



Introduction to Poster Session C



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Poster Session C

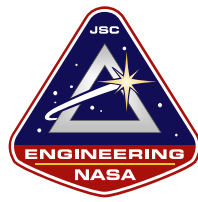
72 posters

SW (30), MW (25), NH (10)

- **Dispersion and Purification (22)**
- **Chemical Modification (21)**
- **Morphology and Applications of Modified Nanotubes (19)**



Dispersion and Purification



C2—Polycyclic Aromatic Compounds—Nakashima et al
Solubilized both raw and purified SWCNTs
Narrow chirality distribution

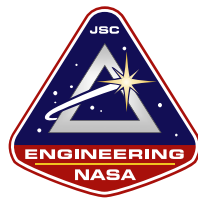
C9—Diporphyrin Tweezers—Komatsu et al
Concave structure vs convex NT surface; Diameter
Selectivity--DWCNTs

C12—Ultrasonication Effects—Luculescu et al
Horn type, cup geometry, energy, dispersant, etc.
pH changes and length distributions

C21—Design of Dispersant—Kim et. al
Poly-thiophene—orientation of the head(thiophene)
and ratio of head to tail (hexyl group)



Chemical Modification



- C25—Plasma Fluorination—Forrest et al**
Fluorination followed by amination
p-type for CF₄ and n-type for amino functionalized
- C33—Lipid Bilayer Coating—Toledo et al**
Phospholipids on acid treated MWCNTs
Fluorescent lipids for imaging
- C40—Silica Coated CNTs—Park et al**
Mixture of different silica precursors
Insulating sheath thickness variation
- C42—Nanoparticles on CNTs—Wang et al**
Pre-treatment and electro-deposition
Homogeneous distribution, narrow diameter spread



Morphology and Applications of Modified Nanotubes



C45—Supercapacitors--Honda et al

**Oriented CNT sheets in electric double layer caps
High current density capability**

C48—Nanohorn Applications—Yudasaka et al

**Drug carriers and medical imaging
Catalysts; hydrogen generation from methane**

C55—DNA sequence sensor--Kim et al

**Detect DNA hybridization using CNTFET
Decrease in conductance—charge transfer**

C42—Solar Cells—Brtiz et al

SWCNT replacing the ITO anode; Better??



My Impressions



- **Improved dispersion methods and novel agents**
Ultrasonication, microwaving, dielectrophoresis
Polycyclic compounds, polysachharides, porphyrins
- **Implemenatation of new measurement techniques**
NIR absorption, NIR fluorecence, XPS, etc.
- **Focus on applications**
Solar Cells, supercaps, bio-sensors, drug delivery,..

Future:

Improvements in separation methods

Designer functionalization?



My Impressions



- **Improved dispersion methods and novel agents**
 - Ultrasonication, microwave, dielectrophoresis
 - Polycyclic aromatic hydrocarbons, porphyrins
- **Implementation of novel techniques**
 - NIR absorption, fluorescence, XPS, etc.
- **Focus on applications**
 - Solar Cells, bio-sensors, drug delivery, ..

Future:

Improvements in separation methods

Designer functionalization?