UC Santa Barbara People

Director, California Nanosystems Institute
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CONTACT

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EDUCATION

University of Cambridge, U.K.
Ph.D., Bioorganic Chemistry (1988)

University of Queensland, Australia
B.Sc., Chemistry (1984)

HONORS AND AWARDS

Elected Member of the National Academy of Inventors (2016)

Elected as Fellow: American Association for the Advancement of Science (AAAS) (2015)

ACS Award in Polymer Chemistry, American Chemical Society (2013)

Elected Fellow, Royal Society of Chemistry (2013)

Centenary Prize, Royal Society of Chemistry (2012)

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Craig Hawker

Drug Delivery and Biomaterials

RESEARCH OVERVIEW

The Hawker group works in synthetic polymer chemistry and nanotechnology and integrates fundamental studies with the development of nanostructured materials with advanced properties and functions that have applications in biotechnology and microelectronics.

Hawker was the Director of UC Santa Barbara's Materials Research Lab (MRL; a NSF MRSEC) from founding in 1992 to 2015 and is now the Director of the California NanoSystems Institute (CNSI) at UCSB. CNSI is an integrated research facility with locations at UCSB and UCLA and its mission is to encourage university collaboration with industry to enable the rapid commercialization of discoveries in nano science and nanotechnology.

Hawker is also the Director of the Dow Materials Institute, an interdisciplinary materials research center funded by the Dow Chemical Company, to bring together researchers from across UCSB's Chemistry, Material Science, and Engineering departments to work on fundamental challenges that are of interest to industry and academia.

Group Website: hawkergroup.mrl.ucsb.edu/craig-j-hawker

HONORS AND AWARDS

Arthur C. Cope Scholar, American Chemical Society (2011)

Elected Fellow of the Royal Society (2010)

Macro Group UK Medal for Outstanding Achievement (2010)

DSM-International Performance Materials Award, IUPAC (2008)

Selected Publications

Kang, T.; Banquy, X.; Heo, J.H.; Lim, C.N.; Lynd, N.A.; Lundberg, P.; Oh, D.X.; Lee, H.K.; Hong, Y.K.; Hwang, D.S.; Waite, J.H.; Israelachvili, J.N.; Hawker, C.J. "Mussel-Inspired Anchoring of Polymer Loops That Provide Superior Surface Lubrication and Anti-fouling Properties", ACS NANO, 2016, 10, 930-937.

Pester, C.W.; Poelma, J.E.; Narupai, B.; Patel, S.N.; Su, G.M.; Mates, T.E.; Luo, Y.; Ober, C.K.; Hawker, C.J.; Kramer, E.J., "Ambiguous Anti-Fouling Surfaces: Facile Synthesis by Light-Mediated Radical Polymerization" J. Polym. Sci., Polym. Chem.; 2016, 54, 253-258.

Menyo, M.S.; Hawker, C.J.; Waite, J.H., "Rate-Dependent Stiffness and Recovery in Interpenetrating Network Hydrogels through Sacrificial Metal Coordination Bonds", ACS MacroLetters 2015, 4, 1200-1204.

Wang, C X; Braendle, A; Menyo, M S; Pester, C W; Perl, E E; Arias, I; Hawker, C J; Klinger, D. "Catechol-based layer-by-layer assembly of composite coatings: a versatile platform to hierarchical nano-materials", Soft Matter, 2015, 11, 6173-8.

Gutekunst, W.R.; Hawker, C.J., "A General Approach to Sequence-Controlled Polymers Using Macrocyclic Ring Opening Metathesis Polymerization", J. Am. Chem. Soc., 2015, 137, 8038-8041.

Zhang, Y.; Lundberg, P.; Diether, M.; Porsch, C.; Janson, C.; Lynd, N.A.; Ducani, C.; Malkoch, M.; Malmstrom, E.; Hawker, C.J. "Histamine-functionalized copolymer micelles as a drug delivery system in 2D and 3D models of breast cancer", J. Mater. Chem., B, 2015, 3, 2472-2486.

Treat, N.J.; Sprafke, H.; Kramer, J.W.; Clark, P.G.; Barton, B.E.; de Alaniz, J.R.; Fors, B.P.; Hawker, C.J. "Metal-Free Atom Transfer Radical Polymerization", J. Am. Chem. Soc., 2014, 136, 16096-16101.

Tang, C.; Lennon, E.M.; Fredrickson, G.H.; Kramer, E.J.; Hawker, C.J. "Evolution of Block Copolymer Lithography to Highly Ordered Square Arrays", Science, 2008, 322, 429 – 432.