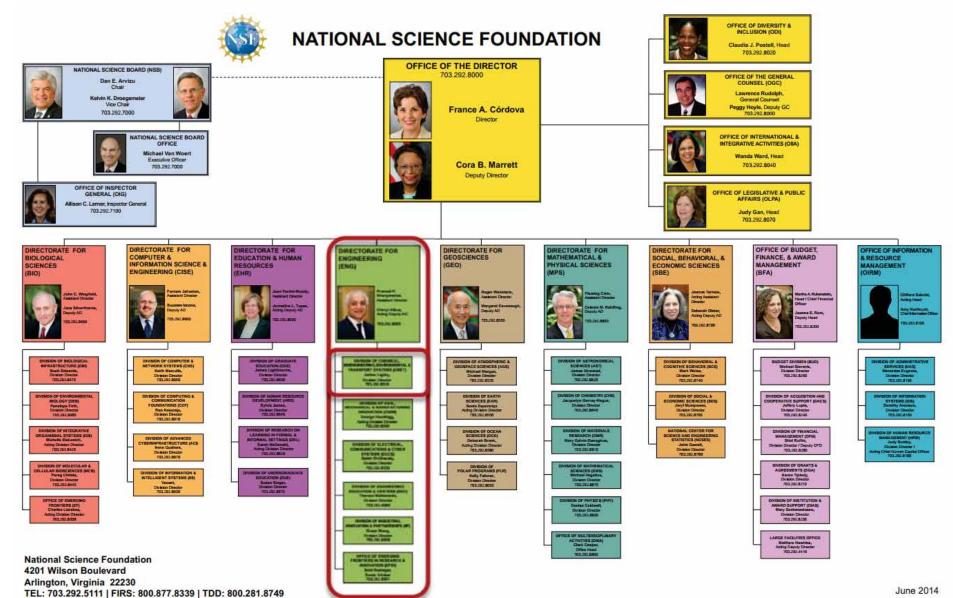
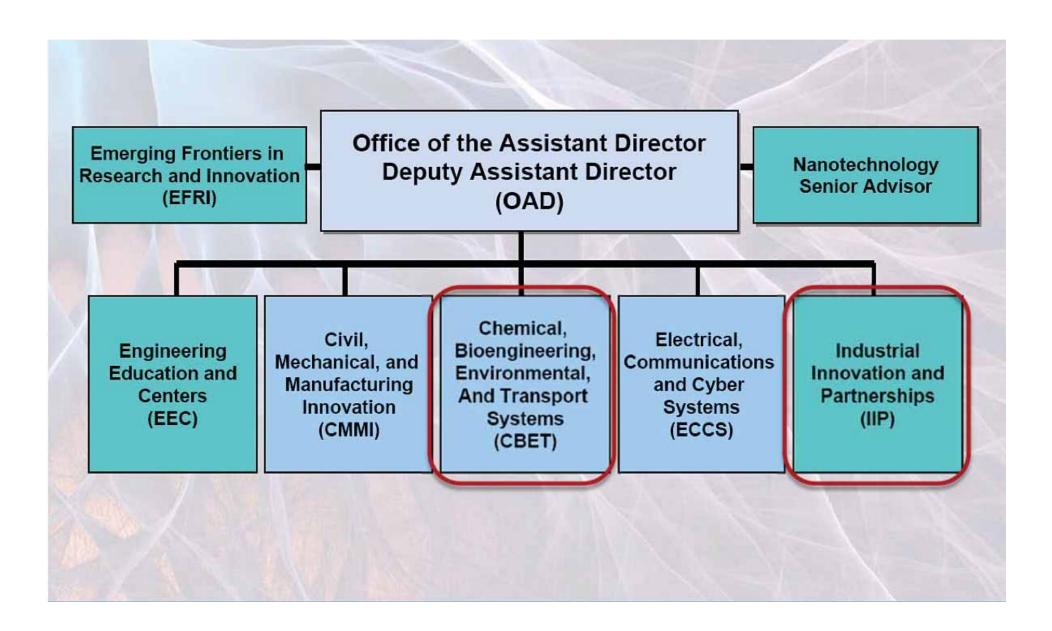


### **NSF** Map





## **Engineering Directorate**





# Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET)



Deputy Division
Director\*
Susan Kemnitzer



Division Director

JoAnn Lighty

Chemical, Biochemical, and Biotechnology Systems



1401 - Catalysis and Biocatalysis George Antos



1417 – Chemical and Biological Separations Rose Wesson



1403 – Process and Reaction Engineering Maria Burka Bioengineering and Engineering Healthcare



1491 - Biotechnology and Biochemical Engineering Friedrich Srienc



5345 - Biomedical Engineering Thanassis Sambanis



7236 Biophotonics Leon Esterowitz



7909 Nano-Biosensing Raj Mutharasan

Photo

5342 – General and Age Related Disabilities Engineering TBD Environmental Engineering and Sustainability



7644 - Energy for Sustainability Gregory Rorrer



1440 - Environmental Engineering William Cooper



1179 - Environmental Health and Safety of Nanotechnology Nora Savage



7643 - Environmental Sustainability Bruce Hamilton Transport, Thermal, and Fluid Phenomena



1407 – Combustion and Fire Systems Ruey-Hung Chen



1443 Fluid Dynamics
Dimitrios
Papavassiliou



1414 - Interfacial Processes and Thermodynamics Eddie Chang



1415 - Particulate and Multiphase Processes William Olbricht



1406 - Thermal Transport Processes Sumanta Acharya

CBET is located in Stafford I Building South, in Suite 565



#### **ENG Programs**

<u>Biophotonics</u> (<u>Leon Esterowitz</u>): Nanoscale sensing, optogenetics, nanophotonics

Nano-Biosensing (Raj Mutharasan): Multifunctional nanomaterials for biosensing, nano-interfaces, biosensors

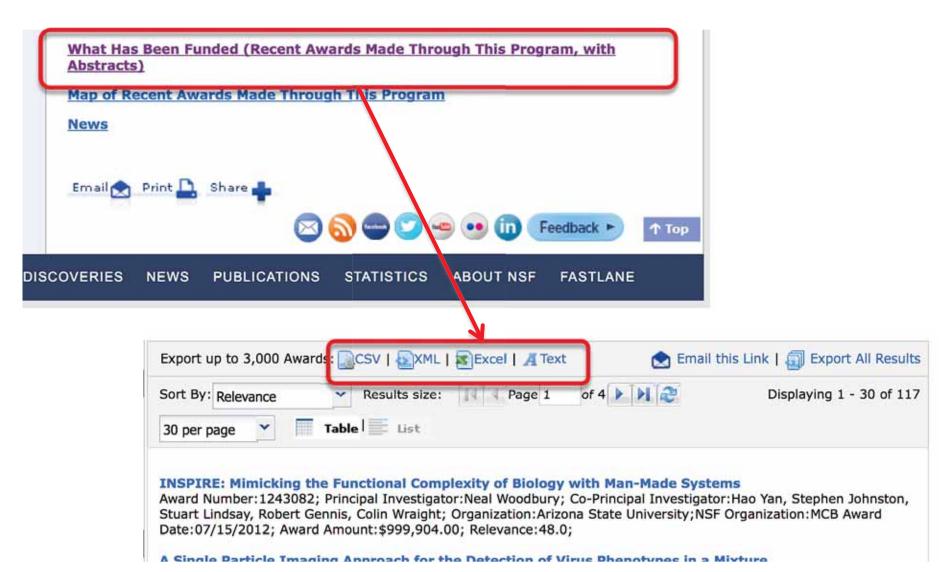
EHS-Nanotech (Nora Savage): Impact of complex/heterogeneous nanomaterials on health, safety, prevention, tools

SBIR/STTR (Ruth Shuman/Ben Schrag):

Early stage R&D for transformational tech, high risk/high potential



#### How to Get Details of What is Funded





#### Biophotonics/EFRI: Next Gen on-**Chip Platforms**

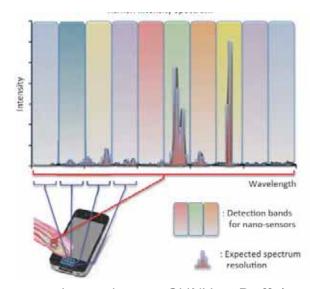


camera





fingers and palms



Josep Jornet, SUNY at Buffalo

- Multiplexed diagnostics integrating: Nanobiosensors with nanofluidic delivery
- Nanophotonic waveguides and arrays
- Mini-light sources
- Software and processing algorithms
- Shared data = big data



#### **NSF SBIR/STTR**

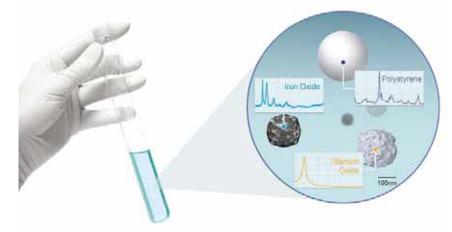
Early-stage research and development at small businesses:

Phase I: 150 - 225 k/6-12 mos.

Phase II: 750 k/2 yrs

Phase IIB: private sector + 500 k/2 yrs

Optofluidics\*: Near-field Raman for particle identification



\*http://www.opfluid.com/#!nanoparticle-identification/c1ygk