Professor Rodney Ruoff
Department of Chemistry & School of Materials Science
Ulsan National Institute of Science & Technology (UNIST)

Carbon materials and single crystal metals

Abstract: I will discuss: (i) fabrication of large area single crystal metal foils (Cu, Ni, Co, Pd, Pt) by achieving ‘colossal grain growth’ and some of their uses including (ii) in growing “absolutely perfect single layer graphene” with no adlayer at all and (iii) in making diamane, as well as (iv) our new understanding of why wrinkles appear in single layer graphene on some metal foil substrates but not others. I will also present (v) ‘artificial crystals’ giving one recent example from our lab; (vi) the synthesis of certain polymers and their conversion to diamond; and (vii) porous structures composed of graphene oxide sheets or after carbonization at 2000C, of ‘graphenic’ sheets.

Thursday, March 8, 2018
2033 Young Hall
2:30 p.m.