRT in cooperation with MEDBIO.

19. IOLICAP. Novel IOnic LIquid and supported ionic liquid solvents for reversible CAPture of CO_2 – FP7-ENERGY-2011-1 (283077). NCSRD (Coordinator). Total Budget 5,770,719.00 €, NCSR Demokritos Budget: 1,048,161.00 €
20. Development of NEXT GENeration cost efficient automotive CATalysts- NEXT-GEN-CAT (FP7-NMP-2011-SMALL-5). Contract No: 280890. NCSRD (Coordinator). Total budget: 3.938.298 €, NCSRD budget: 629.899€.
21. Synthesis of Advanced top Nanocoatings with improved Aerodynamic and De-icing behaviour – SANAD (FP7-PEOPLE-2012-IAPP), Contract No: 324443.Total budget: 2,872,668.87 €, NCSRD budget: 522,156.47€.
22. Thalis Project (ESPA)-Univerisity of Ioannina, Code: 80790. "Development of Functional Micro- & Mesoporous Hybrid Materials for Technology & Environmental Applications – POROTECH. NCSRD budget: 105000 €
23. Development of novel, high Performance hybrid TWV/GPF Automotive afteR treatment systems by raTIonAL design: substitution of PGMs and Rare earth materials — PARTIAL-PGMs (H2020-NMP-2014-2015), Contract No: 686086. NCSRD (scientific coordinator). Total Budget: 4600000 €, NCSRD Budget: 472750.00€
24. Pollutant Photo-NF remediation of Agro-Water - LIFE PureAgroH2O. Contract LIFE17 ENV/GR/00038. Total Budget: 2,145,822 €, NCSRD Budget: 785,613 €
25. Development of a bifunctional hierarchically structured zeolite based nano-catalyst using 3D-technology for direct conversion of methane into aromatic hydrocarbons via methane dehydroaromatization ' — 'ZEOCAT-3D', CE-NMBP-24-2018 - Total Budget: 6 764 020 €, NCSRD Budget: 423,750.00 €
26. SUStainable Antimicrobial and Antiviral Nanocoating – SUSAAN, HORIZON-CL4-2021-RESILIENCE-01-20, GA: 101057988. Total budget: 5,754,843.00€. NCSRD Budget: 498,750.00 €. Duration 42 months
27. Air Quality and Health Impact of Primary Semi-Volatile and Secondary Particles and their Abatement -AEROSOLS, HORIZON-CL5-2022-D5-01-07, Grant Agreement No: 101096912 (2024-2026) NCSRD Budget: 508.750€.
28. Process intensification of Carbon dioxide and methane valorization by microwave heating – RESILIENCE, Code: 26272. Hellenic Foundation for Research and Innovation Total Budget: 280857.00 €

LIST OF PUBLICATIONS

1. T.A. Steriotis, F.K. Katsaros, A.Ch. Mitropoulos, A.K. Stubos and N.K. Kanellopoulos, “Characterisation of Porous Solids by Simplified Gas Relative Permeability Measurements”, *Journal of Porous Materials*, **2**, 73-77 (1995).
2. T.A. Steriotis, F.K. Katsaros, A.Ch. Mitropoulos, A.K. Stubos, P. Galiatsatou, N. Zouridakis and N.K. Kanellopoulos, “Novel design for High Pressure, Integral, Differential, Absolute and Relative Multi-Component Permeability Measurements”, *Review of Scientific Instruments*, **67**, 2545-2548 (1996).
3. F.K. Katsaros, T.A. Steriotis, A.K. Stubos, A.Ch. Mitropoulos, N.K. Kanellopoulos, and S. Tennison, “High Pressure gas permeability of Microporous carbon membrane”, *Microporous Materials*, **8**, 171-176 (1997).
4. T.A. Steriotis, F.K. Katsaros, A.K. Stubos, A.Ch. Mitropoulos and N.K. Kanellopoulos, “A novel experimental technique for the measurement of the single-phase gas relative permeability of porous solids”, *Measurements Science and Technology*, **8**, 168-173 (1997).
5. F.K. Katsaros, A.Ch. Mitropoulos, P.K. Makri and N.K. Kanellopoulos, U. Keiderling and A. Wiedenman., “On the morphology and surface geometry of Vycor”, *Physica B*, **234-236**, 402-404 (1997).
6. A.Ch. Mitropoulos, T.A. Steriotis, F.K. Katsaros, K.P. Tzevelekos, N.K. Kanellopoulos, U. Keiderling, A. Sturm and A. Wiedenmann, “Neutron scattering from water adsorbed on an alumina membrane”, *J. Mem. Sci.*, **129**, 289-295 (1997).
7. A.Ch. Mitropoulos, K. Beltsios, T.A. Steriotis, F.K. Katsaros, P. Makri and N.K. Kanellopoulos, “The combination of equilibrium and dynamic methods for the detailed structural characterisation of ceramic membranes”, *Journal of the European Chemical Society*, **18**, 1545-1558 (1998).
8. F.K. Katsaros, T.A. Steriotis, K. Stefanopoulos, N.K. Kanellopoulos and A. Hoser, “Neutron Diffraction Study of Adsorbed CO_2 on a Carbon membrane”, *Physica B*, **276-278**, 901 (2000).
9. S.K. Papageorgiou, F.K. Katsaros, E.P. Kouvelos, J.W. Nolan, H. Le Deit, N.K. Kanellopoulos “Heavy metal sorption by calcium alginate beads from *Laminaria digitata*”*, Journal of Hazardous Material*, **B137,** 1765-1772 (2006)
10. F.K. Katsaros, Th.A. Steriotis, A.K. Stubos, N.K. Kanellopoulos and S. R. Tennison, “Effect of activation process on resin based activated carbons” *Studies in Surface Science and Catalysis*, Characterisation of Porous Solids VII, Eds. Llwellyn P.L., Rouquerol J., Rodrigues-Reinoso, Seaton N.A., Elsevier, **160**, 599-607 (2006).

11. A. Lambropoulos, G. Romanos, Th. Steriotis, J. Nolan, F. Katsaros, E. Kouvelos, G. Charalambopoulou and N. Kanellopoulos, "Application of an innovative mercury intrusion technique and relative permeability to examine the thin layer pores of sol–gel and CVD post-treated membranes", *Microporous and Mesoporous Materials,* **99**, 206-215 (2007).
12. 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", *Microporous and Mesoporous Materials,* **99**, 181-189 (2007).
13. A.A. Sapalidis, F.K. Katsaros, G.E. Romanos, N.K. Kakizis and N.K. Kanellopoulos, "Preparation and characterization of novel Poly (vinyl alcohol) – Zostera flakes composites for packaging applications", *Composites: Part B*, **38**, 398–404 (2007).
14. N.I. Papadimitriou, G.E. Romanos, G.Ch. Charalambopoulou, M.E. Kainourgiakis, F.K. Katsaros and A.K. Stubos, "Experimental investigation of asphaltene deposition mechanism during oil flow in core samples", *Journal of Petroleum Science and Engineering*, **57**, 281-293 (2007)
15. A. Lambropoulos, G.E. Romanos, Th.A. Steriotis, J. Nolan, F.K. Katsaros, E. Kouvelos, N. Kanellopoulos, "Development of an Innovative Mercury intrusion technique to examine defects plugging after CVD treatment of NF composite membranes" *J. Porous Mat.*, **15,** 83-91 (2008)
16. S.K. Papageorgiou, E.P. Kouvelos and F.K. Katsaros, "Calcium alginate beads from Laminaria digitata for the removal of Cu^{+2} and Cd^{+2} from dilute aqueous metal solutions" *Desalination*, **224**, 293-306 (2008)
17. Th.A. Steriotis, K.L. Stefanopoulos. F.K. Katsaros, R. Gläser, A.C. Hannon, J.D.F. Ramsay, "In situ neutron diffraction study of adsorbed carbon dioxide in a nanoporous material: Monitoring the adsorption mechanism and the structural characteristics of the confined phase", *Physical Review B - Condensed Matter and Materials Physics*, **78**, 115424 (2008).
18. S.K. Papageorgiou, F.K. Katsaros, E.P. Kouvelos, N.K. Kanellopoulos, "Prediction of binary adsorption isotherms of Cu^{2+}, Cd^{2+} and Pb^{2+} on calcium alginate beads from single adsorption data", *Journal of Hazardous Materials,* **162**, 1347-1354 (2009)
19. A.I. Labropoulos, G.E. Romanos, G.N. Karanikolos, F.K. Katsaros, N.K. Kakizis, N.K. Kanellopoulos, "Comparative study of the rate and locality of silica deposition

during the CVD treatment of porous membranes with TEOS and TMOS", *Microporous and Mesoporous Materials*, **120**, 177-185 (2009)

20. C.P. Athanasekou, S.K. Papageorgiou, V. Kaselouri, F.K. Katsaros, N.K. Kakizis, A.A. Sapalidis, N.K. Kanellopoulos, "Development of hybrid alginate/ceramic membranes for Cd^{2+} removal", *Microporous and Mesoporous Materials*, **120**, 154-164 (2009)
21. S.K. Papageorgiou, E.P. Kouvelos, E.P. Favvas, A.A. Sapalidis, G.E. Romanos and F.K. Katsaros "Metal–carboxylate interactions in metal–alginate complexes studied with FTIR spectroscopy" *Carbohydrate Research,* **345**, 469-476 (2010).
22. E.C. Vermisoglou, A. Labropoulos, G.E. Romanos, E. Kouvelos, S. Papageorgiou, G.N. Karanikolos, F. Katsaros, N.K. Kanellopoulos, "Hydrogen Storage in Polymer-Functionalized Pd-Decorated Single Wall Carbon Nanotubes", *Journal of Nanoscience and Nanotechnology*, **10**, 5971-80 (2010).
23. M. Ulas Dural, L. Cavas, S.K. Papageorgiou and F.K. Katsaros, "Methylene blue adsorption on activated carbon prepared from Posidonia oceanica (L.) dead leaves: Kinetics and equilibrium studies", *Chemical Engineering Journal,* **168***,* 77-85 (2011)
24. S.K. Papageorgiou, E.P. Favvas, A.A. Sapalidis, G.E. Romanos, F.K. Katsaros, "Facile synthesis of carbon supported copper nanoparticles from alginate precursor with controlled metal content and catalytic NO reduction properties", *Journal of Hazardous Materials*, **189**, 384-390 (2011)
25. E.P. Favvas, G.E. Romanos, S.K. Papageorgiou, F.K. Katsaros, A.Ch. Mitropoulos, N.K. Kanellopoulos, A Methodology for the morphological and physicochemical characterisation of asymmetric carbon hollow fiber membranes, *Journal of Membrane Science,* **375**, 113-123 (2011)
26. K.L. Stefanopoulos1, Th.A. Steriotis, F.K. Katsaros, N.K. Kanellopoulos, A.C. Hannon and J.D.F. Ramsay, "Structural study of supercritical carbon dioxide confined in nanoporous silica by in situ neutron diffraction", *J. Phys.: Conf. Ser.* **340**, 012049 (2012)
27. F.K. Katsaros, Th.A. Steriotis, K.L. Stefanopoulos, N.K. Kanellopoulos, A.C. Hannon and J.D.F. Ramsay, "Structural characterisation of subcritical carbon dioxide confined in nanoporous carbon by in situ neutron diffraction", *J. Phys.: Conf. Ser.* **340**, 012046 (2012)

28. A.A. Sapalidis, F.K. Katsaros, Th.A Steriotis, N.K. Kanellopoulos, S. Dante and T. Hauss, “Neutron diffraction on polymer nanocomposites - A tool for structural and orientation studies”, *J. Phys.: Conf. Ser.* **340** 012090 (2012)
29. A.A. Sapalidis, F.K. Katsaros, Th.A. Steriotis and N.K. Kanellopoulos, Properties of Poly(vinyl alcohol) - bentonite clay nanocomposite films in relation to polymer-clay interactions, *Journal of Applied Polymer Science*, **123**, 1812-1821 (2012)
30. C.P. Athanasekou, G.E. Romanos, F.K. Katsaros, K. Kordatos, V. Likodimos, P. Falaras, “Very efficient composite titania membranes in hybrid ultrafiltration/photocatalysis water treatment processes”, Journal of Membrane Science, **392-393**, 193-203 (2012)
31. S.K. Papageorgiou, F.K. Katsaros, E.P. Favvas, G. Em. Romanos, C.P. Athanasekou, K.G. Beltsios, O.I. Tzialla, P. Falaras, “Alginate fibers as photocatalyst immobilizing agents applied in hybrid photocatalytic/ultrafiltration water treatment processes, *Water Research*, **46**, 1858-1872 (2012)
32. G.E. Romanos, C.P. Athanasekou, F.K. Katsaros, N.K. Kanellopoulos, D.D. Dionysiou, V. Likodimos, P. Falaras, “Double-side active TiO_2-modified nanofiltration membranes in continuous flow photocatalytic reactors for effective water purification”, *Journal of Hazardous Materials,* **211**, 304-316 (2012)
33. E.G. Deze, S.K. Papageorgiou, E.P. Favvas, F.K. Katsaros, “Porous alginate aerogel beads for effective and rapid heavy metal sorption from aqueous solutions: Effect of porosity in Cu^{2+} and Cd^{2+} ion sorption”, *Chemical Engineering Journal* **209**, 537-546 (2012)
34. N.G. Moustakas, A.G. Kontos, V. Likodimos, F. Katsaros, N. Boukos, D. Tsoutsou, A. Dimoulas, G.E. Romanos and P. Falaras, “Inorganic-organic core-shell titania nanoparticles for efficient visible light activated photocatalysis”, *Applied Catalysis B: Environmental* **130-131**, 14-24 (2013).
35. L.M. Pastrana-Martínez, S. Morales-Torres, S.K. Papageorgiou, F.K. Katsaros, G.E. Romanos, J.L. Figueiredo, J.L. Faria, P. Falaras, A.M.T Silva, “Photocatalytic behaviour of nanocarbon-TiO2 composites and immobilization into hollow fibres”, *Applied Catalysis B: Environmental,* **142-143**, 101-111 (2013).
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