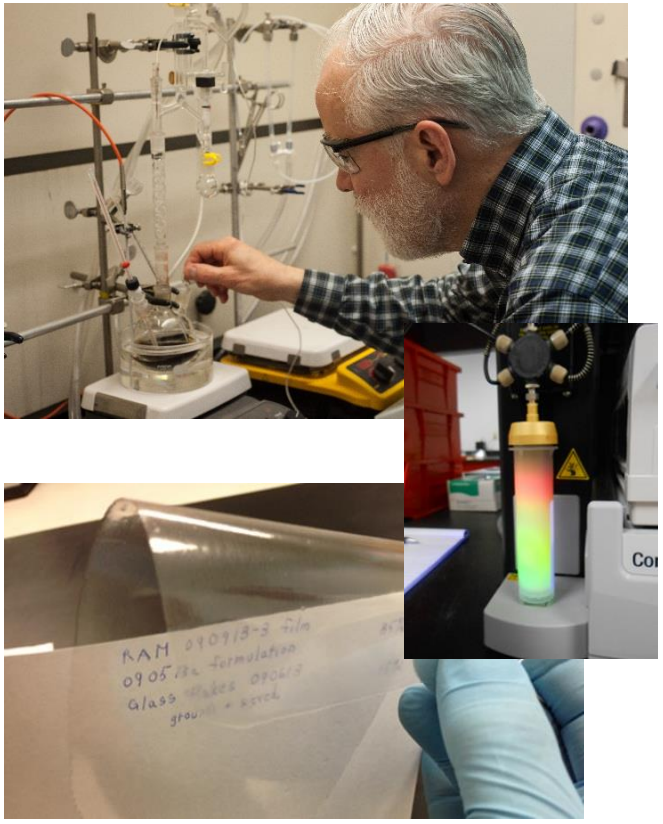
Akita Innovations LLC
Billerica, MA 08162

Akita develops exotic materials for demanding applications

7 Employees (PhD, MS, BS), all U.S. citizens
3,600 ft^2 Development Lab
No foreign influence, small business

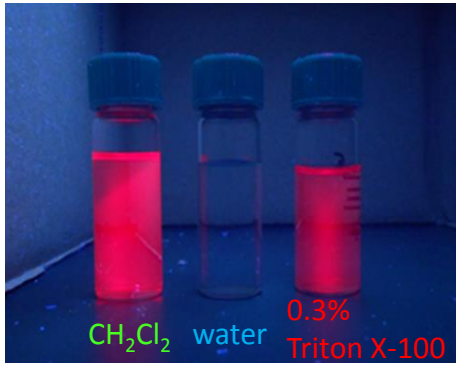
Design and build molecules.
Develop manufacturing processes.



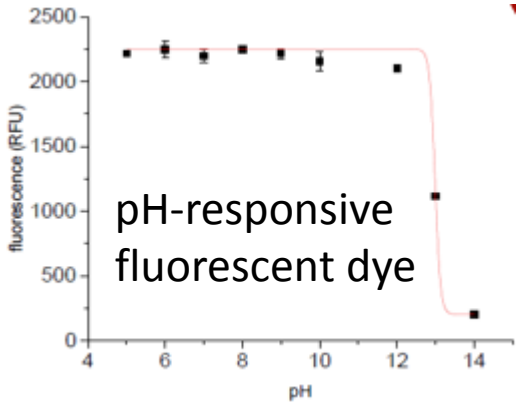
Light Absorbing & Emitting Dyes

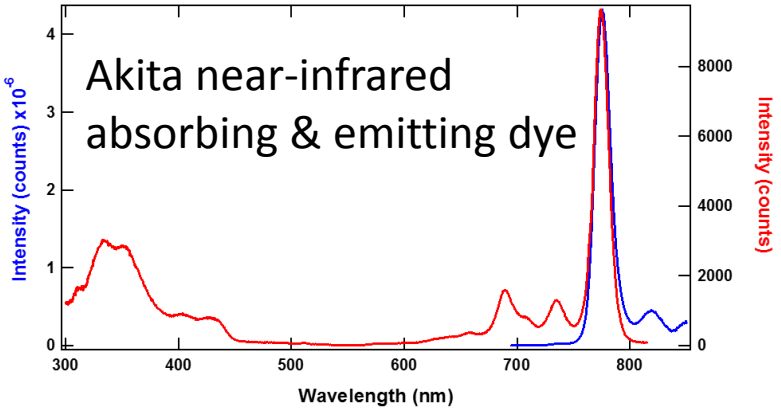
Dyes designed & synthesized to:

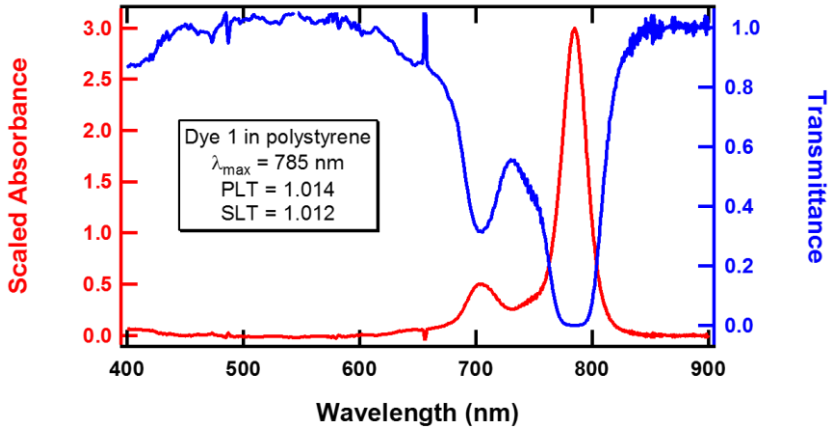
- Absorb laser lines
- Report presence of analytes like oxygen, water, explosives, ions, proteins
- Emit light via chemiluminescence



Environment-responsive fluorescent dye



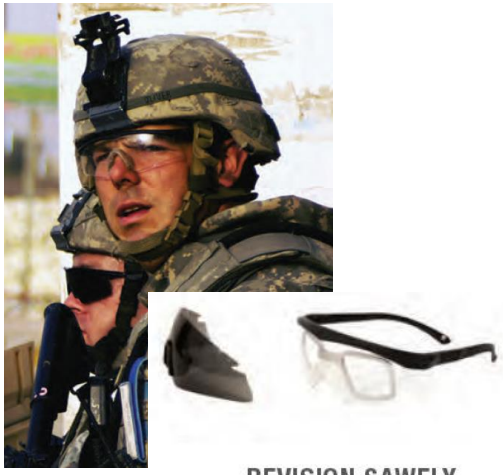




Laser-line absorber with high visible transmittance

Anti-fog Coatings for Protective Eyewear

Objective: Transparent coatings with durable anti-fogging properties and surfaces that resist chemical contamination



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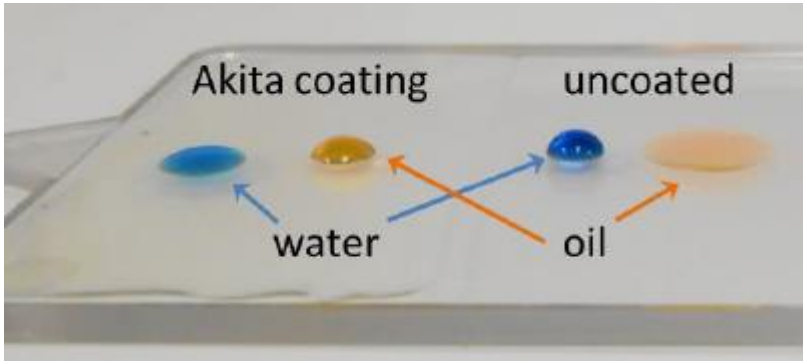
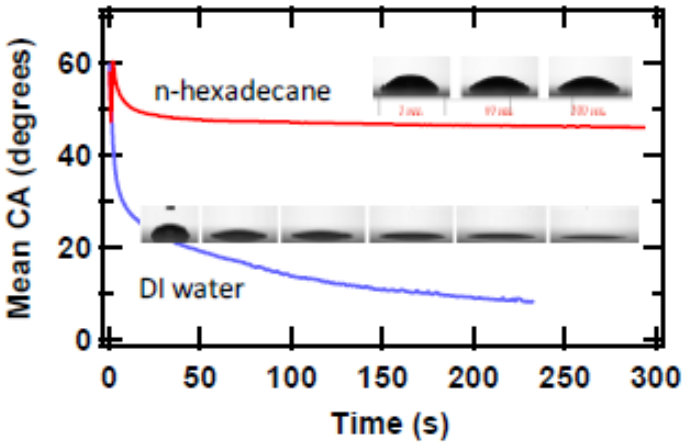
REVISION DESERT LOCUST



Water (dyed blue) and hexadecane (oil; dyed orange) droplets on an Akita coating (left) and bare polycarbonate (right), showing the unusual property of hydrophilicity combined with oleophobicity.

'Steam test' at 40°C showing anti-fog effect of Akita coating (center of slide).



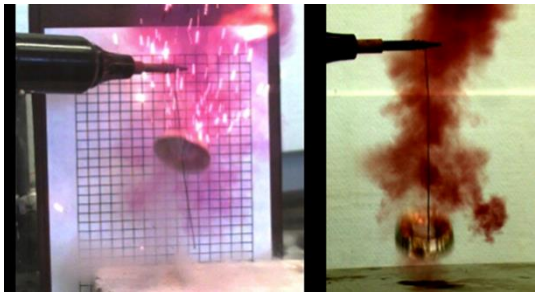
Contact angle of hexadecane (red) and water (blue) as a function of time on an Akita antifog coating. Insets: droplet photos

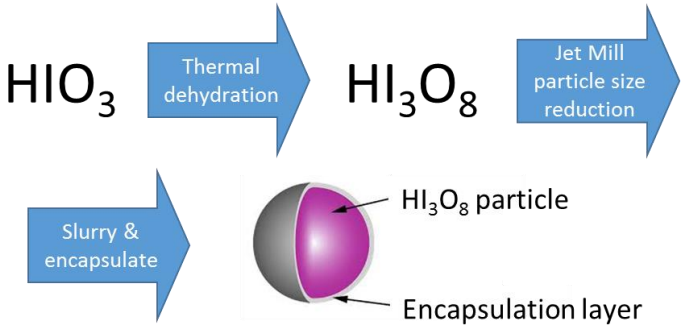
Encapsulated HI_3O_8 Microparticles:

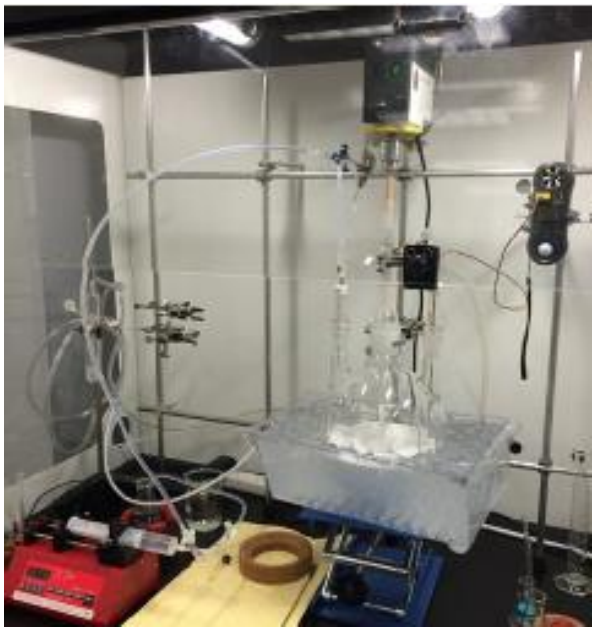
Stabilized oxidants for biocidal Prompt Agent Defeat munitions

Polymer encapsulation stabilizes micro/nanoparticles

Crash PAD
BLU-119/B





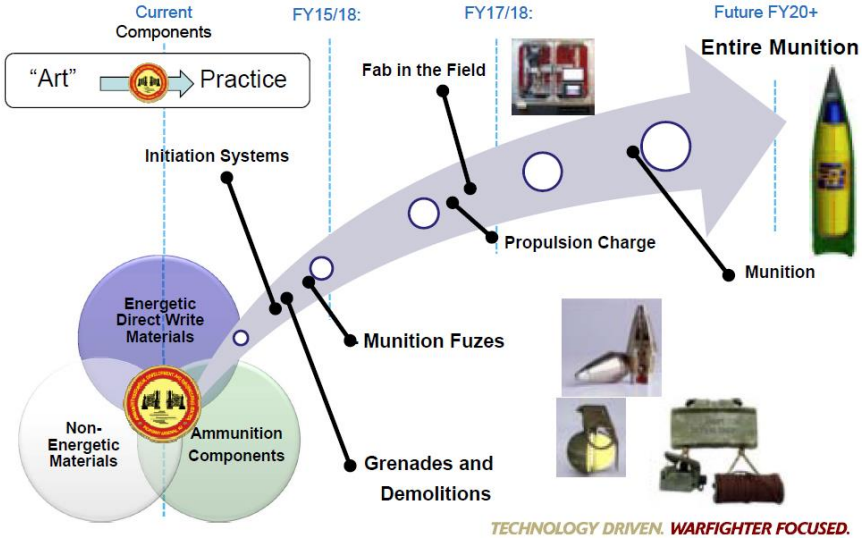


Microparticle synthesis & combustion in thermite; combustion test courtesy of Prof. T. Weihs, Johns Hopkins University

Materials for Additive Manufacture of Energetics

Goal: Develop materials and processes for the Additive Manufacture (AM) of energetic materials.

AM reduces logistical costs; decreases the time and cost of design; enables cost-efficient manufacture at small scale and allows manufacturing equipment to produce a wider array of products.



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

Objective: Develop materials and processes for AM of explosives in fuze components and detonators.