Filippo Agresti – Curriculum Vitae

Filippo Agresti (born 1980) received his Ph.D. in Materials Science and Engineering from the University of Padova (Italy) in 2010. His doctoral research focused on the synthesis, structural and functional characterization of nanocrystalline materials, including mechanochemical synthesis of metal-based alloys and compounds for hydrogen storage applications. He developed expertise in the thermodynamics and kinetics of solid–gas reactions.

He carried out postdoctoral research at the Institute of Energetics and Interphases (IENI-CNR), now part of the Institute of Condensed Matter Chemistry and Technologies for Energy (ICMATE-CNR, Padova), where he worked on nanofluids and colloidal systems for energy applications, including heat transfer, thermal energy storage, lubrication, and volumetric solar absorption.

Since 2011, he has been a permanent Research Scientist at ICMATE-CNR. His research activity focuses on the design, synthesis, and characterization of nanomaterials and colloidal systems based on metals, oxides, and carbon nanostructures for energy applications. His expertise includes advanced materials characterization techniques, including X-ray diffraction.

To date, he has authored and co-authored more than 80 peer-reviewed publications in international journals in the fields of materials science and energy.

Selected publications

[1] F. Agresti, J. Isopi, S.S. Marchese, P. Giorgianni, A. Contino, S.S. Marchese, I. Titov, M. Rancan, L. Armelao, S. Barison, Electrorheology of urea-functionalized lathlike goethite particles in silicone oil, Colloids Surfaces A Physicochem. Eng. Asp. 704 (2025) 135509. https://doi.org/10.1016/J.COLSURFA.2024.135509.

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[3] F. Agresti, D. Cabaleiro, L. Fedele, S. Rossi, S. Barison, PMMA nano-encapsulated phase change material colloids for heat management applications, J. Mol. Liq. 377 (2023) 121576. https://doi.org/10.1016/J.MOLLIQ.2023.121576.

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[5] S. Barison, D. Cabaleiro, S. Rossi, A. Kovtun, M. Melucci, F. Agresti, Paraffin–graphene oxide hybrid nano emulsions for thermal management systems, Colloids Surfaces A Physicochem. Eng. Asp. 627 (2021) 127132. https://doi.org/10.1016/J.COLSURFA.2021.127132.

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https://doi.org/10.1016/j.solmat.2019.02.021.

[7] F. Agresti, S. Barison, A. Famengo, C. Pagura, L. Fedele, S. Rossi, S. Bobbo, M. Rancan, M. Fabrizio, Surface oxidation of single wall carbon nanohorns for the production of surfactant free water-based colloids, J. Colloid Interface Sci. 514 (2018) 528–533. https://doi.org/10.1016/j.jcis.2017.12.058.

[8] F. Agresti, V. Zin, S. Barison, E. Sani, M. Meucci, L. Mercatelli, L. Nodari, S. Rossi, S. Bobbo, M. Fabrizio, NIR transmittance tuneability under a magnetic field of colloidal suspensions of goethite (α-FeOOH) nanorods, RSC Adv. 7 (2017) 12429–12436. https://doi.org/10.1039/C7RA00721C.

[9] M. Bortolato, S. Dugaria, F. Agresti, S. Barison, L. Fedele, E. Sani, D. Del Col, Investigation of a single wall carbon nanohorn-based nanofluid in a full-scale direct absorption parabolic trough solar collector, Energy Convers. Manag. 150 (2017) 693–703. https://doi.org/10.1016/j.enconman.2017.08.044.

[10] F. Agresti, A. Ferrario, S. Boldrini, A. Miozzo, F. Montagner, S. Barison, C. Pagura, M. Fabrizio, Temperature controlled photoacoustic device for thermal diffusivity measurements of liquids and nanofluids, Thermochim. Acta. 619 (2015) 48–52. https://doi.org/10.1016/j.tca.2015.09.017.

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