

CCR CENTER FOR
CANCER
RESEARCH

Connecting the Cancer Community



○ Innovative Science

○ Breakthrough Therapies

○ Clinical Advances

Nanoscale Diagnostics for Cancer using Ion Abrasion Scanning Electron Microscopy



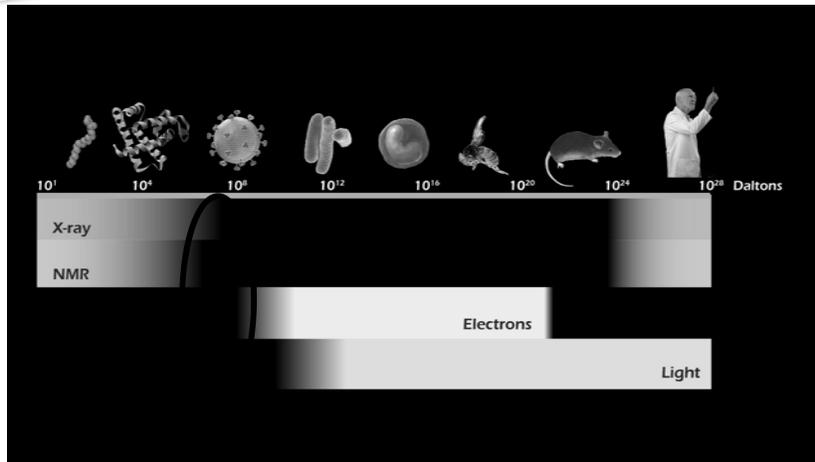
Sriram Subramaniam

September 25, 2007



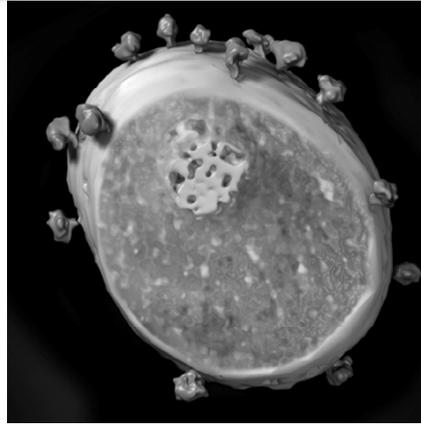
Bridging the imaging gap

CENTER FOR CANCER RESEARCH

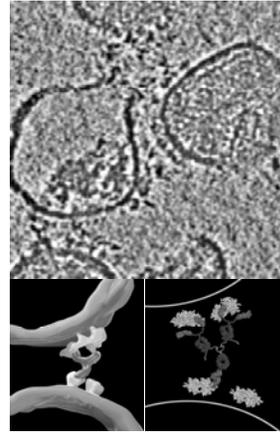


with 3D electron microscopy

Imaging retroviruses at molecular resolution with electron tomography

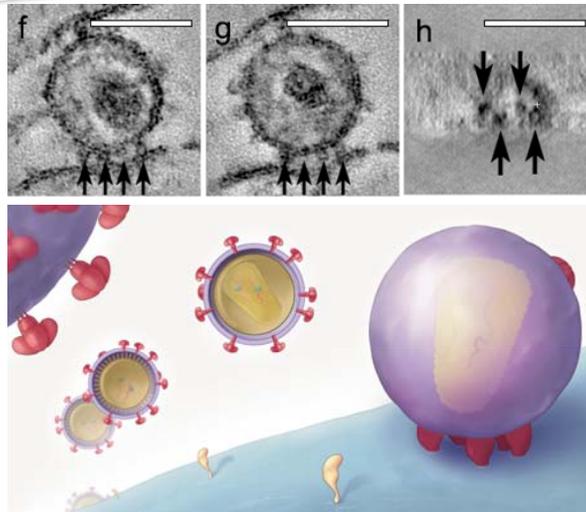


Complex Architecture of Immunodeficiency Viruses

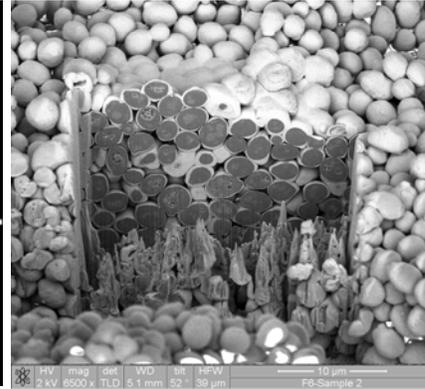
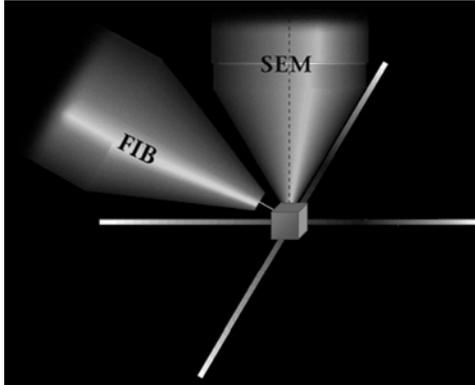


Molecular footprint of AIDS virus neutralization

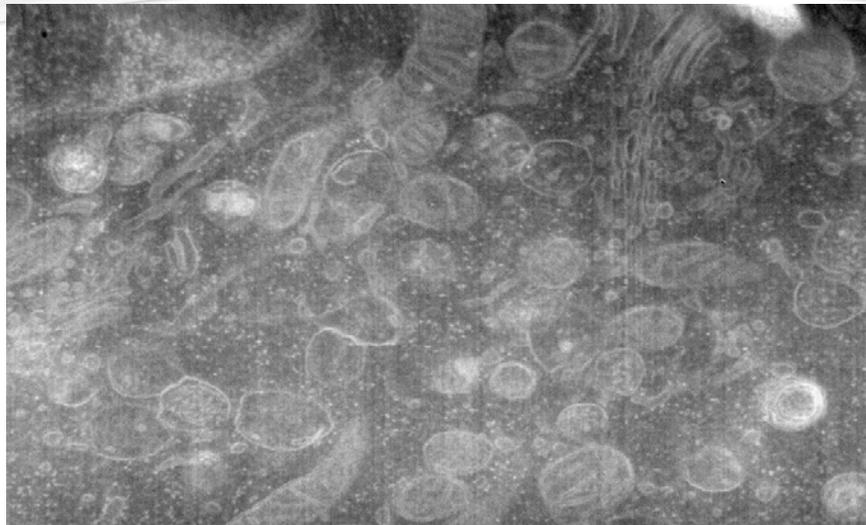
The HIV entry claw



Ion-abrasion scanning electron microscopy

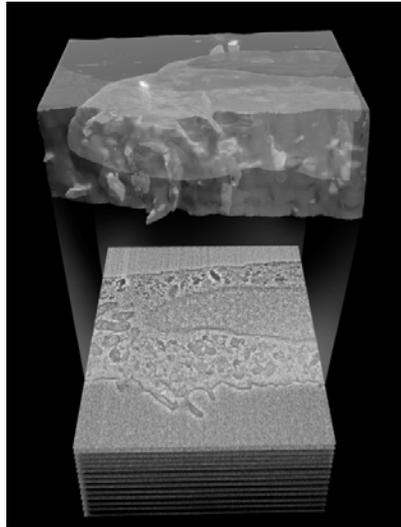
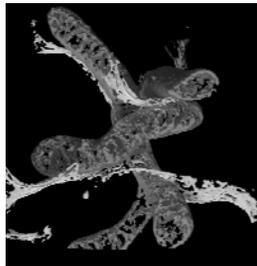


3D imaging of melanoma cells at 30 nm resolution



Mapping distribution of mitochondria and melanosomes in 3D

QuickTime™ and a
Sony Vegas™ 2 decompressor
are needed to see this picture.



Applications

- **Vaccine design**
- **Structure derived entry inhibitors**
- **Mapping drug and protein distribution in 3D**
- **Structural markers for cancer**
- **Mitochondrial profiling**

Contact Information

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