

Friday 10th March 2017 12h

Anfiteatro Abreu Faro (Complexo Interdisciplinar)



New, and new routes to, Carbon Materials



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Short Bio

UNIST Distinguished Professor, Department of Chemistry and the School of Materials Science and Engineering, is director of the *Center for Multidimensional Carbon Materials (CMCM)*, an IBS Center located at the Ulsan National Institute of Science and Technology (UNIST) campus. Prior to joining UNIST he was the Cockrell Family Regents Endowed Chair Professor at the University of Texas at Austin from September, 2007. He earned his Ph.D. in Chemical Physics from the University of Illinois-Urbana in 1988, and he was a Fulbright Fellow in 1988-89 at the Max Planck Institute für Strömungsforschung in Göttingen, Germany. He was at Northwestern University from January 2000 to August 2007, where he was the John Evans Professor of Nanoengineering and director of NU's *Biologically Inspired Materials Institute*. He has co-authored about 460 peer-reviewed publications related to chemistry, physics, materials science, mechanics, and biomedical science, and is a Fellow of the Materials Research Society, the American Physical Society, the American Association for the Advancement of Science, and the Royal Society of Chemistry. He is the recipient of the 2014 Turnbull Prize from the MRS and the SGL Skakel Award from the American Carbon Society in 2016. For further background on some of his research see: http://en.wikipedia.org/wiki/Rodney_S._Ruoff.

Abstract

I offer a personal perspective of several types of new carbons and related materials that appear to me to be “on the horizon”. These include sp^3 -rich carbon materials, diamond possibly made by new approaches, ‘diamane’, and ‘negative curvature carbons’. Our conversion of large area polycrystalline metal foils to large area single crystal metal foils allows us to pursue one strategy to attempt to achieve diamane, as well as large area single crystal graphene and h-BN.