CT Scanning at the Florida Museum of Natural History
Reflection:
Higher power
lower resolution

Transmission:
Higher resolution
lower power
CT Benefits

- Non-destructive
- Digital dissection
- High magnification
  - <1µm/voxel
- Novel measurements
- Quantitative analyses
- Fast, Accurate Results
- Easy to disseminate
CT Scanning: Limits

- Relies on X-ray Absorption
  - Dense on Dense Contrast Poor
  - Light on Light Contrast Even Worse
  - Big Sample, Small Internal Structures Hard

- Cost
  - $30/hr or $180/12hrs at the NRF
  - Post-Processing Software Licensed $$$$$
  - Need Very Expensive, Powerful Computer $$$$$
  - Huge Data Sets = storage

- Sample Specific
  - Lethal to Living Specimens
  - Specimen must remain perfectly Still
Booking time on the UF CT scanner
Planning the scan

- What questions are you asking?
- What measurements will you need to take?
- How many specimens will you need to scan?
- Optimization
  - Resolution
    - Spatial resolvability
  - Contrast
    - Density resolvability
  - Noise
  - Speed

Factor of Resolution and contrast
Data Handling

- **Archiving**
  - Lots of files
  - Large amount of memory (several GB per scan)
  - Files are sensitive to renaming and moving
  - Good idea to have a system in place BEFORE you scan

- **Transferring**
  - Short term Storage at the NRF (2 TB)
  - >200Gb data for a day’s work
  - HiPerGator 2.0 will be installed soon
  - Portable Hard drives
  - EX-FAT