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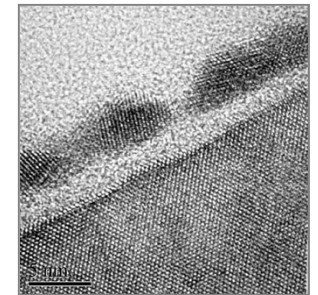
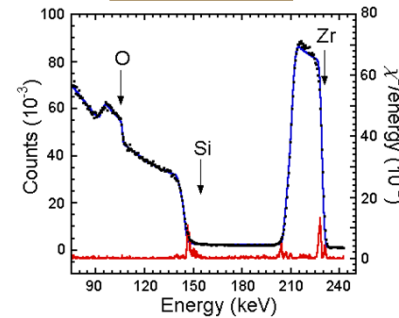
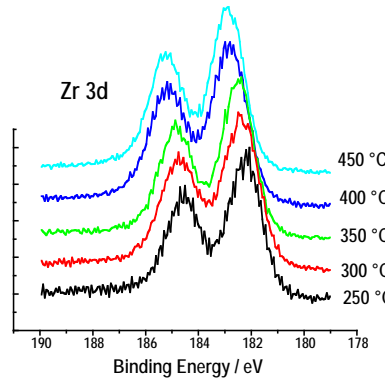
### Research Theme: Materials Engineering From Atoms to Applications

#### Process



CVD (films)  
Combustion Synthesis (particles)  
SC CO<sub>2</sub> processing (loading catalyst)

#### Property



XPS, AES, Ion Beam Backscattering  
XRD, Spectroscopic Ellipsometry  
SEM, TEM, Scanning probe microscopy

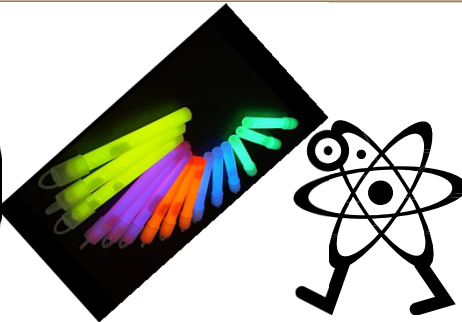
#### Performance: Applications in Energy, Microelectronics, Aerospace, and Defense



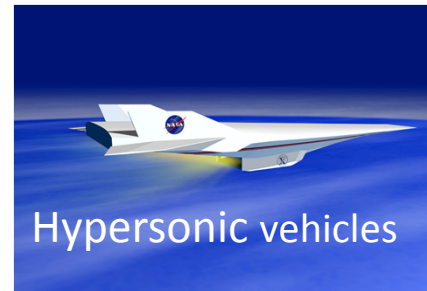
Catalytic process



Biomass/coal/CH<sub>4</sub>  
to liquid fuels



phosphors for radiation detection



Hypersonic vehicles



Faster CMOS

#### Outreach: Raising public awareness and appreciation for science and engineering

Panel discussions at Science Museum  
Demonstrations in k-12 classrooms

Current event discussions in my courses  
Work through local library