**EDUCATION**

* **Ph.D:** Department of Chemical & Biological Engineering, State University of New York at Buffalo (UB), USA (2005).
* **Diploma in Engineering:** Department of Chemical Engineering, Aristotle University of Thessaloniki, Greece (2000).

**RESEARCH ACTIVITIES**

* Separation and Purification Processes
* Catalysis
* CO2 capture
* Hydrogen storage
* Water treatment
* Porous materials and membranes including zeolites, metal-organic frameworks (MOFs), and carbon/graphitic nanostructures

**PREVIOUS EMPLOYMENT**

* **Associate Professor,** Department of Chemical Engineering, University of Patras (2022 – present)
* **Associate Professor,** Department of Chemical Engineering, Khalifa University (KU), (2019 – 2022)
* **Assistant Professor,** Department of Chemical Engineering, Khalifa University, (2017 – 2019)
* **Assistant Professor,** Department of Chemical Engineering, The Petroleum Institute (PI), (2013 – 2017)
* **Adjunct Instructor,** Department of Physics, Chemistry, and Materials Technology, University of West Attica, Greece(2008-2013)
* **Marie Curie Fellow,** Institute of Nanoscience & Nanotechnology (previously Institute of Physical Chemistry), Demokritos National Research Center (2007-2012)
* **Post-Doctoral Research Associate,** Department of Chemical Engineering & Materials Science, University of Minnesota (2005-2006).

**PARTICIPATION IN RESEARCH PROJECTS**

6 projects as coordinator, 5 projects as co-I, 2 projects as principal investigator. Total funding 8 million USD.

**PUBLICATIONS IN SCIENTIFIC JOURNALS**

80 publications in peer-reviewed journals, 7 chapters in books, 6 patents

**PRESENTATIONS AT CONFERENCES**

>130 contributions in international conferences

**TEACHING ACTIVITIES**

Core and elective Chemical Engineering undergraduate and graduate courses: Thermodynamics, Heat transfer, Principles of Chemical Engineering, Colloids and Interface Science, Industrial Catalysis, Applied Nanotechnology, PhD Research Methods

**SELECTED PUBLICATIONS**

* K.S.K. Reddy, A.M. Varghese, A.E. Ogungbenro, G.N. Karanikolos, [*“Aminosilane-Modified Ordered Hierarchical Nanostructured Silica for Highly-Selective Carbon Dioxide Capture at Low Pressure*](https://pubs.acs.org/doi/full/10.1021/acsaenm.2c00136)”, **ACS Applied Engineering Materials**, 1, 2, 720 (2023)
* SN Abd Elwadood, KSK Reddy, Y Al Wahedi, A Al Alili, ASF Farinha, G-J Witkamp, LF Dumée, GN Karanikolos, *“*[*Hybrid salt-enriched micro-sorbents for atmospheric water sorption*](https://www.sciencedirect.com/science/article/pii/S2214714423000776)”, **Journal of Water Process Engineering** 52, 103560 (2023)
* Gebremariam, S.K., Dumée, L.F., Llewellyn, P.L., Alwahedi, Y.F., Karanikolos, G.N., *“*[*Metal-organic framework hybrid adsorbents for carbon capture - A review*](https://www.sciencedirect.com/science/article/pii/S2213343723000301?via%3Dihub)*”*, **Journal of Environmental Chemical Engineering**, 11(2), 109291 (2023)
* Anish Mathai Varghese, K. Suresh Kumar Reddy, and Georgios N. Karanikolos, “[*An In-Situ-Grown Cu-BTC Metal–Organic Framework / Graphene Oxide Hybrid Adsorbent for Selective Hydrogen Storage at Ambient Temperature*](https://pubs.acs.org/doi/full/10.1021/acs.iecr.1c04710)*”*, **Ind. Eng. Chem. Res.** 61, 18, 6200 (2022).
* Rangaraj, V.M., Reddy, K.S.K., Karanikolos, G.N., *“[Ionothermal synthesis of phosphonitrilic-core covalent triazine frameworks for carbon dioxide capture](https://www.sciencedirect.com/science/article/abs/pii/S1385894721037396)”* **Chemical Engineering Journal,** 429, 132160 (2022).
* F Anwar, M Khaleel, K Wang, GN Karanikolos, [*“Selectivity Tuning of Adsorbents for Ethane/Ethylene Separation: A Review”*](https://pubs.acs.org/doi/full/10.1021/acs.iecr.2c02438), **Ind. Eng. Chem. Res.** 61, 34, 12269 (2022).
* Agbaje, T.A., Singh, S., Reddy, K.S.K., Polychronopoulou, K., Vega, L.F., Khaleel, M., Wang, K., Karanikolos, G.N., [*“Salt-free synthesis of Cu-BTC metal-organic framework exhibiting mesoporosity and enhanced carbon dioxide adsorption”*](https://www.sciencedirect.com/science/article/abs/pii/S1387181121003917?dgcid=rss_sd_all), **Microporous and Mesoporous Materials,** 324, 111265 (2021)
* Varghese, A.M., Reddy, K.S.K., Bhoria, N., Singh, S., Pokhrel, J., Karanikolos, G.N., “[*Enhancing Effect of UV Activation of Graphene Oxide on Carbon Capture Performance of Metal-Organic Framework/Graphene Oxide Hybrid Adsorbents”*](https://www.sciencedirect.com/science/article/abs/pii/S1385894721012638) **Chemical Engineering Journal,** 420, 129677, (2021).
* N. Bhoria, G. Basina, J. Pokhrel, K.S.K. Reddy, S. Anastasiou, V. Balasubramanian, Y.F. AlWahedi, G.N. Karanikolos, *“*[*Functionalization effects on HKUST-1 and HKUST-1/graphene oxide hybrid adsorbents for hydrogen sulfide removal*](https://www.sciencedirect.com/science/article/abs/pii/S0304389420305549)*”*, **Journal of Hazardous Materials,** 122565 (2020).
* Anish Varghese, K. Suresh Kumar Reddy, Swati Singh, Georgios N. Karanikolos, *“*[*Performance enhancement of CO2 capture adsorbents by UV treatment: The case of self-supported graphene oxide foam*](https://www.sciencedirect.com/science/article/abs/pii/S1385894720300139#:~:text=UV%20treatment%20enhanced%20CO2,of%20graphene%20oxide%20%E2%80%93%20based%20adsorbents.&text=UV%2Dtreated%20graphene%20oxide%20foam,2%20capacity%20at%20100%20mbar.&text=40%25%20more%20CO2%20was,GOF%20at%2025%20%C2%B0C.)*”*, **Chemical Engineering Journal**, 386, 124022 (2020).
* J. Pokhrel, N. Bhoria, S. Anastasiou, T. Tsoufis, D. Gournis, G. Romanos, G. N. Karanikolos, *“*[*CO2 Adsorption Behavior of Amine-Functionalized ZIF-8, Graphene Oxide, and ZIF-8/Graphene Oxide Composites under Dry and Wet Conditions*](https://www.sciencedirect.com/science/article/abs/pii/S1387181118301367)*”*, **Microporous & Mesoporous Materials**, 267, 53-67 (2018).
* S. Anastasiou, N. Bhoria J. Pokhrel K. Suresh Kumar Reddy, C. Srinivasakannan, K. Wang, G. N. Karanikolos, *“*[*Metal-organic framework/graphene oxide composite fillers in mixed-matrix membranes for CO2 separation*](https://www.sciencedirect.com/science/article/abs/pii/S0254058418302347)*”*, **Materials Chemistry & Physics**, 212, 513-522 (2018).
* J. Pokhrel, N. Bhoria, Chao Wu, K. Suresh Kumar Reddy, Haris Margetis, Stavroula Anastasiou, Gigi George, Vikas Mittal, George Romanos, Dimitrios Karonis, Georgios N. Karanikolos, *“*[*Cu- and Zr-based Metal Organic Frameworks and their Composites with Graphene Oxide for Capture of Acid Gases at Ambient Temperature*](https://www.sciencedirect.com/science/article/abs/pii/S0022459618303062)*”,* **J. Solid State Chem.,** 266, 233-243, (2018).
* A. Labropoulos, C. Veziri, M. Kapsi, G. Pilatos, V. Likodimos, M. Tsapatsis, Nick K. Kanellopoulos, G. E. Romanos, and G. N. Karanikolos, *“*[*Carbon Nanotube Selective Membranes with Subnanometer, Vertically Aligned Pores, and Enhanced Gas Transport Properties*](https://pubs.acs.org/doi/10.1021/acs.chemmater.5b01946)*”*, **Chem. Mater.**, 27, 8198 (2015).
* 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, G. N. Karanikolos, [*Zeolite Imidazolate Framework - Ionic Liquid Hybrid Membranes for Highly Selective CO2 Separation*,](https://pubs.acs.org/doi/10.1021/jp4051287) **J. Phys. Chem. C**, 117, 18434 (2013).