

CRC student won the first place in student poster competition from SWST convention

Doctoral student Qijun Zhang, who is studying in Center for Renewable Carbon (CRC), is the recipient of the first place in student poster competition at the 2019 International Society of Wood Science and Technology (SWST) Convention on Renewable Materials and the Wood-based Bioeconomy in Yosemite National Park. His winning research, “A novel method for fabricating an electrospun polyvinyl alcohol/cellulose nanocrystals composite nanofibrous filter with low air resistance for high-efficiency filtration of particulate matter”, developed a cellulose-based air filter which has outstanding performance for fine particles removal.

Nanocellulose derived from renewable resources has attracted great scientific interest because of its biodegradability and unique mechanical properties. In Zhang’s research, nanocellulose is utilized as natural polymer and decreased the fiber diameter of fabricated air filter. The increased surface area promotes particles capturing. Meanwhile, more air molecular can get through the filter media instead of being repelled by the fibers. The developed air filter has the advantages of non-toxic and biodegradable raw materials, environmentally friendly manufacturing process, and low cost. This work has been published on *ACS Sustainable Chemistry & Engineering*.

Zhang is a Ph.D. candidate in Natural Resources (Bio-Based Products and Wood Science and Technology Concentration) and co-advised by Dr. Siqun Wang and Dr. Timothy M. Young, both professors are faculty members of the Department of Forestry, Wildlife and Fisheries, University of Tennessee, affiliated with the CRC. Dr. David Harper is co-author for the poster.

SWST is a leading internationally-recognized professional organization of wood scientists, engineers, marketing specialists and other professionals concerned with lignocellulosic materials.

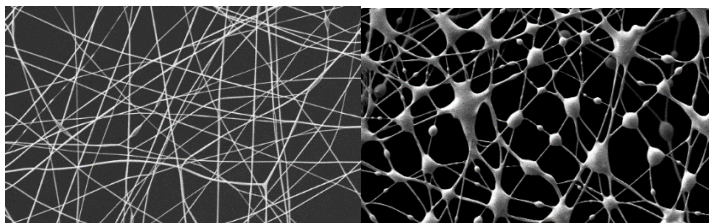


Image shows the nanofibrous air filter before and after particles capturing.