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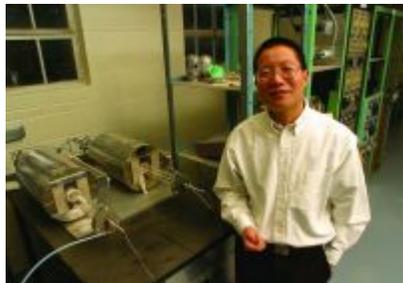
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Zhu Wins TTU 2010 Kinslow Award for Fuel Cell Research Paper

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klykins@tntech.edu

Office of Communications & Marketing



Fundamental studies led by Jiahong (John) Zhu have clarified several critical issues

related to solid oxide fuel cell materials, and now Zhu is being honored with Tennessee Tech University's 2010 Kinslow Engineering Research Award for more groundbreaking work on SOFCs.

The Kinslow Award is given annually for the best paper written by a TTU engineering faculty member and published in a refereed professional journal. Zhu's paper, "Ag-Perovskite Composite Materials for SOFC Cathode-Interconnect Contact" was published in the Journal of The Electrochemical Society. Graduate student Lucas Wilkinson coauthored the paper.

SOFCs, which operate at high temperatures, are best suited for use by utility companies generating power. Zhu and his group work to develop new materials to answer questions about improved reliability and long-term stability of these fuel cells.

In his award-winning paper, Zhu's innovation revolves around developing alternative materials for an electrical contact, which is an essential component in SOFC stacks. Relatively limited information is available in literature regarding the material choices for this component.

For the first time, he proposed and verified a new approach to address contact material problems via composite design and optimization. This systematic and in-depth study is expected to have high impact and be highly cited in the field.

"It is expected that the methodology used in this paper will set the new standard for further evaluation of various contact materials," said Dale Wilson, TTU mechanical engineering professor who nominated Zhu. "It is expected to speed up the contact material research and development, thus contributing to the mitigation of one of the most critical material issues related to SOFC stack/system commercialization."

In 2003, Zhu became the first TTU recipient of the National Science Foundation CAREER award, receiving a Faculty Early Career Development grant of more than \$400,000 on the basis of creative plans to integrate research and education through his work with fuel cells. In 2008 he received TTU's Caplenor Faculty Research Award.

He has established a nationally visible SOFC research program at TTU and established a state-of-the-art energy-material research laboratory. Since joining TTU in 2000, he has attracted external funding of more than \$3 million for research and education. He has published more than 50 journal papers and a number of conference proceeding papers.

Zhu earned his doctorate in materials science and engineering from the University of Tennessee, Knoxville. He received his master's degree from Shanghai University and his bachelor's degree from Northeast Heavy-Machinery Institute in Helongjiang, China.

Last year's Kinslow award winner was Omar Elkeelany, assistant professor of electrical and computer engineering.

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