M3D3: TEM Analysis

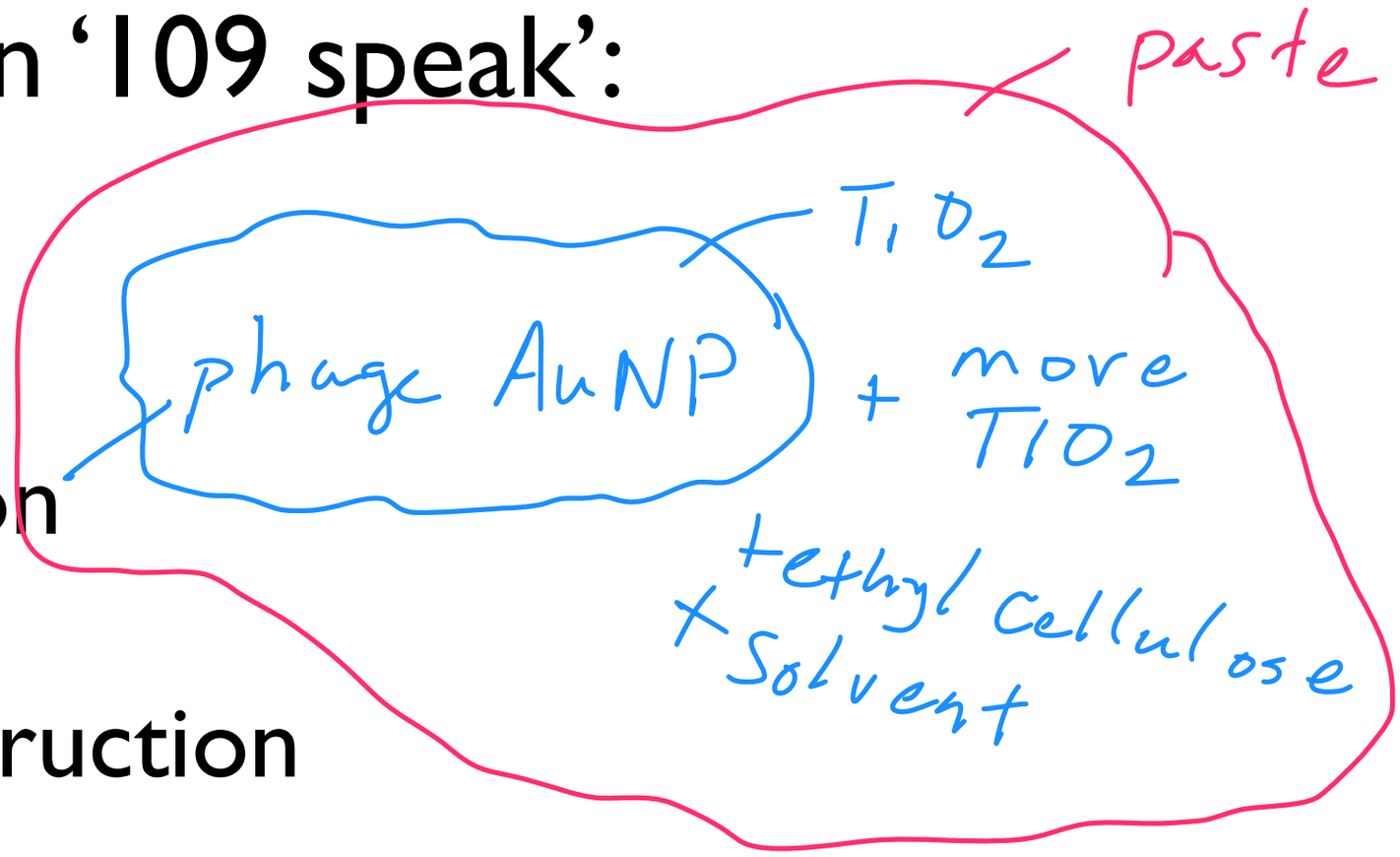
11/18/2014

Mod3 in '109 speak':

* Construction Phase

  M3D2: Paste creation

  M3D4: Anode construction



* Evaluation Phase

  M3D3: TEM → Morphology → length, density of gold NPs, uniformity

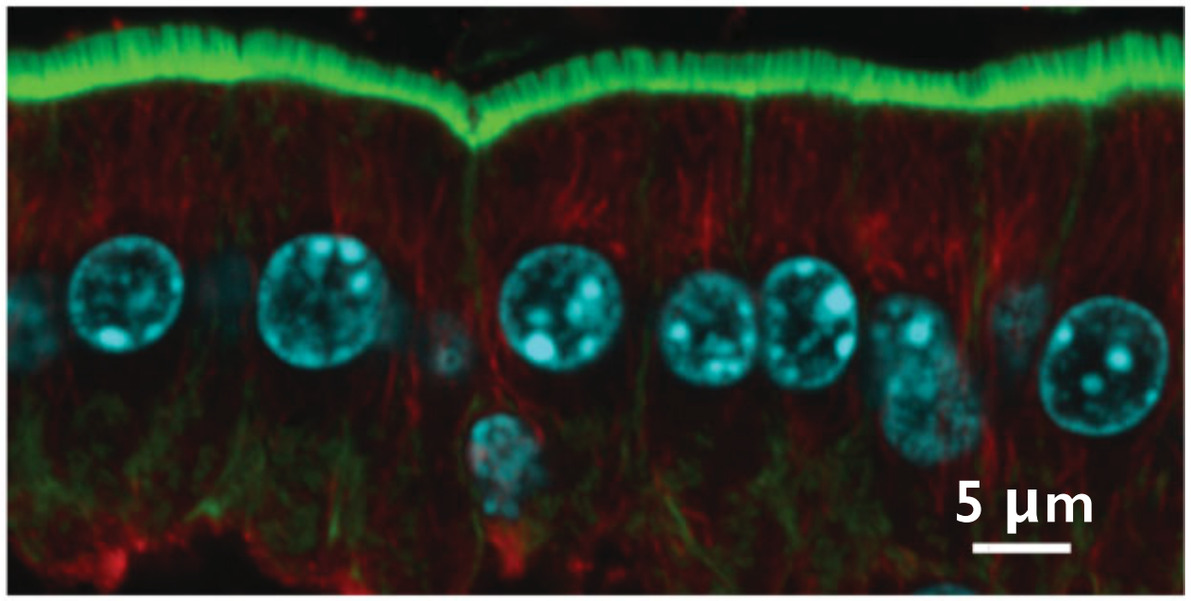
  → Composition → gold / TiO_2 → X-rays or EELS

  M3D5: DSSC Efficiency

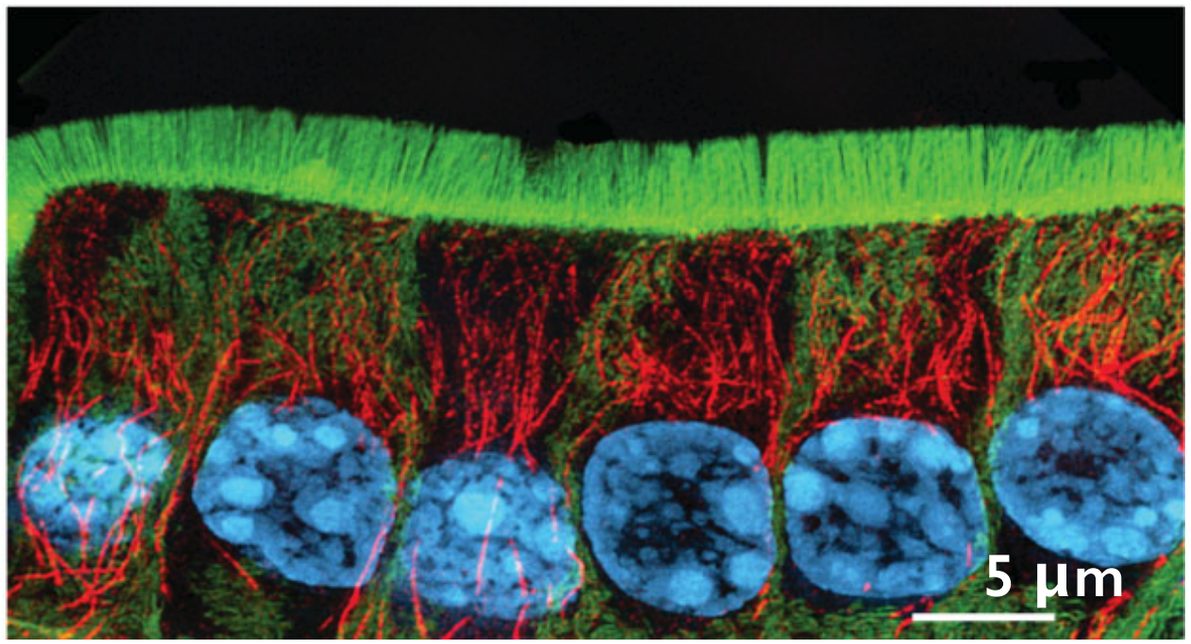
  → test power conversion

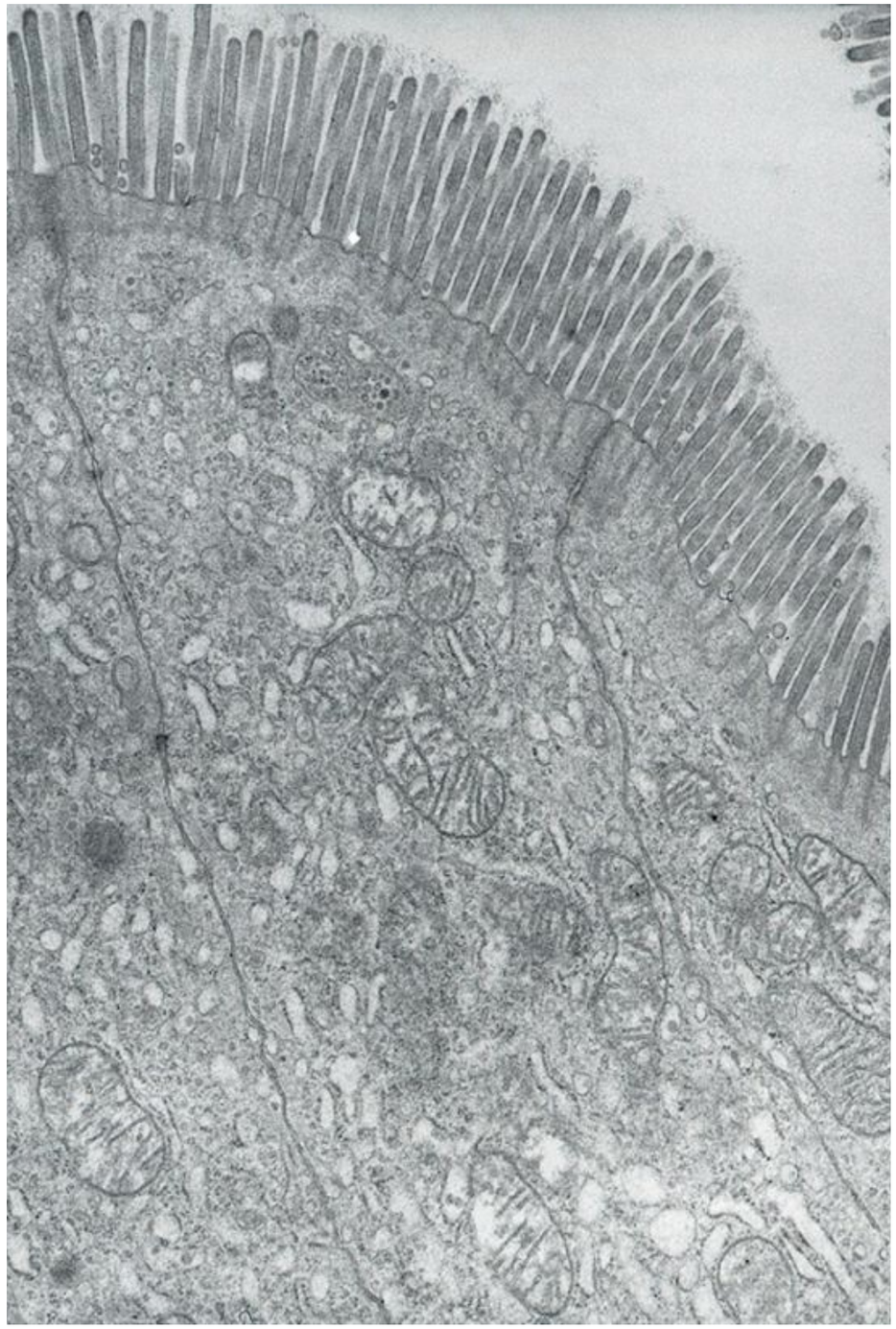
A)

B)



C)



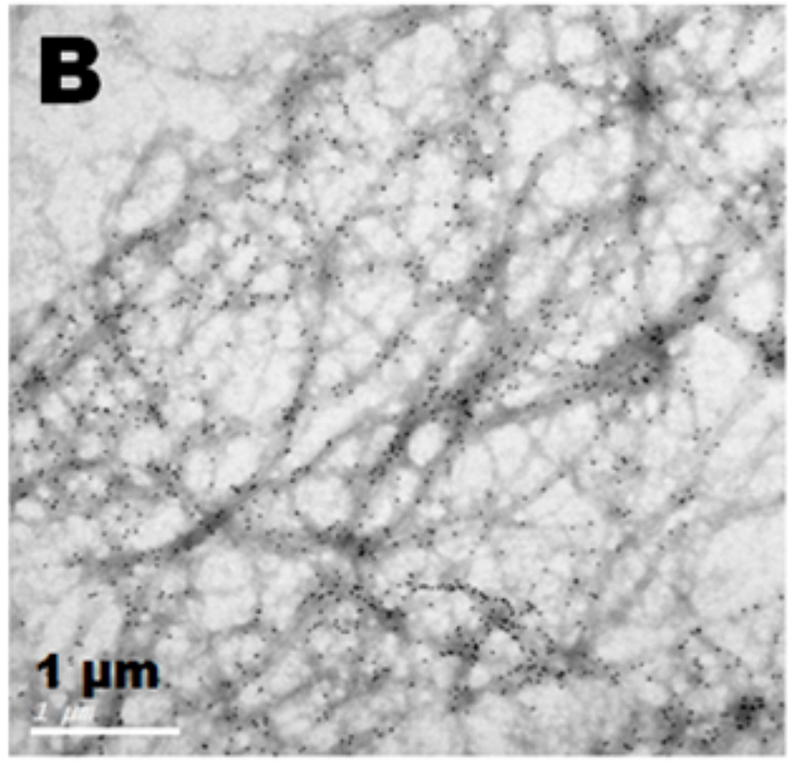


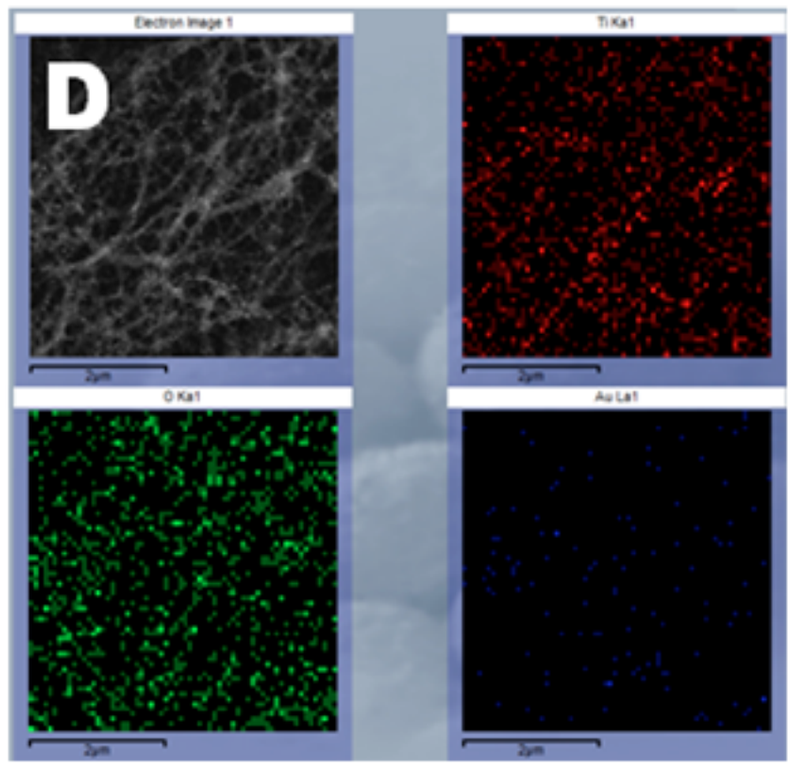
TEM Image from The University of South Carolina
Dr. Soumitra Goshroy (http://www.emc.sc.edu/hitachigallery)

Bioessays 34: 333–340, 2012 WILEY Periodicals, Inc.

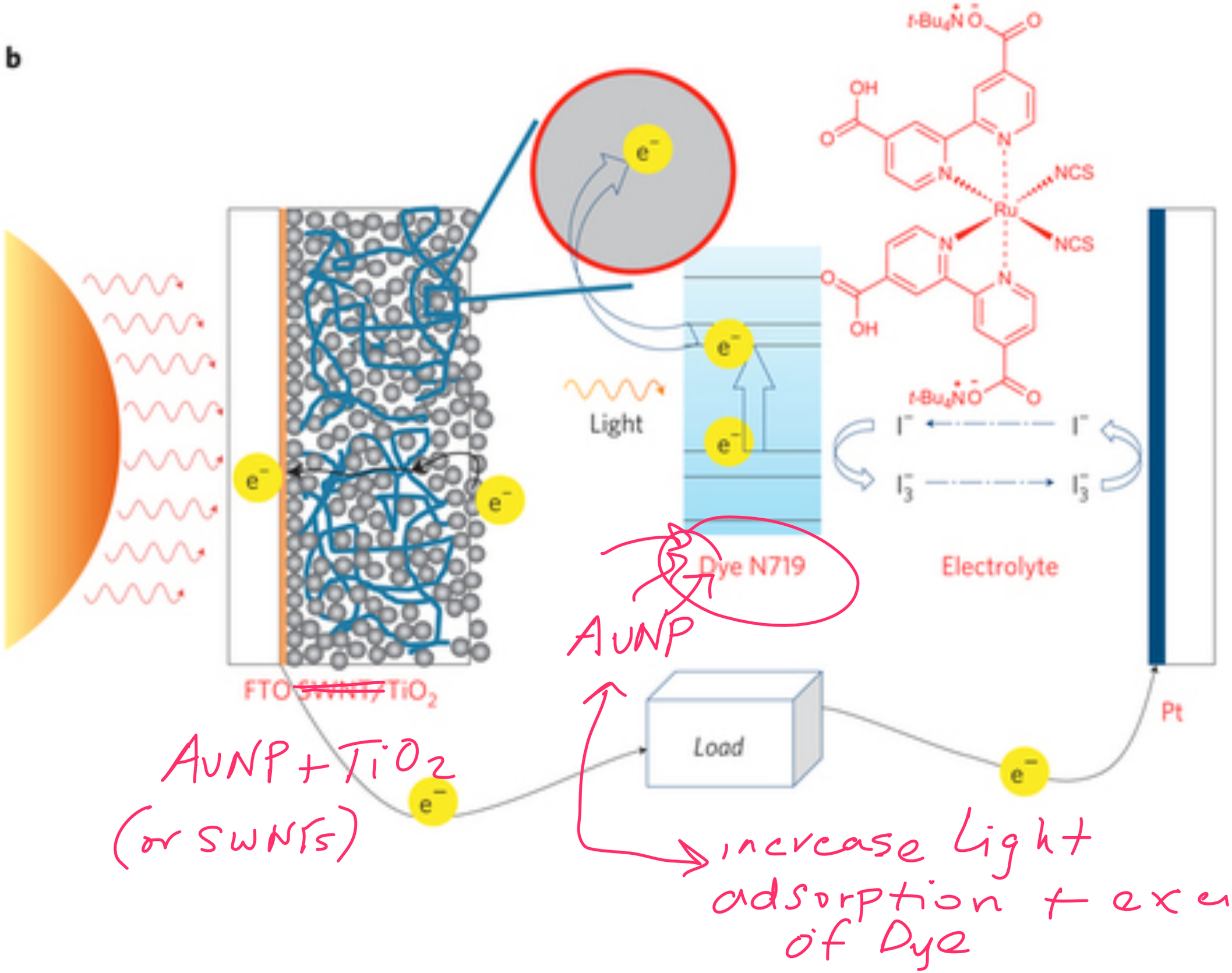
TEM in Koch Institute

Remember the dimensions of the M13 phage:





Big picture — what is left?



AUNP + TiO_2 (or SWNTs)

AUNP

increase Light adsorption + excitation of Dye

Research Proposal:

1. What is your area of interest?

2. What is the current state of the technology?

3. How can you address the shortcomings in the field?

4. Why is your approach novel and exciting?

5. What do you need to accomplish your goals?

*Must be 109-related, but not related to your UROP project

Plans for today:

1. TEM Analysis:

1:15pm: Red — Tiger

2:30pm: Yellow — Green — Blue

3:45pm: Pink — Purple

2. Work with your co-PI(s) to develop your proposal.