# CURRICULUM VITAE

*Updated*: **11.01.2018**


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Education – Professional Experience

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|---|---|
| 05/14-today | Full Professor, Department of Materials Science and Engineering, University of Ioannina, Greece |
| 10/09-05/14 | Associate Professor, Department of Materials Science and Engineering, University of Ioannina, Greece |
| 09/08-02/09 | Visiting Professor, Zernike Institute for Advanced Materials, University of Groningen (RuG), the Netherlands |
| 04/05-10/09 | Assistant Professor (*tenure*), Department of Materials Science and Engineering, University of Ioannina, Greece |
| 11/04-05/05 | Research Associate, Materials Science Centre, University of Groningen (RuG), the Netherlands |
| 11/99-05/04 | Assistant Professor (*fixed term contract)*, Department of Materials Science and Engineering, University of Ioannina, Greece |
| 03/99-02/00 | Postdoctoral research associate, Institute of Materials Science NCSR "Demokritos", Greece. |
| 1998 | Ph.D. in Materials Chemistry, at the Department of Chemical Engineering, Faculty of Materials Science and Technology, National Technical University of Athens. |
| 03/93-09/97 | Postgraduate Student, Institute of Physical Chemistry, NCSR "Demokritos", Greece. |
| 1992 | First Degree (B.Sc.) in Chemistry, University of Ioannina, Greece. |

Research Interests and Activities

D. Gournis is an experimental synthetic chemist working in the area of layered and nanoporous materials. His research activities/interests concern the chemistry of phyllomorphous (2D) materials [in particular inorganic layered structures, clay-based materials (clays, pillared clays, organo-clays, LDHs), carbon layered structures, TMDs, germanane etc], carbon nanostructures [carbon nanotubes, fullerenes, graphene, graphite oxide, carbon dots, molecular diamonds], hybrid organic-inorganic nanocomposites, mesoporous materials, metallic (magnetic or semiconducting) nanoparticles and biocatalysts.

*Synthetic procedures:* intercalation reactions, sol-gel, hydrothermal synthesis, Catalytically Chemical Vapor Deposition (CCVD), solid state reactions, Langmuir-Blodgett.

*Characterization techniques:* powder XRD; FTIR, Raman, UV-Vis, EPR and Mossbauer spectroscopies, DTA/DSC/TGA, porosity measurements, AFM and SEM microscopy.

- Head and founder (2005) of the *Layered & Nanoporous Materials Group (LNM-Group)* at DMSE of UoI that is currently consists of 2 Postdoc (Dr. K. Spyrou, Dr. A. Kouloumpis), 5 PhD, 9 MSc and 10 Diploma students, and 1 technical support staff (Mrs. S. Pappa).

Teaching Experience

10/99-today Tutor in the Department of Materials Science and Engineering, University of Ioannina, Ioannina, Greece. *35 full semester teaching.* Courses: Chemistry Lab ($1^{st}$ yr), Materials Lab I & II ($2^{nd}$/$3^{rd}$ yr), Chemistry of Materials – Layered & Nanoporous Materials ($4^{th}$ yr), Chemical Processes ($3^{rd}$ yr), Bioceramics ($5^{th}$ yr), Special Topics of Ceramics ($5^{th}$ yr), etc.

9/02-today *25 full semester teaching* in Post-graduate programs "Chemistry and Technology of Materials" (Dept Materials Science & Engineering and Dept Chemistry of Univ. Ioannina, and Technical University of Athens), "Bioinorganic Chemistry" (Dept Chemistry and Medicine, Univ. Ioannina), and "Advanced Materials" (Dept Materials Science & Engineering, Univ. Ioannina). Courses: Advanced Materials, Nanotechnology, Biocatalysts and biomimetic materials, clay minerals etc.

Participation in Funded Projects / Collaborations

Participation as Principal Investigator (8), main researcher (16) or Program coordinator (3) in 27 funded European and National (Greek) programs: **Active**: (i) Inter. Res. Grant –Petroleum Institute, UAE (2015-2018) *"Magnetic Nanoparticles (MNPs) for Reservoir Characterization" (MNPs)***,** 402,000 US$ (Total 2,622,000 US$, ADNOC- U.A.E.); (ii) Inter. Res. Grant –Petroleum Institute, UAE (2016-2019) *" Novel, Highly Selective Nanocomposite Adsorbents for High Capacity $CO_2$ Capture from Tail Gas and Cost-Effective Regeneration for EOR Use"***,** 160,000 US$ (Total 1,203,000 US$, ADNOC- U.A.E.); (iii) Ereuno-Dimiourgo-Kainotomo (2017-2020) *"A novel process for the efficient and eco-friendly valorization of biogas and $CO_2$ emissions: complete conversion to ethylene"* 235,000 € (Total 1,000,000 €, GSRT-Greece); (iv) Ereuno-Dimiourgo-Kainotomo (2017-2020) *"Production of innovative higch enercy efficiency pipes for underfloor heating-cooling systems"* 58,950.10 € (Total 712,750.81 €, GSRT-Greece) **Past:** (i) FP7-NMP-2007-LARGE-1 (2008-2012) *"Carbon Nanotube Confinement Strategies to Develop Novel POlymer Matrix COmposites" (POCO),* 340,200 € (Total 5,524,450 €, EU) [CP-IP 213939-1]; (ii) Heraclitus II (2010-2013) *"Novel nanoporous materials based on graphene: synthesis, characterization and study of properties"* 45.000 € (Ministry of Education,- Greece); (iii) RTN (2002-2006) "*Composites of Augmented Strength: Study of Intercalates of Uniquely Structured Clays" (CASSIUS-CLAYS),* 260.000 € (Total: 1.380.000 €, EU) [RTN2-2001-00517]; (iv) PENED-2003 (2005-2008) "Development of novel polymer/clay nanocomposites with improved mechanical properties and low transmission**",** 110.880 € (GSRT-Greece) [03ED924]; (v) PENED-2003 (2005-2008) *"Study of hydrogen adsorption in nanomaterials for fuel cell applications"***,** 43.850 € (Total: 168.750 €, GSRT-Greece) [03ED548]; (vi) IKYDA2005 (2006-2007) *"Magnetic hetero-nanostructures for thermally assisted magnetic recording"* 10.000 € (IKY-Greek & DAAD-Germany); (vii) Cooperation (2011-2014) *"Application of novel inorganic nanostructures for the development of polymer nanocomposites with improved properties" (NanoFill)***,** 135,000 € (Total 572,560 €, GSRT-Greece); (viii) FP7-PEOPLE-2011-IRSES (2012-2015) "*Magnetic Nanoparticles and Thin Films for Spintronic Applications and High Performance Permanent Magnets" (NanoMag),* 31,500 € (Total: 468,300 €); (ix) Thalis (2012-2015) "*Design of novel nanoporous materials for hydrogen storage" (HydroStore),* 150,000 € (Total: 521,739 €, Min. Educ.-Greece); (x) Thalis (2012-2015) "*High performance nanocomposite materials: reinforcement of polymers with advanced carbon and silica nanostructures" (Nanocomp),* 170,000 € (Total: 521,739 €, Min. Educ.-Greece)….as well as, 2 EPET II, 1 EPAN, 2 PYTHAGORAS, 2 PENED, et al. Moreover, participation in *5 funded Educational programs as tutor/instructor*.

Honors – Scholarships – Refereeing – Editorial - Memberships

- **Associate Editor** of *Frontiers in Materials* (specialty section: *Carbon-based Materials*) - [http://www.frontiersin.org/Materials].
- **Member of the board** (2016-today) of the *Hellenic Foundation of Research and Innovation* (*ELIDEK*, elected representative of University of Ioannina)
- Referee in >50 journals, e.g. Langmuir, Chem. Mater., ACS Nano, Small, Nature Commun., Sci. Rep., Carbon, J. Phys. Chem., Adv. Funct. Mater., Chem. Commun., New J. Chem., J. Mater. Chem., J. Mol. Cat. A, J. Phys. Chem. Solids, RSC Advances, Diamond Rel. Mater, Clays Clay Miner, Chem. Phys. Lett., J. Solid State Chem., etc
- Referee in research proposals e.g. *USA*: ACS-PRF; *EU*: FET; *Greece*: Min. Educ., Gen. Secretat. Res. Techn., «K. Karatheodoris» Univ. Patras, State Scholarship Found, etc; *Croatia*: UKF's programs; *Italy*: MIUR programs (PRIN, Futuro in Ricerca), VQR etc; *Romania*: NRC programs; *Cyprus*: Res. Prom. Found programs; *Czech Republic.*: GACR programs; etc.
- Referee of papers in International Conferences (e.g. 4$^{th}$ IMMS 2004, Cape Town, South Africa, 1-4 May, 2004 etc)
- Editor of Special Topic 'Carbon Superstructures: From Synthesis to Applications' in *Frontiers in Materials* (co-eds. V. Georgakilas, G. Froudakis, January 2018)
- Member of the scientific committee in 4 Conferences
- Two teaching scholarships as experienced researcher in UPC, Barcelona and Univ. Calabria, Italy (CNISM).
- Member of the American Chemical Society (2012-today), Hellenic Chemical Association (since 1992), Clay Minerals Society (CMS) –U.S.A. (1998-2001)
- Research Scholarship from the NSCR for the entire period of the Ph.D. thesis (1993-1998). Admission after introductory examinations.

Advisor - Examiner

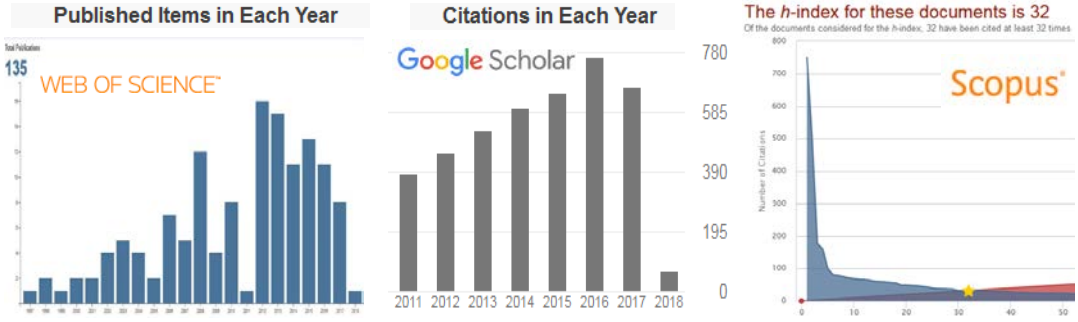
- **Supervisor (promotor) in 8 PhD theses** *(6 accomplished)* [T. Tsoufis, 2005-2009; P. Xidas, 2005-2009[1]; A. Enotiadis, 2007-2011; E. Diamanti, 2009-2014; D. Giasafaki, 2009-2013[2]; A. Rossos, 2011-2014, M. Subrati, 2015-today; N.Karouta, 2017-today; N. Chalmpes, 2018-today], **Co-promotor in 7 PhD Theses** *(5 accomplished)* [K. Spyrou, 2008-2012 (RUG, NL with Prof. Dr. P. Rudolf); A. Tomou, 2007-2013 (UoI, GR with Prof. I. Panagiotopoulos); G. Potsi, 2012-2016[3] (*Joint PhD* of UoI with RUG, NL with Prof. Dr. P. Rudolf); P. Zygouri, 2012-2016 (*Joint PhD* of UoI with RUG, NL with Prof. Dr. P. Rudolf); A. Kouloumpis, 2013-2017 (*Joint PhD* of UoI with RUG, NL with Prof. Dr. P. Rudolf); E. Thomou, 2016-today[3] (*Joint PhD* of UoI with RUG, NL with Prof. Dr. P. Rudolf); T. Giousis, 2017-today[3] (*Joint PhD* of UoI with RUG, NL with Prof. Dr. P. Rudolf)], **27 Master (MSc) theses** *(21 accomplished)* [K. Litina, 2004-2006; T. Tsoufis, 2004-2006; A. Enotiadis, 2006-2009, T. Koliou, 2006-2009 (co-); A. Dimitrakou, 2006-2009 (co-); E. Diamanti, 2008-2011; G. Potsi, 2009-2012; P. Zigouri, 2009-2012; E. Mpletsa, 2010-2012 (co-); A. Kouloumpis, 2010-2013; E. Mouzourakis, 2010-2013; M. Katsiaflaka, 2010-2013; A. Georgiou, 2010-2014; D. Mpergouni, 2011-2016; E. Thomou, 2013-2016; K.-M. Lyra, 2014-2016; T. Giousis, 2013-2017; E. Skoura, 2014-2017; A.-M. Manoloukou, 2014-2017; N. Karouta, 2015-2017; N. Chalmpes, 2016-2017, G. Vafri, 2015-today; A. Sima, 2015-today; V. Sfakianaki, 2016-today; K. Ferentinou, 2016-today; F. Evangelou, 2016-today; V. Sakavitsi, 2017-today] and **90 Diploma theses** (2004-today, *accomplished*).
- Member of the evaluation committee in >30 PhD theses (Ioannina, Crete, Agrinio, Athens), >60 master theses, and > 150 diploma theses.
- External examiner in 9 PhD theses: Department of Physics, Annanalai University, India (C. Manoharan, V.Arumugam, Supervisors: Prof. R. Venkatachalapathy (2) and Prof. A. N. Kannappan, Head of Dept), Zernike Instit. Adv. Mater., Univ. Groningen, NL (Nemanja

[1] Research performed in AUTH, Greece (Dr. K. Triantafyllidis)
[2] Research performed in NCSR "Demokritos", Greece (Dr. T. Steriotis)
[3] *Ubbo Emmius sandwich bursary PhD-position between University of Ioannina and University of Groningen*

Miletic. Supervisor Prof. K. Loos; Regis Gengler, suprv. Prof Dr. P. Rudolf), Dept. Physics, University of Calabria, IT (M. Antoniou. Supervisor Prof. R. Agostino), etc.

Publications / Participation to Conferences / Talks / Analysis / Bibliometrics

- Author of **130** international **publications in peer reviewed journals** (5 invited/feature articles): *JACS* 3, *Nano Letters* 2, *Angewante Chem. Int. Ed*. 1, *Small* 3, *ACS Nano* 1, *Nature Commun.* 1, *Adv. Funct. Mater.* 3, *2D Mater.* 1, *Trends Biotechnol.* 1, *Chem. Mater*. 5, *Nanoscale* 4, *NPG Asia Mater.* 1, *Langmuir* 6, *J. Mater. Chem.* 3, *Carbon* 11, *Chem. Eur. J.* 5, *J. Phys. Chem. C* 5, *Bioresour. Technol.* 2, *J. Phys. Chem. B* 2, *Phys. Chem. Chem. Phys.* 2, *ACS Omega* 1, *Appl. Mater. Today* 2, etc
    - Citations **4004** / **3619** without self-citations (ISI) -10.01.2018 [Scopus citations 4266 / 3542; Google Scholar 5200]
    - ***h* factor = 31** (normalized-*h* 33) –ISI [Scopus: 32; Google Scholar: 35]. *i-10 index*: 86 –Google Scholar
    - Total Impact Factor, **ΣIF= 622.7** and Mean Impact Factor, **IF/paper = 4.8**
    - In **35** papers corresponding author




- Author of **1 paper** (refereed) **in book series**
- Author of **5 chapters** (invited and refereed) in international books
- Author of **3 technical reports**
- **1 international patent** (WO 2011/009889)
- Author or Co-author in **7 books** of undergraduate courses in Materials Science (*in Greek*)
- Author of **81 publications in conference proceedings**
- **>180 oral or poster presentations** at international and national conferences.
- **35 invited talks** in conferences (18) and institutions (17)
- Member of the **organizing committee in 7 conferences** ("Magnetic Nanoparticles: Challenges & Future Prospects", 18-23/6/2007, Lorentz Center, Leider, the Netherlands; HTC2009, 6-9/5/2009, Athens, Greece; "XXVI PanHellenic Conf. Solid State Phys. & Mater. Sci.", 26-29/9/2010; 4$^{th}$ PanHellenic Conf. Green Chemistry & Sustainable Growth, Ioannina, 30/10-1/11/2014; etc).

Publications (in refereed journals)

1. M. A. Karakassides,* D. Petridis, and **D. Gournis.** Infrared Reflectance Study of Thermally treated Li/Cs-Montmorillonites. *Clays and Clay Minerals*. (1997) Vol. 45, No. 5, p. 649-658.
2. A. Szabó, **D. Gournis**, M. A. Karakassides, and D. Petridis*. Clay-(aminopropyl)ethoxy silane compositions. *Chemistry of Materials*. (1998) Vol. 10, No. 2, p. 639-645.
3. D. Petridis,* **D. Gournis**, and M. A. Karakassides. The Chemistry of Organofunctionalized Silicon Cubanes in Swelling Smectites. *Molecular Crystals and Liquid Crystals*. (1998) Vol. 311, p. 345-350.
4. M. A. Karakassides,* **D. Gournis** and D. Petridis. An infrared reflectance study of Si-O vibrations in thermally treated alkali-saturated montmorillonites. *Clay Minerals*. (1999) Vol. 34, No. 3, p. 429-438.

5. M. A. Karakassides,* **D. Gournis**, A. Simopoulos, and D. Petridis. A Mössbauer and Infrared Study of Heat Treated Nontronite. *Clays and Clay Minerals*. (2000) Vol. 48, No.1, p. 68-76
6. **D. Gournis,*** A. M. Mantaka, M. A. Karakassides, and D. Petridis. Effects of gamma-irradiation on Clays and Organoclays: A Mössbauer and XRD study. *Physics and Chemistry of Minerals*. (2000) Vol. 27, No. 7, p. 514-521.
7. **D. Gournis,*** A. M. Mantaka, M. A. Karakassides, and D. Petridis. Ionizing Radiation Induced Defects in Smectite clays. *Physics and Chemistry of Minerals*. (2001) Vol. 28, No.4, p. 285-290.
8. V. I. Georgakilas, **D. Gournis** and D. Petridis*. Organo-clay derivatives in the synthesis of macrocycles. *Angewandte Chemie International Edition.* (2001) Vol. 40, No.22, p. 4286-4288 (+Support. Info.).
9. **D. Gournis,*** M.A. Karakassides and D. Petridis. Formation of hydroxyl radicals catalyzed by clay surfaces. *Physics and Chemistry of Minerals*. (2002) Vol. 29, No. 2, p. 155-158.
10. **D. Gournis**, M.A. Karakassides, N. Boukos, T. Bakas and D. Petridis*. Catalytic synthesis of carbon nanotubes on clay minerals. *Carbon.* (2002) Vol. 40, No. 14, p. 2641-2646. [article was selected as Hot Paper by Alchemist Weekly Bulletin, Vol. 5, Iss. 45 (11 Nov 2002)]
11. **D. Gournis,*** M. Louloudi,* M.A. Karakassides, C. Kolokytha, K. Mitopoulou and N. Hadjiliadis*. Hetrogeneous clay-manganese(II) oxidation catalysts. *Materials Science and Engineering C*. (2002) Vol. 22, No. 1, p. 113-116.
12. **D. Gournis,*** Y. Deligiannakis, M. A. Karakassides, S. Un, N. Ioannidis and D. Petridis. Stability study of tyrosinate radical in a restricted phyllomorphous medium. *Langmuir*. (2002) Vol. 18, No. 25, p. 10024-10029.
13. A.B. Bourlinos, M.A. Karakassides,* **D. Gournis**, V. Georgakilas and A. Moukarika. A novel route towards iron- and chromium-containing MCM-41 materials. *Chemistry Letters.* (2003) Vol. 32, No. 1, p. 38-39.
14. M. A. Karakassides,* **D. Gournis**, A. B. Bourlinos, T. Bakas and P. Trikalitis. Magnetic $Fe_2O_3$-$Al_2O_3$ composites prepared by a modified wet impregnation method. *Journal of Materials Chemistry*. (2003) Vol. 13, No. 4, p. 871-876.
15. A. B. Bourlinos, **D. Gournis**, D. Petridis,* T. Szabó, A. Szeri and I. Dékány. Graphite oxide: chemical reduction to graphite and surface modification with primary aliphatic amines and aminoacids. *Langmuir*. (2003) Vol. 19, No. 15, p. 6050-6055.
16. V. Georgakilas, **D. Gournis**, A. Bourlinos, M.A. Karakassides and D. Petridis*. Clays as host matrix in the synthesis of organic macrocycles. *Chemistry, A European Journal*. (2003) Vol. 9, No. 16, p. 3904-3908.
17. R. Venkatachalapathy,* **D. Gournis**, C. Manoharan, S. Dhanapandian and K. Deenadayalan. Application of FTIR and Mössbauer spectroscopy in the analysis of some South Indian Archaeological Potteries. *Indian Journal of Pure and Applied Physics.* (2003) Vol. 41, No. 11, p. 833-838.
18. V. Georgakilas, **D. Gournis,** M. A. Karakassides, A. Bakandritsos and D. Petridis*. Organic derivatization of single-walled carbon nanotubes by clays and intercalated derivatives. *Carbon*. (2004) Vol. 42, No. 4, p. 865-870.
19. **D. Gournis** and G. Floudas*. Hairy plates: polyethylene-*b*-polyisoprene copolymers in the presence of laponite clay. *Chemistry of Materials*. (2004) Vol. 16, No. 9, p. 1686-1692.
20. **D. Gournis**,* V. Georgakilas, K. Kordatos, M. A. Karakassides, T. Bakas and M. Prato,* M. Fanti and F. Zerbetto*. Incorporation of fullerene derivatives into smectite clays: A new family of Organic-Inorganic nanocomposites. *Journal of the American Chemical Society*. (2004) Vol. 126, No. 25, p. 8561-8568 (+Suppl. Info.).
21. R. Venkatachalapathy,* **D. Gournis**, C. Manoharan, S. Dhanapandian and T. Deenadayalan. FTIR and Mössbauer spectroscopic studies of archaeological potteries from Nathikudi, Tamil Nadu. *Indian Journal of Physics.* (2004) Vol. 78, No. 12, p. 1371-1375.
22. V. Georgakilas,* V. Tzitzios, **D. Gournis** and D. Petridis*. Attachment of magnetic nanoparticles on carbon nanotubes and their soluble derivatives. *Chemistry of Materials.* (2005) Vol. 17, No. 7, p. 1613-1617 (+Support. Info.).
23. E. J. M. Vertelman, E. Maccallini, **D. Gournis**, P. Rudolf, T. Bakas, J. Luzon, R. Broer, A. Pugzlys, T. T. A. Lummen, P. H. M. van Loosdrecht and P. J. van Koningsbruggen*. The Influence of Defects on the Electron Transfer and Magnetic Properties of $Rb_xMn[Fe(CN)_6]_y \cdot zH_2O$. *Chemistry of Materials.* (2006) Vol. 18, No. 7, p.1951-1963 (+Support. Info.).
24. A. Tomou, **D. Gournis**, I. Panagiotopoulos,* Y. Huang, G. Hadjipanayis, and B. Kooi. Weak ferromagnetism and exchange biasing in cobalt oxide nanoparticle systems. *Journal of Applied Physics*. (2006) Vol. 99, No. 12, p. 123915 (-5).

25. **D. Gournis**,* L. Jankovič, E. Maccallini, D. Benne, P. Rudolf,* J-F. Colomer, C. Sooambar, V. Georgakilas, M. Prato,* M. Fanti, F. Zerbetto,* G. H. Sarova, and D. M. Guldi*. Clay-fulleropyrrolidine nanocomposites. *Journal of the American Chemical Society*. (2006) Vol. 128, No. 18, p. 6154-6163 (+Support. Info.).
26. K. Litina, A. Miriouni, **D. Gournis**,* M. A. Karakassides, N. Georgiou, E. Klontzas, E. Ntoukas and A. Avgeropoulos*. Nanocomposites of Polystyrene-*b*-Polyisoprene Copolymer with Layered Silicates and Carbon Nanotubes. *European Polymer Journal*. (2006) Vol. 42, No. 9, p. 2098-2107.
27. L. Jankovič, **D. Gournis**,* P. N. Trikalitis,* I. Arfaoui, T. Cren, P. Rudolf,* M.-H. Sage, T. T. M. Palstra, B. Kooi, J. De Hosson, M. A. Karakassides, K. Dimos, A. Moukarika, and T. Bakas. Carbon Nanotubes Encapsulating Superconducting Single-Crystalline Tin Nanowires. *Nano Letters.* (2006) Vol. 6, No. 6, p. 1131-1135 (+Support. Info.).
28. E. Giannakopoulos, P. Stathi, K. Dimos, **D. Gournis**, Y. Sanakis, and Y. Deligiannakis*. Adsorption and Radical Stabilisation of Humic Acid-Analogues and $Pb^{2+}$ on Restricted Phyllomorphous Clay. *Langmuir*. (2006) Vol. 22, No. 16, p. 6863-6873 (+Support. Info.).
29. T. Tsoufis, P. Xidas, L. Jankovic, **D. Gournis,*** A. Saranti, T. Bakas, and M. A. Karakassides. Catalytic production of carbon nanotubes over Fe-Ni bimetallic catalysts supported on MgO. *Diamond and Related Materials.* (2007) Vol. 16, No. 1, p. 155-160.
30. A. Policicchio, T. Caruso, G. Chiarello, E. Colavita, V. Formoso, R.G. Agostino, T. Tsoufis, **D. Gournis** and S. La Rosa. Electronic, chemical and structural characterization of CNTs grown by acetylene decomposition over MgO supported Fe-Co bimetallic catalysts. *Surface Science*. (2007) Vol. 601, No. 13, p. 2823-2827.
31. V. Georgakilas*, **D. Gournis**, V. Tzitzios, L. Pasquato,* D.M. Guldi and M. Prato. Decorating Carbon Nanotubes with Metals or Semiconductors. *Journal of Materials Chemistry*. (2007) Vol. 17, No. 26, p.2679-2694. (Invited/Feature article. *Review paper*)
32. A. Tomou, I. Panagiotopoulos*, **D. Gournis**,* and B. Kooi. $L1_0$ ordering and magnetic interactions in FePt nanoparticles embedded in MgO and $SiO_2$ shell matrices. *Journal of Applied Physics*. (2007) Vol. 102, No. 2, p. 023910 (-5)
33. P. Stathi, K. Litina, **D. Gournis**, T. Giannopoulos and Y. Deligiannakis*. Physicochemical study of novel organoclays as heavy metal ion adsorbents for environmental remediation. *Journal of Colloid and Interface Science*. (2007) Vol. 316, No. 2, p. 298-309 (+Support. Info.).
34. **D. Gournis**,* A. Lappas, M. A. Karakassides, D. Többens and A. Moukarika. A neutron diffraction study of alkali cation migration in montmorillonites. *Physics and Chemistry of Minerals*. (2008) Vol. 35, No. 1, p. 49-58.
35. K. S. Triantafyllidis, S.A. Karakoulia, **D. Gournis**, L. Nalbandian, D. Delimitis, E. Maccalini and P. Rudolf. Formation of carbon nanotubes on iron/cobalt-modified zeolite-Y: Effect of zeolite porosity and particle morphology. *Microporous and Mesoporous Materials*. (2008) Vol. 110, No. 1, p. 128-140.
36. T. Tsoufis, A. Tomou, **D. Gournis**,* A. P. Douvalis, I. Panagiotopoulos, B. Kooi, V. Georgakilas, I. Arfaoui and T. Bakas *. Novel nanohybrids derived from the attachment of FePt nanoparticles on carbon nanotubes. *Journal of Nanoscience and Nanotechnology*. (2008) Vol. 8, No. 11, p. 5942-5951.
37. A. A. Tzialla, E. Kalogeris, **D. Gournis**, Y. Sanakis and H. Stamatis *. Enhanced catalytic performance and stability of chloroperoxidase from Caldariomyces fumago in surfactant free ternary water-organic solvent systems. *Journal of Molecular Catalysis B: Enzymatic.* (2008) Vol. 51, No. 1-2, p. 24-35.
38. E. Maccallini, G. Kalantzopoulos, T. Tsoufis, R.G. Agostino, G. Chiarello, V. Formoso, T. Caruso, A. Policicchio, **D. Gournis** and E. Colavita. Metallic tin-filling effects on Carbon Nanotubes revealed by Atomically Resolved Spectro-microscopies. *Journal of Nano Research*. (2008) Vol. 3, p. 1-6.
39. T. Tsoufis, L. Jankovic, **D. Gournis**,* P.N. Trikalitis, T Bakas*. Evaluation of first-row transition metal oxides supported on clay minerals for catalytic growth of carbon nanotubes. *Materials Science and Engineering B.* (2008) Vol. 152, No. 1-3, p. 44-49.
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Patents

1. «Functional nanoporous materials for gas storage applications» *Applicant:* Innova – Technology Solutions srl, Chieti (Italy). *Inventors:* G. Froudakis, Heraklion (GR); P. Trikalitis, Heraklion (GR); **D. Gournis**, Ioannina (GR); R. G. Agostino, Rende (IT). WO 2011/009889 (27.01.2011).

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