

CURRICULUM VITAE

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Surname : **Gournis**

Forename : **Dimitrios**

Nationality : Greek

Sex: Male

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Place of birth: Athens (Greece)

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Education – Professional Experience

- 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 phyllosomorphous (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)* part of the Ceramics and Composites Laboratory (CCL) at DMSE of UoI. Group is currently consisting of 3 Postdocs (Dr. K. Spyrou, Dr. P. Zygouri, Dr. M. Subrati), 6 PhD, 3 MSc and 10 Diploma students, and 1 technical support staff (Mrs. S. Pappa). LNM unit participates in the Nanomedicine

and Nanobiotechnology Research Group (<https://nanombr.ac.uoi.gr/>) of University of Ioannina, a multi-disciplinary research group dedicated to the application of nanotechnology and nanomaterials to biology/biotechnology, pharmacology and (patho-) physiology.

- Member (since 2020) of the University Research Center of Ioannina» (URCI), Institute of Materials Science and Computing (IMSC, <https://urci.unit.uoi.gr/imsc>) and Institute of Environment and Sustainable Development (IESD).

Teaching Experience

10/99-today Tutor in the Department of Materials Science and Engineering, University of Ioannina, Ioannina, Greece. *40 full semester teaching*. Courses: Chemistry Lab (1st yr), Materials Lab I & II (2nd/3rd yr), Chemistry of Materials – Layered & Nanoporous Materials (4th yr), Chemical Processes (3rd yr), Bioceramics (5th yr), Special Topics of Ceramics (5th yr), etc.

9/02-today *34 full semester teaching* in Post-graduate programs “Chemistry and Technology of Materials” (Depts Materials Science & Engineering, Chemistry and Physics, Univ. Ioannina), “Bioinorganic Chemistry” (Depts 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 (10), main researcher (18) or Program coordinator (4) in 32 funded European and National (Greek) programs: **Active:** (i) Research-Create-Innovate II (2020-2023) “*Design and development of a sweat-based glucose monitoring graphene nanodevice (closed-loop) with controlled transdermal nanoemulsion release for hypoglycemic drug delivery*” 150,080 € (Total 901,930 €, GSRT-Greece) (ii) Inter. Res. Grant –Petroleum Institute, UAE (2016-2020) “*Novel, Highly Selective Nanocomposite Adsorbents for High Capacity CO₂ Capture from Tail Gas and Cost-Effective Regeneration for EOR Use*”, 160,000 US\$ (Total 1,203,000 US\$, ADNOC- U.A.E.); (iii) Research-Create-Innovate (2018-2021) “*A novel process for the efficient and eco-friendly valorization of biogas and CO₂ emissions: complete conversion to ethylene*” 235,000 € (Total 1,000,000 €, GSRT-Greece); (iv) Research-Create-Innovate (2018-2021) “*Production of innovative high energy efficiency pipes for underfloor heating-cooling systems*” 58,950.10 € (Total 712,750.81 €, GSRT-Greece); (v) Research-Create-Innovate (2018-2021) “*Self-healing and self-sensing nano-composite conservation mortars*” 130,406.27 € (Total 755,539.92 €, GSRT-Greece); (vi) Research-Create-Innovate II (2020-2023) “*Development and pilot scale demonstration of an innovative, effective and eco-friendly process for the production of clean hydrogen and electrical power generation from biogas*” 102,000 € (Total 1,000,000 €, GSRT-Greece); (vii) Special Actions: Industrial Materials (2020-2023) “*Advanced aluminosilicate and magnesia refractories of high efficiency using nanotechnology*” 260,000 k€ (GSRT-GR); (viii) Research-Create-Innovate II (2020-2023) “*Advanced energy upgrading building components containing phase change composite and/or ceramic foams with electromagnetic shielding properties*” 240,000 € (GSRT-GR). **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) Thalys (2012-2015) "*Design of novel nanoporous materials for hydrogen storage*" (*HydroStore*), 150,000 € (Total: 521,739 €, Min. Educ.-Greece); (x) Thalys (2012-2015) "*High performance nanocomposite materials: reinforcement of polymers with advanced carbon and silica nanostructures*" (*Nanocomp*), 170,000 € (Total: 521,739 €, Min. Educ.-Greece), (xi) 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.); ...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

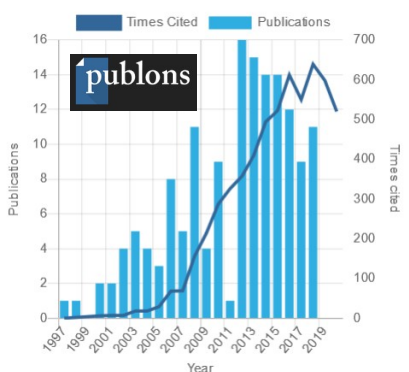
- ❑ **Associate Editor** (since 2014) of *Frontiers in Materials* (specialty section: *Carbon-based Materials*); IF: 2.705- [<http://www.frontiersin.org/Materials>].
- ❑ **Member of the Editorial board (Section Editor**, since 2018) of *Molecules* (section: *Materials Chemistry*); IF: 3.267- [<https://www.mdpi.com/journal/molecules>]
- ❑ **Member of the Editorial board** (since 2019) of *Nanomaterials*; IF: 4.324- [<https://www.mdpi.com/journal/nanomaterials>]
- ❑ **Member of the board** (2016-2018) of the *Hellenic Foundation for Research and Innovation (HFRI)*, elected representative of University of Ioannina)
- ❑ **Director** (since 2018) of the *interdepartmental post-graduate (MSc) program "Chemistry and Technology of Materials"* of the 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; *Portugal*: SR&TD etc.
- ❑ Referee of papers in International Conferences (e.g. 4th 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)
- ❑ Guest Editor of Special Issue 'Nanomaterials in Catalysis Applications' in *Catalysis* (IF 3.520, co-eds. I.V. Yentekakis, M.A. Karakassides, May 2021, <https://www.mdpi.com/si/27897>).
- ❑ Guest Editor of Special Issue 'Chemistry and Physics of Low-Dimensional Materials' in *Molecules* (co-eds. P. Rudolf, R. Macovez, Jan 2021, <https://www.mdpi.com/si/43709>).
- ❑ Member of the scientific committee in 4 Conferences
- ❑ Two teaching scholarships as experienced researcher in UPC, Barcelona (2012) and Univ. Calabria, Italy (CNISM, 2006).
- ❑ Member of the American Chemical Society (2012-2018), 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 10 PhD theses (7 accomplished)** [T. Tsoufis, 2005-2009; P. Xidas, 2005-2009¹; A. Enotiadis, 2007-2011; E. Diamanti, 2009-2014; D. Giasafaki, 2009-2013²; A. Rossos, 2011-2014, M. Subrati, 2015-2020; N.Karouta, 2017-today; N. Chalmpes, 2018-today; M. Papaioannou, 2018-today³; V. Sakavitsi, 2019-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, 2012-2016⁴ (*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-today³ (*Joint PhD* of UoI with RUG, NL with Prof. Dr. P. Rudolf); T. Giouisis, 2017-today³ (*Joint PhD* of UoI with RUG, NL with Prof. Dr. P. Rudolf)], **27 Master (MSc) theses (25 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. Zygouri, 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. Giouisis, 2013-2017; E. Skoura, 2014-2017; A.-M. Manoloukou, 2014-2017; N. Karouta, 2015-2017; N. Chalmpes, 2016-2017, K. Ferentinou, 2016-2018; G. Vafri, 2015-2018; A. Sima, 2015-2018; V. Sakavitsi, 2017-2019; D. Mpampatsoulis, 2019-today; F. Evangelou, 2016-today] and **>100 Diploma theses** (2004-today, *accomplished*).
- Member of the evaluation committee in >40 PhD theses (Ioannina, Crete, Agrinio, Athens), >60 master theses, and > 150 diploma theses.
- External examiner in 9 PhD theses: Dept. Phys., Annalai 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 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 **173 international publications in peer reviewed journals** (19 invited/feature articles): *JACS* 3, *Nano Letters* 3, *Angewante Chem. Int. Ed.* 2, *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* 7, *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* 3, *Appl. Mater. Today* 3, etc



- Citations **5921 / 5353** without self-citations (ISI) -15.11.2020 [Scopus citations 6307 / 5196; Google Scholar 7677]
- **h factor = 38** (normalized-h 41) –ISI [Scopus: 39; Google Scholar: 44]. *i-10 index*: 115 –Google Scholar
- Total Impact Factor, $\Sigma IF = 920.7$ and Mean Impact Factor, **IF/paper = 5.3**
- In **49** papers corresponding author

- Author of **3 papers** (refereed) in **book series** (2 invited)
- Author of **5 chapters** (invited and refereed) in international books
- Author of **3 technical reports**
- **2 international patents** (WO 2011/009889 and PCT/GR2019/000092)

¹ Research performed in AUTH, Greece (under the supervision of Prof. K. Triantafyllidis)

² Research performed in NCSR "Demokritos", Greece (under the supervision Dr. T. Steriotis)

³ Research performed in NCSR "Demokritos", Greece (under the supervision Dr. I. Karatasios)

⁴ *Ubbo Emmius sandwich bursary PhD-position between University of Ioannina and University of Groningen*

- Author or Co-author in **7 books** of undergraduate courses in Materials Science (*in Greek*)
- Author of **81 publications in conference proceedings**
- **>200 oral or poster presentations** at international and national conferences.
- **36 invited talks** in conferences (19) 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; 4th PanHellenic Conf. Green Chemistry & Sustainable Growth, Ioannina, 30/10-1/11/2014; etc).

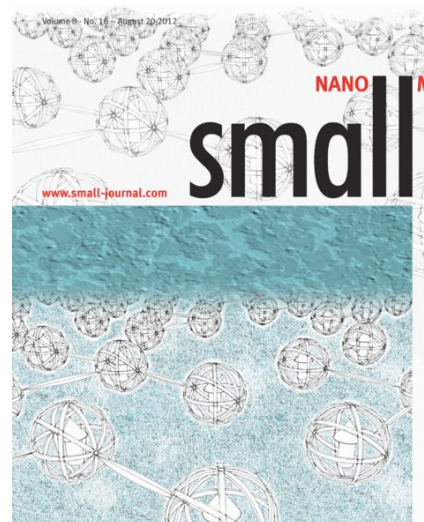
Publications (in refereed journals)

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*. Heterogeneous 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 phyllosomorphous 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 Fe₂O₃-Al₂O₃ 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 $\text{Rb}_x\text{Mn}[\text{Fe}(\text{CN})_6]_y\text{zH}_2\text{O}$. *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 Phyllosomorphous 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*)
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2. A. V. Chatzikonstantinou, E. Gkantzou, **D. Gournis**, M. Patila and H. Stamatis*. Stabilization of laccase through immobilization on functionalized GO-derivatives. *Methods in Enzymology* (2018) Vol. 607, p. 47-81 (Invited Chapter; Volume topic: *Enzyme Nanoarchitectures: Enzymes Armored with Graphene*, Edited by C. V. Kumar; Chapter 3).
3. M. Patila, N. Chalmpes, E. Dounousi, H. Stamatis* and **D. Gournis***. Use of functionalized carbon nanotubes for the development of robust nanobiocatalysts. *Methods in Enzymology* (2020) Vol. 630, p. 263-301 (Invited Chapter; Volume topic: *Nanoarmoring of Enzymes with Carbon Nanotubes and Magnetic Nanoparticles*, Edited by C. V. Kumar; Chapter 12).

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1. I.V. Pavlidis, A.A. Tzialla, A. Enotiadis, H. Stamatis and **D. Gournis**. Enzyme immobilization on layered and nanostructured materials. In *Biocatalysis in Polymer Chemistry*, K. Loos (Ed.), Wiley-VCH Verlag GmbH & Co, Weinheim, Germany (2011) Chapter 2, p. 35-63 (ISBN: 978-3-527-32618-1).
2. V. Georgakilas and **D. Gournis**. Organic Functionalization of Nanotubes by Dipolar Cycloaddition. In *Surface Modifications of Nanotubes*, V. Mittal (Ed.), Wiley-VCH Verlag GmbH & Co. KG, Weinheim, Germany, (2011) Chapter 13, p. 289-308 (ISBN: 978-3-527-32878-9)
3. D. J. Giliopoulos, K. S. Triantafyllidis and **D. Gournis**. Chemical Functionalization of Carbon Nanotubes for dispersion in epoxy matrices. In *Carbon Nanotube Enhanced Aerospace Composite Materials*, A. Paipetis and V. Kostopoulos (Eds.), Springer, the Netherlands (2013) Chapter 5, p. 155-183 (ISBN: 978-94-007-4245-1). [Book Series: Solid Mechanics and Its Applications, Vol. 188 (2013)]
4. I.V. Pavlidis, M. Patila, A. Polydera, **D. Gournis**, and H. Stamatis. Immobilisation of enzymes and other biomolecules on graphene. In *Functionalization of Graphene*, V. Georgakilas (Ed.), Wiley-VCH Verlag & Co (2014), (2014), Chapter 5, p. 139-172 (ISBN: 978-35-273-3551-0).
5. A. Kouloumpis, P. Zygori, Dr. K. Dimos and **D. Gournis**. Layer-by-layer assembly of graphene-based hybrid materials. In *Functionalization of Graphene*, V. Georgakilas (Ed.), Wiley-VCH Verlag & Co (2014), Chapter 11, p. 359-400 (ISBN: 978-35-273-3551-0).

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).
 2. “Fluid flow monitoring in hydrocarbon reservoirs using magnetic nanoparticles” *Applicant*: Khalifa University of Science and Technology, Abhu Dhabi (UAE). *Inventors*: S. A. Alkhazraji, Abhu Dhabi (UAE); V. Tzitzios, Ag. Paraskevi (GR); G. Papavassiliou, Ag. Paraskevi (GR); M. Karagianni, Ag. Paraskevi (GR); A. Anastasiou, Ag. Paraskevi (GR); S. Orfanides, Ag. Paraskevi (GR); M. Fardis, Ag. Paraskevi (GR); **D. Gournis**, Ioannina (GR) and M. Subrati, Ioannina (GR). PCT/GR2019/000092 (30/12/2019).
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