

- Announcements & Today in lab
- Pre-lab Lecture
 - ❖ Where are we/going? (M3D3)

(1) Grn, Blu, Wht

1:15-2:30

+Smith →

(2) Red, Ylw, Prp

2:30-3:45

(3) Org, Pnk

3:45 -

Announcements

- Today: TEM at Koch in 3 shifts → take notes!
- FNT: summarize TEM observations
- When here, start developing research proposal
- Next Tuesday in lecture: be ready to pitch your (preliminary!) idea and get feedback from Angie
- **Quiz** next time also!
- Module 2 reports
 - check Stellar for extensive comments to accompany your hardcopy comments and grade
 - due Wed, Nov 27th by 5 pm
 - 24-hr extension for documented visit for writing assistance

Where are we/going?

- Construction phase

- ★ (1) Nano-composites: phage/SWNT-TiO₂ or /Au-TiO₂

- (2) Solar cell device: integrate above into anode

convert light → voltage etc.

★ slow Ti deposition w/Temp + solvent → more controlled rxn means "smoother" nanowires

- Evaluation phase

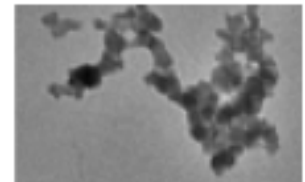
- (1) TEM of nano-composites:

phys/morphology → uniformity, l , thickness, ρ

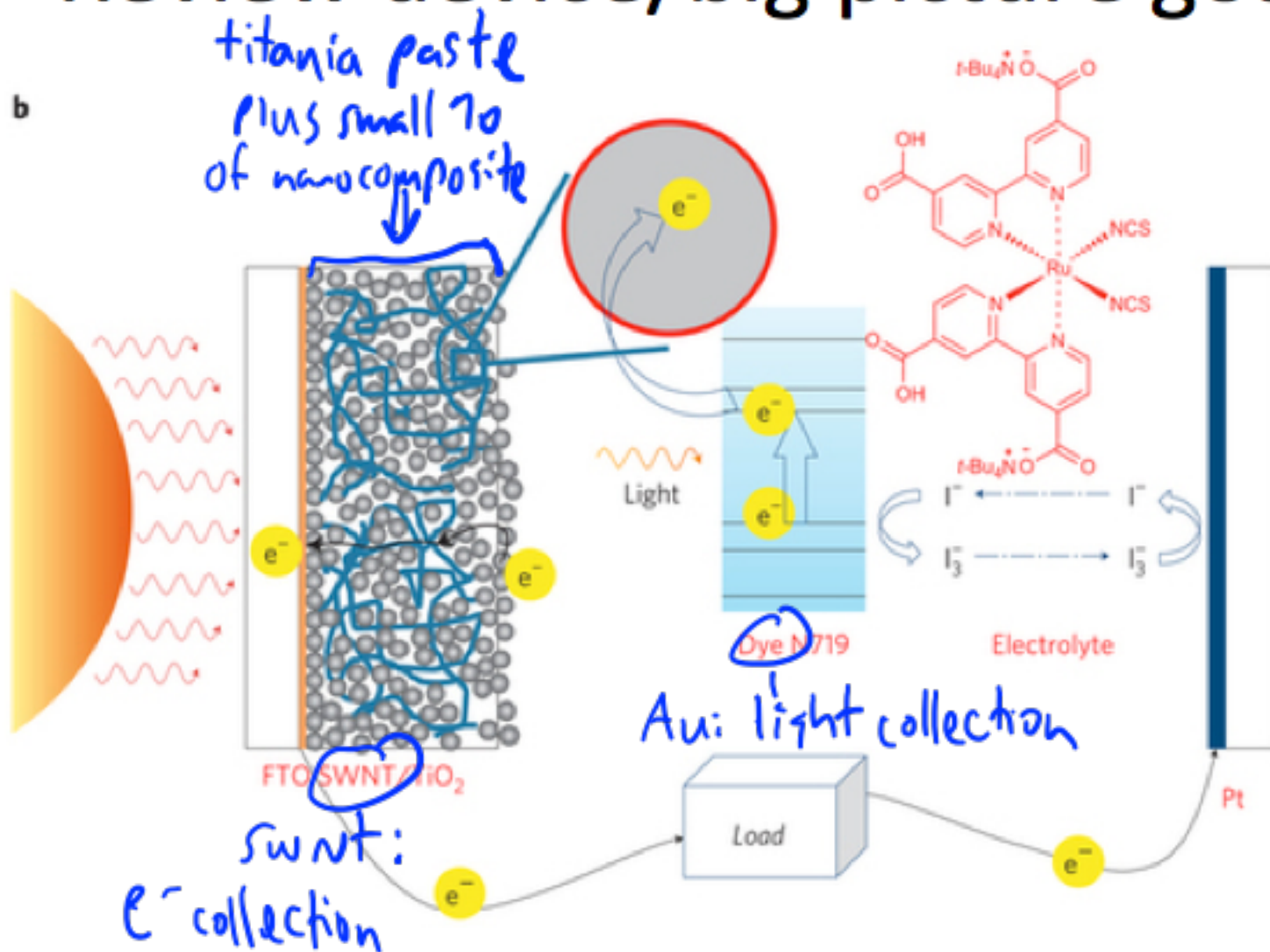
composition → by X-ray or energy loss

- (2) Test device efficiency:

power (from $V+I$), conversion efficiency (< 10%)



Review device/big picture goal



Useful animation found by Aneesh: <http://youtu.be/3KRHJSOgzcw>