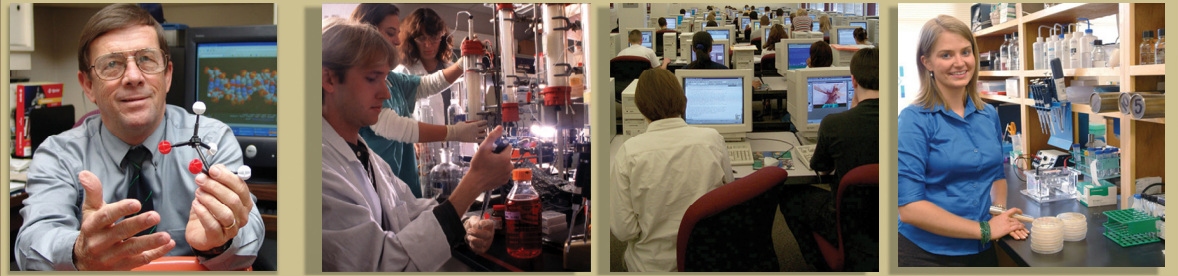




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Technology Opportunity

Improved Fire Retardant Materials

Current fire retardant polymer composites contain additives that weaken their structure. This invention foregoes those additives and adds a single layer of Buckypaper to the composite. The result is a structurally sound, fire-retardant polymer composite that is ideal for aircraft and ships, where fires can be devastating.

Applications

- The primary applications of such materials are advanced composites which require good fire/smoke retardant properties, such as composite structures used on ships, aircraft, etc.
- Fire protection in aircraft where 40% of fatalities in impact-survivable accidents are due to fire, not impact
- Firewalls in virtually any structure

Advantages

- 30-50 second delay in time to ignition
- 50-60% reduction in toxic emissions and smoke upon combustion over the composite material to be protected
- Reduction in smoke can reduce fatalities caused by disorientation and inhalation
- Maintains the mechanical properties in the composite material to be protected
- Improved durability and adhesion over current fire retardant coatings
- Electromagnetic interference (EMI) shielding properties
- Lightning protection

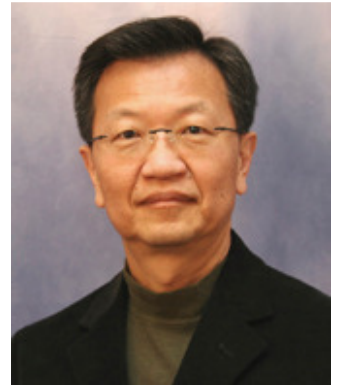
Technology Opportunity

The Inventors

Chuck Zhang is the chairman of the Department of Industrial & Manufacturing Engineering and the Deputy Director of High-Performance Materials Institute (HPMI). He has filed over 15 patents relating to polymer composite structures and processes for their manufacture. He has published nearly 150 publications in the field of manufacturing. Dr. Zhang has also received numerous teaching and manufacturing engineering awards.



Ben Wang is the Director of the High-Performance Materials Institute (HPMI), serves as Florida State University Assistant Vice-President for Research in Engineering, and holds two distinguished professorships: Simon Ostrach Professor of Engineering and U.S. Department of Energy Samuel P. Massie Chair of Excellence. He is a Fellow of the Institute of Industrial Engineers (IIE), Society of Manufacturing Engineers (SME) and World Innovation Foundation (WIF).



Zhiyong Liang is a professor in the Department of Industrial & Manufacturing Engineering and a scientific staff member at the National High Magnetic Field Laboratory.

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