

Discover

COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES

TEXTILES AND CLOTHING

The Division of Textiles and Clothing focuses on improving the health, safety, and comfort of consumers and workers who use or wear textiles and related products and on helping the textile industry become more profitable. Faculty address the complex relationship between the improvement of material properties and the ultimate consumer/user acceptance of these properties.



RESEARCH

The division is part of the National Textile Center, a federally funded university-research/graduate educational consortium, and has been identified as one of the top textile programs in the U.S. in terms of research achievements. It is the only department in the University of California system devoted to textile industry research.

The research projects have local, national, and global implications within three primary areas:

Functionality. Research on textiles for personal protection and occupational safety, including health protective textiles and clothing for emergency workers, health care workers, the military, and the general public.

Sustainability. Cutting-edge research to develop new sustainable products and processes such as organic materials and environmentally friendly textile products and processes.

Accountability. Research designed to bridge the needs of consumers and the textile and apparel industries of California.

IMPACT

- Invent protective clothing that reduces heat stress and improves comfort for state wildland firefighters; there is increased interest from other states and countries for this technology
- Develop self-decontaminating textile materials that improve the occupational safety of emergency workers, pesticide handlers, and health care workers
- Improve occupational and food safety through biocidal gloves for fruit and vegetable handlers, biocidal cutting boards, and military wear
- Create new technology that self-decontaminates firefighter uniforms and protective clothing for emergency workers and the military; develop technology to produce self-decontaminating fabrics that reduce cross contamination of pathogens in health care facilities for health care workers
- Purify agricultural drainage salts for use in reactive dyeing in the textile industry, thereby benefiting the environment and the economy
- Provide expert consumer advice via news and current affairs outlets and popular magazines to improve understanding of trends and their impacts
- Continue developing sensory science and technology textile quality evaluation and improvement

FUTURE PRIORITIES

The Division of Textiles and Clothing at UC Davis is unique -- nationally and internationally -- in its emphasis on the interface between the physical and social sciences. Future plans include an expansion of the study and development of functional textiles and materials (e.g., biobased materials, nano materials, protective textiles) that enhance the environment and society.

In work ranging from physical properties of materials to their meanings and use in everyday life, we are expanding our emphasis on the connections among:

- functionality (i.e., personal protection, comfort, safety)
- sustainability (i.e., use of biobased materials, life cycle analysis of products, environmentally benign processing)
- accountability (i.e., economic viability, social justice, user acceptance)

The latter -- accountability -- includes expanded emphasis on overcoming the "disconnect" between the global production and con-

sumption of fashion. Through a Presidential Chair grant, administered by the UC Davis Office of the Vice Provost for Undergraduate Studies, we are engaging undergraduates in research and conference planning that address social issues ranging from garment labor to environmental quality to consumer body image and identity issues.

We also plan to intensify our outreach efforts to our stakeholders -- including individuals who produce, use, or develop policy implications for textiles and related materials. They range from the large fiber/textile/apparel complex in California (the second largest-producing state for this complex in the nation) to consumers to local, state, and federal governmental agencies (e.g., Sacramento Fire Department, California Department of Forestry and Fire Protection, National Science Foundation - Material Uses, Engineering and Society Program, and the National Personal Protective Technology Laboratory).

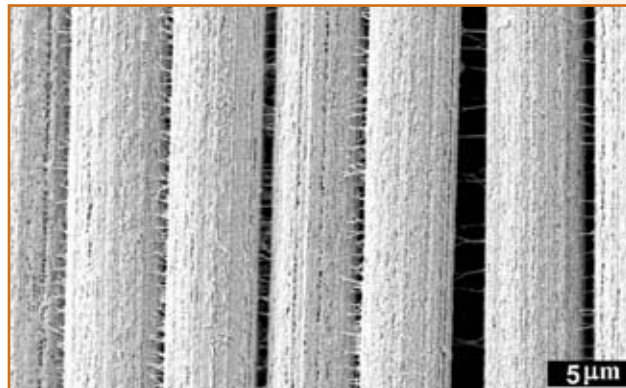


PHOTO PAGE 2: Carbon nanotubes form links between fibers.



<http://textiles.ucdavis.edu>
<http://caes.ucdavis.edu/News/Discover>

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