

CURRICULUM VITAE

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EDUCATION - PROFESSIONAL EXPERIENCE

Mar. 1997 **Diploma in Chemical Engineering, NTUA**
(Sector IV : Synthesis and development of industrial processes) The thesis was carried out in collaboration with the laboratory of Mesl of the National Research Center Demokritos.

June 1997 – **N.C.S.R "Demokritos"**
Mar. 2007 **Laboratory of membranes and microporous materials for environmental separations (MESL).**
Support of research with research contracts in Greek and European research and development projects with experience in activated carbon, development of toxic gas filters, gas separation membranes, design, construction and operation of experimental devices and pilot plants for the production of activated carbon and carbon nanostructures (nanotubes, graphene).

«**New membranes and integrated hybrid membrane systems for vocs removal from industrial contaminated water (nisiw)**» (E-10672), under the scientific responsibility of Dr. Nikolaos Kanellopoulos for the period from 1-1-2000 to 30-9-2000.

«**Visible – light curable latex and heavily pigmented coating systems**» (E-10477), under the scientific responsibility of Dr. Nikolaos Kanellopoulos for the period from 1-10-2000 to 31- 12-2001.

«**Development of ceramic membranes for olefin recovery from liquefied petroleum gases**» (E-10898), under the scientific responsibility of Dr. Nikolaos Kanellopoulos for the period from 1-1-2002 to 13-12-2004.

«**INSIDE-PORES – IN Situ study and DEvelopment of processes involving nanoPORous Solids**» (E-11195), under the scientific responsibility of Dr. Nikolaos Kanellopoulos for the

For the period from 12-11-2004 to 12-11-2006.

- **"Utilization of Bioactive Metabolites from Marine Algae" (E-11127)**, under the scientific responsibility of Dr. Nikolaos Kanellopoulos for the period from 30-4-2006 to 14-3-2007.

Mar. 2007-

N.C.S.R. "Democritos"

Organic position I.D.A.H. - Chemical Engineer

- **NOVELTIES ON CCS-Πρωτοποριακές Τεχνολογίες για την υλοποίηση CCS» (E-1843)** under the scientific director, Dr. Georgios Romanos for the period from 11/2013 to 10/2015.

Feb. 2014

Promoted to Dr. of Chemical Engineering, NTUA.

Thesis Title:

"Synthesis and modification of graphitic nanostructures and composites for products with advanced technology applications".

Feb. 2017-

N.C.S.R. "Democritos"

Permanent position of ELE B' (123/G/14-2-2017)

- Chemical Engineer

Subject: Synthesis and modification of graphitic nanostructures and composites for the production of products with advanced technology applications - high temperature processes.

Programs in progress:

- **CARMOF:** New process for efficient CO₂ capture by innovative adsorbents based on modified carbon nanotubes and MOF materials (1/2018 – 12/2021).
- **INNOMEM:** Open Innovation Test Bed for nano-enabled Membranes - Starting date: 01/05/2020, Duration in months 48.

Publications in international peer-reviewed journals

Dec. 2021

1. Ketikis P., Damopoulos E., Pilatos G., Klonos P., Kyritsis A., Tarantili P.A., Preparation by solution mixing and characterization of condensation type poly(dimethylsiloxane) / graphene nanoplatelets composites, Journal of Composite Materials (2022) 56(2) 251-266.
 2. Giannakopoulou T., Pilatos G., Todorova N., Boukos N., Vaimakis T., Karatasios I., Trapalis C., Effect of processing temperature on growing bamboo-like carbon nanotubes by chemical vapor deposition, Materials Today Chemistry (2021) 19 100388.
 3. Floros I.N., Kouvelos E.P., Pilatos G.I., Hadjigeorgiou E.P.,
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Gotzias A.D., Favvas E.P., Sapalidis A.A., Enhancement of flux performance in PTFE membranes for direct contact membrane distillation, *Polymers* (2020) 12(2) 345.

4. A. Kyriakis, N. Glezos, D. Velessiotis, G. Pilatos, T. Speliotis and A. Stefanou, A UV photodetector based on ordered free standing MWCNT, *Journal of Instrumentation*, Volume 15, January 2020.
5. Floros I., Kouvelos E., Pilatos G. et al., Enhancement of flux performance in PTFE membranes for direct contact membrane distillation, *Polymers* (2020) 12(2).
6. Filatzikioti A., Glezos N., Kantarelou V., et al., Carbon nanotube Schottky type photodetectors for UV applications, *Solid-State Electronics* (2019) 151 27-35.
7. Balis E, Sapalidis A., Pilatos G., et al, 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* (2019) 224 163-179.
8. Kueh B., Kapsi M., Veziri C., et al., Asphaltene-Derived Activated Carbon and Carbon Nanotube Membranes for CO₂ Separation, *Energy and Fuels* (2018) 32(11) 11718-11730.
9. Perdikaki A., Galeou A., Pilatos G., et al., Ion-Based Metal/Graphene Antibacterial Agents Comprising Mono-Ionic and Bi-Ionic Silver and Copper Species, *Langmuir* (2018) 34(37) 11156- 11166.
10. Samouhos M., Taxiarchou M., Pilatos G., et al., Controlled reduction of red mud by H₂ followed by magnetic separation, *Minerals Engineering* (2017) 105 36-43.
11. Pilatos, G., Samouhos, M., Angelopoulos, P., Taxiarchou, M., Veziri, C., Hutcheon, R., Tsakiridis, P., Kontos, A.G., Carbon nanotubes growth on expanded perlite particles via CVD method: The influence of the substrate morphology, 2016, *Chemical Engineering Journal*, 291, pp 106-114.
12. 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., Porous carbons from ionic liquid precursors confined within nanoporous silicas, 2016, *Microporous and Mesoporous Materials*, 223, pp 163-175.

13. Pilatos, G., Perdikaki, A.V., Sapalidis, A., Pappas, G.S., Giannakopoulou, T., Tsoutsou, D., Xenogiannopoulou, E., Boukos, N., Dimoulas, A., Trapalis, C., Kanellopoulos, N.K., Karanikolos, G.N., "Graphene by one-step chemical vapor deposition from ferrocene vapors: Properties and electrochemical evaluation, 2016, *Journal of Applied Physics*, 119, 6, pp 064303-.
 14. Labropoulos, A., Veziri, C., Kapsi, M., Pilatos, G., Likodimos, V., Tsapatsis, M., Kanellopoulos, N.K., Romanos, G.E., Karanikolos, G.N., Carbon Nanotube Selective Membranes with Subnanometer, Vertically Aligned Pores, and Enhanced Gas Transport Properties, 2015, *Chemistry of Materials*, 27, 24, pp.8198- 8210.
 15. Labropoulos, A.I., Athanasekou, C.P., Kakizis, N.K., Sapalidis, A.A., Pilatos, G.I., Romanos, G.E., Kanellopoulos, N.K., Experimental investigation of the transport mechanism of several gases during the CVD post-treatment of nanoporous membranes, 2014, *Chemical Engineering Journal*, 255, pp. 377-393.
 16. Pilatos, G., Vermisoglou, E.C., Perdikaki, A., Devlin, E., Pappas, G.S., Romanos, G.E., Boukos, N., Giannakopoulou, T., Trapalis, C., Kanellopoulos, N.K., Karanikolos, G.N., One-step, in situ growth of unmodified graphene - Magnetic nanostructured composites, 2014, *Carbon*, 66, pp. 467-475.
 17. Marquez Velasco, J., Kelaidis, N., Xenogiannopoulou, E., Raptis, Y.S., Tsoutsou, D., Tsipas, P., Speliotis, Th., Pilatos, G., Likodimos, V., Falaras, P., Dimoulas, A., Electronic band structure imaging of three layer twisted graphene on single crystal Cu(111), 2013, *Applied Physics Letters*, 103, 21, pp. 213108-.
 18. Vermisoglou, E.C., Pilatos, G., Romanos, G.E., Devlin, E., Kanellopoulos, N.K., Karanikolos, G.N., Magnetic carbon nanotubes with particle-free surfaces and high drug loading capacity, 2011, *Nanotechnology*, 22, 35, pp. 355602-.
 19. Pilatos, G., Vermisoglou, E.C., Romanos, G.E., Karanikolos, G.N., Boukos, N., Likodimos, V., Kanellopoulos, N.K., A closer look inside nanotubes: Pore structure evaluation of anodized
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alumina templated carbon nanotube membranes through adsorption and permeability studies, 2010, *Advanced Functional Materials*, 20, 15, pp. 2500-2510.

20. Vermisoglou, E.C., Karanikolos, G.N., Pilatos, G., Devlin, E., Romanos, G.E., Veziri, C.M., Kanellopoulos, N.K., Erratum: Aligned carbon nanotubes with ferromagnetic behavior , 2010, *Advanced Materials* , 22 , 4, pp. 473-477.
 21. Veziri, Ch.M., Karanikolos, G.N., Pilatos, G., Vermisoglou, E.C., Giannakopoulos, K., Stogios, Ch., Kanellopoulos, N.K., Growth and morphology manipulation of carbon nanostructures on porous supports, 2009, *Carbon*, 47, 9, pp. 2161-2173.
 22. Vermisoglou, E.C., Romanos, G.E., Tzitzios, V., Karanikolos, G.N., Akylas, V., Delimitis, A., Pilatos, G., Kanellopoulos, N.K., Synthesis of nanocrystalline gold-carbon nanotube composites and evaluation of their sorption and catalytic properties, 2009, *Microporous and Mesoporous Materials*, 120, 1-2, pp. 122-131.
 23. Czakkel, O., Onyestyák, G., Pilatos, G., Kouvelos, V., Kanellopoulos, N., László, K., "Kinetic and equilibrium separation of CO and CO₂ by impregnated spherical carbons, 2009, *Microporous and Mesoporous Materials*, 120, 1-2, pp.76-83.
 24. Favvas, E.P., Kouvelos, E.P., Romanos, G.E., Pilatos, G.I., Mitropoulos, A.C., Kanellopoulos, N.K., Characterization of highly selective microporous carbon hollow fiber membranes prepared from a commercial co-polyimide precursor, 2008, *Journal of Porous Materials*, 15, 6, pp. 625-633.
 25. Vermisoglou, E.C., Pilatos, G., Romanos, G.E., Karanikolos, G.N., Boukos, N., Mertis, K., Kakizis, N., Kanellopoulos, N.K., Synthesis and characterisation of carbon nanotube modified anodised alumina membranes, 2008, *Microporous and Mesoporous Materials*, 110, 1, pp. 25-36.
 26. Veziri, Ch.M., Pilatos, G., Karanikolos, G.N., Labropoulos, A., Kordatos, K., Kasselouri-Rigopoulou, V., Kanellopoulos, N.K., "Growth and optimization of carbon nanotubes in activated carbon by catalytic chemical vapor deposition, 2008, *Microporous and Mesoporous Materials*, 110,1, pp. 41-50.
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27. Labropoulos, A.I., Romanos, G.E., Kakizis, N., Pilatos, G.I., Favvas, E.P., Kanellopoulos, N.K., Investigating the evolution of N₂ transport mechanism during the cyclic CVD post-treatment of silica membranes, 2008, *Microporous and Mesoporous Materials*, 110,1, pp. 11-24.
 28. Vermisoglou, E.C., Georgakilas, V., Kouvelos, E., Pilatos, G., Viras, K., Romanos, G., Kanellopoulos, N.K., Sorption properties of modified single-walled carbon nanotubes ,2007, *Microporous and Mesoporous Materials*, 99 , 1-2, pp. 98-105.

CONFERENCE PROCEEDINGS

29. Perdikaki A., Galeou A., Pilatos G., et al., Ag/Cu bimetallic nanoparticle- and ionic-graphene composites with enhanced antibacterial performance, *Nanomaterials for Applications in Energy and Biology 2017 - Topical Conference at the 2017 AIChE Annual Meeting (2017) 2017-October 17-30*.
30. Samouhos, M., Angelopoulos, P., Pilatos, G., Taxiarchou, M., Papageorgiou, S., Kinetic study of non-isothermal decomposition of a composite diasporic-boehmitic bauxite, 2016, *IOP Conference Series: Materials Science and Engineering*, 123, 1, pp. 012048-.
31. Vermisoglou, E., Todorova, N., Pilatos, G., Romanos, G., Likodimos, V., Boukos, N., Lei, C., Markoulidis, F., Lekakou, C., Trapalis, C., Few layer graphenes decorated with silver nanoparticles, 2012, *ECCM 2012 - Composites at Venice, Proceedings of the 15th European Conference on Composite Materials, Venice, Italy, 24-28 June 2012*.
32. Labropoulos, A.I., Vermisoglou, E.C., Kakizis, N.K., Romanos, G.E., Pilatos, G.I., Karanikolos, G.N., Kanellopoulos, N.K., Advanced techniques for monitoring and optimizing processes involving nanoporous materials, 2007, *Proceedings of the International Offshore and Polar Engineering Conference*, pp. 2819- 2826.

Posted Announcements in International Refereed Conferences

1. E.C. Vermisoglou, G.E. Romanos, G. Pilatos, G.N. Karanikolos, N.K. Kanellopoulos Aligned Carbon Nanotube Supported Alumina Membranes for Gas Separations', *DSL-2009, Rome*,
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Italy, 24-26 June 2009.

2. Veziri Ch. M., Pilatos G., Kouvelos E., Kordatos K., Rigopoulou-Kaselouri V., and Kanellopoulos N. K., Optimization of carbon nanotubes growth on calgon granular activated carbon and sorption properties of the composite material, INSIDE-PORES network of excellence 2nd International School and Workshop, CERTH, Thessaloniki February 24-28,2007.
 3. Vermisoglou E.C., Pilatos G., Romanos G., Boukos N. and Kanellopoulos N. K. Synthesis and Characterization of Carbon Nanotube Modified Membranes, INSIDE-PORES network of excellence 2nd International School and Workshop, CERTH Thessaloniki February 24-28,2007.
 4. Ch. Veziri, G. Karanikolos, G. Pilatos, E. Vermisoglou, K. Giannakopoulos, Ch. Stogios, N. K. Kanellopoulos, Growth of Carbon Nanostructures on Porous Supports via CVD, INSIDE-PORES network of excellence 3rd International Workshop, “New Challenges for Nanoporous Materials” Alicante (Spain) September 24-26,2007.
 5. Pilatos G.I., Andrianopoulos P., Veziri H., Kouvelos E. and Kanellopoulos N. K., High surface spherical activated carbon absorbents, INSIDE-PORES network of excellence workshop Montpellier (France), March 19-23, 2006.
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