東京大学大学院工学系研究科専攻間横断型教育プログラム
「機械システム・イノベーション」

東京大学 THE UNIVERSITY OF TOKYO

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第138回 公開セミナー/第33回実践リーダーレクチャー

Graphene-based, Graphene-derived, and new Carbon Materials

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日時：平成25年5月27日（月） 15:00～16:30
会場：東京大学工学部2号館 3階 232講義室

要旨

Graphene-based materials are promising because of their electronic and thermal transport, mechanical properties, high specific surface area, that they can act as an atom thick layer, barrier, or membrane, among other reasons. (Our micromechanical exfoliation approaches [1,2] conceived of in 1998 yielded multilayer graphene and one paper described in detail how monolayer graphene could be obtained [1]). In addition to describing some of our recent work on graphene, I will also discuss new materials as yet not made that are important targets for materials synthesis: (i) the negative curvature carbons [3,4] and their likely applications, and (ii) ultrathin and large area sp3 carbon films [4].

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References

1. Lu XK, Yu MF, Huang H, and Ruoff RS, Nanotechnology, 10, 269-272 (1999).
2. Lu XK, Huang H, Nemchuk N, and Ruoff RS, Appl. Phys. Lett. 75, 193-195 (1999).
3. Zhu, Y. et al., Science 332, 1537-1541 (2011).
4. Ruoff, RS, MRS Bulletin 37, 1314-1318 (2012).

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