**Biomaterials Engineering**

**M3D2**  
11.17.11

**Phage provide architecture for SWNTs**

SWNTs have different amounts of metallic and semiconducting materials on them which can short circuit electron paths.

To optimize electron collection: vary ratio of SWNT:phage.

- Solvent exposed surface for TiO2
- Unbundle SWNTs

Image from MIT news.

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**Reactions with titanium isopropoxide**

1. Retrieve phage:SWNTs from dialysis, chill
2. Make ice+salt bath
3. Cool 7 ml EtOH in hood
4. +50 ul of Ti(I-pro)4 per 100 ul SWNTs, >5°
5. +phage:SWNTs, 10-15'

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**TEM grid + harvest**

1. Vortex your samples
2. Retrieve grid with tweezers
   - hold EDGE of grid!
   - look for # under microscope
3. Place 5ul of nanocomposite onto grid
4. 5' then wick away any moisture
5. Wash with 100% EtOH (30' wick)
6. Wash with H2O (30' + wick)
7. Harvest remaining materials 3K, 10'
   - supernatant to chem waste
   - wash with H2O
   - Spin and decant sup to waste

DONE! (have a great T-day!!)