

Gang Hu, D.Phil.
Senior Scientist

Professional Profile

Dr. Gang Hu is a Senior Scientist in Exponent's Polymer Science and Materials Chemistry practice. Dr. Hu's expertise includes materials characterization and analysis, inorganic chemistry, and advanced functional materials preparation for petrochemistry and clean energy. His characterization experience covers a broad range of advanced technologies including X-ray diffraction (XRD), thermogravimetric analysis (TGA), scanning/transmission electron microscopy (SEM/TEM), energy-dispersive spectroscopy (EDS), FTIR, Raman, UV-vis spectroscopy, laser scanning confocal microscopy (LSCM), electron paramagnetic resonance spectroscopy (EPR), atomic force microscopy (AFM), and CHN-ICP elemental analysis.

He has research experience and interests in the fields of natural gas conversion, petrochemistry, nanosized functional materials, inorganic/organic composites, and encapsulation and controlled-release technologies for foods, medicines, and HPC products.

Dr. Hu's experience in chemistry and materials is applicable to problems involving inorganic and composite materials, materials characterization, components/contaminants identification, catalytic chemistry, and chemistry in foods and HPC products. His project experiences include on-site inspections and/or lab work for root cause failure analyses of electronic and medical device products, and regulatory compliance evaluation for food safety and chemicals.

Academic Credentials and Professional Honors

D.Phil, Chemistry, University of Oxford, 2007

M.Sci., Physical Chemistry, Dalian Institute of Chemical Physics, CAS, 2003

B.Eng., Chemical Engineering, Dalian University of Technology (honors), 2000

Chinese Government Award for Outstanding Students Studying Abroad, 2006; Annual Scientific Paper Award (Dalian), 2004; K.C. Wong Scholarship (Hongkong), 2003-2005; Liu Yongling Award (CAS), 2003

Languages

Mandarin Chinese

Publications

Gao Y, Ma D, Hu G, Zhai P, Bao X, Zhu B, Zhang B, Su D. Layered-carbon-stabilized iron oxide nanostructures as oxidation catalysts. *Angewandte Chemie International Edition*; DOI: 10.1002/anie.201101737.

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Ok KM, Sung J, Hu G, Jacobs RMJ, O'Hare D. TOF-2: A large 1D channel thorium organic framework. *J Am Chem Soc* 2008; 130:3762–3763.

Wei W, Ma G-H, Hu G, Di Y, Mcleish T, Su Z-G, Shen Z-Y. Preparation of hierarchical hollow CaCO_3 particles and the application as anticancer drug carrier. *J Am Chem Soc* 2008, 130:15808–15810.

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Hu G, Wang N, O'Hare D, Davis J. One-step synthesis and AFM imaging of hydrophobic LDH monolayers. *Chem Commun* 2006, 287–289.

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Ji X, Banks CE, Hu G, Crossley A, Compton RG. Multiwalled carbon nanotubes resist intercalation whereas pyrolytic graphite can exfoliate in propylene carbonate: Electroanalysis

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Hu G, O'Hare D. Unique LDH Morphologies using reverse microemulsion synthesis. *J Am Chem Soc* 2005; 127:17808–17813.

Hu G, Ma D, Liu L, Cheng M, Bao X. In Situ Assembly of zeolitic building blocks into high-order structures. *Angewandte Chemie Int Edition* 2004; 43:3452–3456.

Hu G, Cheng M, Ma D, Bao X. Synthesis of carbon nanotube bundles with mesoporous structure by a self-assembly solvothermal route. *Chem Mater* 2003; 15:1470–1473.

Wang H, Hu G, Lei H, Xu Y, Bao X. A facile and effective method for the distribution of Mo/HZSM-5 catalyst active centers. *Catal Lett* 2003; 89:75–79.

Zhao C, Liu Z, Zhang Z, Ma L, Xu L, Qi Y, Sun C, Han X, Chen Y, Qu Z, Miao S, Zheng C, Zhao X, Du X, Liu B, Kong H, Wang C, Hu G, Liu Y, Bao X. Characteristics of adsorption and inactivation of viruses by catalyst materials. *Chin J Chromatogr* 2003; 3:222–225.

Liu ZM, Zhang ZR, Xu GW, Yang L, Ma L, Sun CL, Xu L, Qi Y, Zhao CX, Ming PW, Chen Y, Zheng CL, Du XF, Han XW, Zhang T, Huang XY, Bao XH, Liu B, Liu SX, Wang AQ, Qu ZP, Miao SJ, Hu G, Liu Y. Catalytic materials evaluated by adsorption and inactivation of parainfluenza virus and cytotoxicity of mammalian cells. *Chin Catal* 2003; 5:323–327.

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Cheng M, Hu G, Tan D, Bao X. On the formation of vertically oriented MCM-22 zeolite crystal films. *Microporous Mesoporous Mater* 2001; 50:69–76.