



Jiaxing Huang

*Associate Professor of Materials
Science and Engineering,
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PhD in Chemistry (UCLA, 2000-04)
Miller Fellow (Berkeley, 2004-07)

Research interests

Materials chemistry, processing and manufacturing

Selected Korean connections

[Dr. Kwon Nam Sohn](#) (LG Chem); [Dr. Jaemyung Kim](#)
(postdoc, UCLA, Carbon journal thesis prize, 2014)

[Dr. Franklin Kim](#) (Assistant Prof./Kyoto Fellow, Kyoto
U., Japan); [Dr. Tae Hee Han](#) (Assistant Prof.,
Hanyang U., South Korea)

[Dr. Hee Dong Jang](#) (KIGAM, Fissan-Pui-TSI Award
from IARA, 2014), [Prof. Jae Min Myoung](#) (Yonsei),
[Prof. Ho Bum Park](#) (Hanyang)

Research keywords

- **Aerosol materials processing**
- **Carbon/polymer based
conductive adhesives**
 - Clay sheets
 - **Energy storage**
 - Polyaniline nanofibers
 - **Graphene oxide**
- **Metal nanocrystals/nanowires**
 - Chemically exfoliated MoS₂
 - **Nanofluidic ionic/proton
channels & membranes**
- **Nanopatterning for solar cells**
 - Organic crystals
 - Solution processing

Soft carbon sheets: Curiosities and opportunities

- **Improved processing of GO:** Reduce solvent consumption, shorten processing time, mitigate fire risk, synthesize hybrids
- **FQM:** High throughput, low cost, arbitrary substrates
- **Crumpled graphene balls:** Aggregation-resistant, generic solvent processability, strain-hardening effect, expandable. Helps to **standardize** graphene-based powders
- **Amphiphilicity of GO:** Size and pH-dependent interfacial affinity and solution processability, interfacial assembly
- **GO as colloidal surfactant:** Disperse insoluble materials, especially other carbon materials for creating all-carbon composites
- **Nanofluidic systems based on reconstructed layered materials:** Ease of fabrication, scalable, new opportunities

Repurposing a Consumer Product as Low-cost, Quasi-random Nanoimprinting Templates for Photon Management

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Cheng Sun² and Jiaxing Huang¹*

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Nature Communications (just accepted today)