Smart Textiles for Personalized Health Care

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Abstract

The current healthcare systems based on disease management are suffering from limited, delayed, and inefficient medical services, especially when confronted with the pandemic and the aging population. Health care should move from its current reactive and disease-centric system to a personalized, predictive, preventative, and participatory model with a focus on disease prevention and health promotion. Textiles have been concomitant and played a vital role in the long history of human civilization. Equipping traditional textiles with diagnostic, therapeutic, and power supply capabilities can unlock electronic textiles as a point-of-care system with incomparable wearing comfort. In this talk, I will introduce our research progress in smart textiles for biomonitoring, therapeutics, power supply, and textiles body area network for personalized health care. I will showcase the platform technologies, fabrication strategies, and clinical translation of the smart textiles.

**Biography**

Dr. Jun Chen is currently an assistant professor in the Department of Bioengineering at the University of California, Los Angeles. His research focuses on soft matter innovation for novel bioelectronics and personalized healthcare. He has published two books and 270 journal articles, with 170 of them being corresponding authors in *Chemical Reviews* (2), *Chemical Society Reviews* (2), *Nature Materials* (2), *Nature Electronics* (4), *Nature Biomedical Engineering* (1), *Nature Communications* (5), *Science Advances* (2), *Joule* (3), *Matter* (10), *Advanced Materials* (12), among others. He also filed 14 US patents, including one licensed. **With a current h-index of 101**, Dr. Chen was identified to be **one of the world’s most influential researchers** in the field of Materials Science in Web of Science. Beyond research, he is an associate editor of *Biosensors & Bioelectronics*, *Med-X*, *Textiles*, and *VIEW Medicine*, Advisory/ Editorial Board Members of *Matter*, *Cell Reports Physical Science*, *Nano-Micro Letters*, *Materials Today Energy*, *Nano Trends*, and *The Innovation*. Among his many accolades are the V. M. Watanabe Excellence in Research Award, UCLA Faculty Mentor Award, UCLA Society of Hellman Fellows Award, Advanced Materials Rising Star, Materials Today Rising Star Award, ACS Nano Rising Stars Lectureship Award, Chem. Soc. Rev. Emerging Investigator Award, Nano Research Young Innovator Award, Georgia Tech Alumni 40 Under 40, Shu Chien Early Career Award, AHA Innovative Project Award, AHA Transformational Project Award, AHA's Second Century Early Faculty Independence Award, NIH UCLA CTSI KL2 Translational Science Award, BBRF Young Investigator Award, ACS PMSE Young Investigator Award, Okawa Foundation Research Award, Highly Cited Researchers 2019/2020/2021/2022 in Web of Science, among others.

**Personal Photo (High Resolution & Latest)**

