Creation and Application of Nanomaterials Based on Self-Organized Processes

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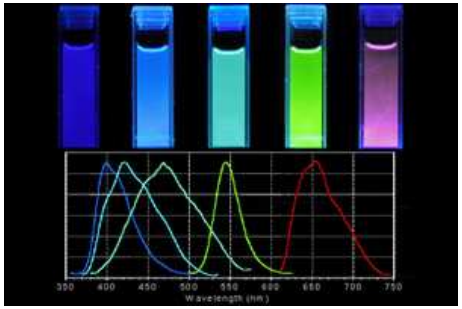
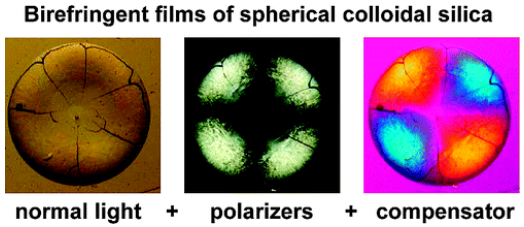
Fabricate various nanomaterials from abundant Si and C elements by self-organized processes, and apply them to energy-, ecology-, information-, and medical related fields.

Stable, Full-Color Photoluminescence from Si-Nanocrystals



P. Shen, et al.,
J. Mater. Chem. **20**, 1669 (2010).
DOI:10.1039/b919412f

Optical Function of Ordered Nanoparticle Arrays



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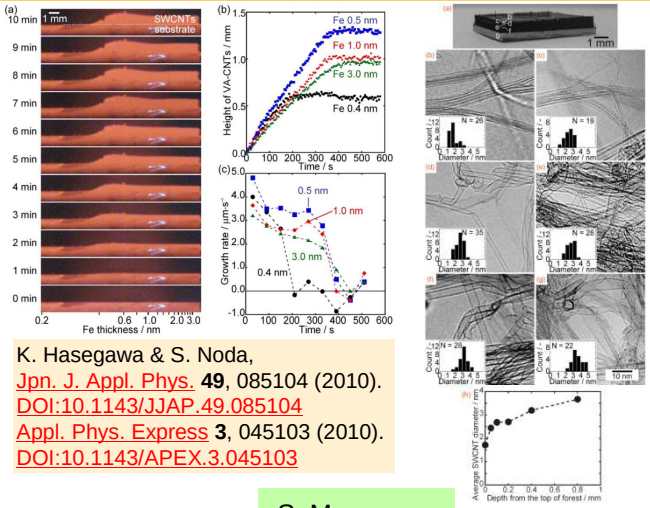
DOI:10.1021/la901642b

T. Okubo

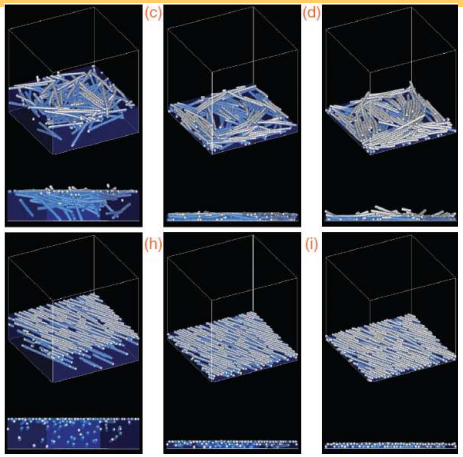
Rapid Growth of Single-Walled Carbon Nanotubes



K. Hasegawa & S. Noda,
Jpn. J. Appl. Phys. **49**, 085104 (2010).
DOI:10.1143/JJAP.49.085104
Appl. Phys. Express **3**, 045103 (2010).
DOI:10.1143/APEX.3.045103

A. Shimojima

Simulation of Self-Organization of Colloidal Particles



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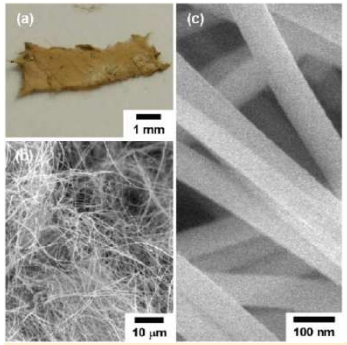
Appl. Phys. Express **2**, 065002 (2009).
DOI:10.1143/APEX.2.065002

S. Maruyama

Si-Nanowires



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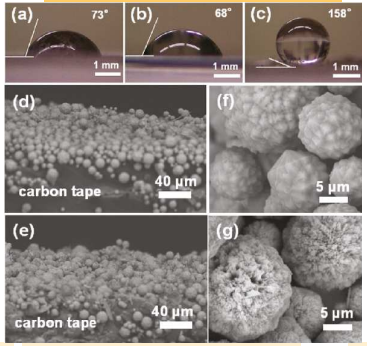
Superhydrophobic Flower-like Si



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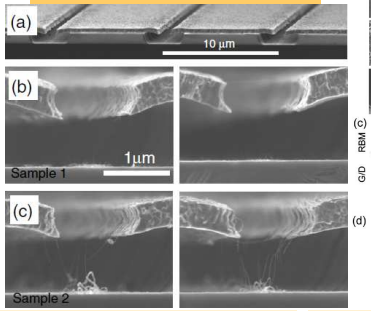
Carbon Nanotube Field Emitters



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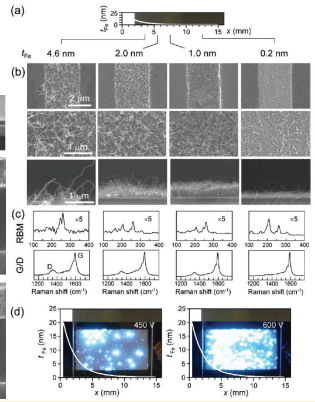

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DOI:10.1021/jp103378c