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Research and Creative Achievement (2008)

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Pengcheng Dai
Wesley Hines
Thomas Mueller

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brian barber, professor of child and family studies, is one of the leading scholars in the world on how social, political and cultural contexts impact adolescent development. He currently has three book contracts and recently received a grant from the United States Institute for Peace to work on a fourth. He has researched in 11 different countries and published his findings in national and international journals. As founder of the Center for Youth and Political Violence, Barber organized the first of four symposia in Cape Town, South Africa, last October. Over the next three years, the center will sponsor similar conferences, all focusing on war-related conflicts, in Palestine, Jordan and Bosnia.

Pengcheng Dai, professor of physics, has made significant contributions to the understanding of high temperature super-conductors. Developments in the field were introduced some 20 years ago, but since then, little had been learned. Dai's work, however, has found several important properties of high temperature superconductors, and over the past three and a half years, he has published 35 papers on his findings. His nominator calls him "one of the most influential neutron scattering researchers in the world, whose work is eagerly read and cited by all his peers. The Department of Physics has not had a professor who has had so much impact at so young an age."

wesley hines, professor of nuclear engineering, has an international reputation as the leading researcher in nuclear power plant equipment monitoring and diagnostics. He is the principal investigator for a multi-university effort to develop control measures for Grid
Appropriate Reactors, which could be sent to third-world countries to meet their electricity, heat and desalinization needs. The $2.2-million project is the largest grant ever received by UT’s Department of Nuclear Engineering. In the past five years, Hines has had more than 30 funded projects on topics such as nuclear and fossil power plants, deep-well oil drilling, enterprise computer servers, advanced fighter jets and medical imaging.

Thomas Mueller is a professor in the Department of Plant Sciences and is responsible for a nationally recognized program focusing on weed science. His research includes a project with the Great Smoky Mountains National Park to control an invasive weed called Chinese yam. He also is in the long-term phases of examining several factors related to poison ivy. However, Mueller may be best known for his projects dealing with the environmental impact of herbicides including water quality, dissipation in soils and herbicide metabolism in plants. He has published his findings in more than four journal articles per year for the past 10 years. His national reputation led to a recent appointment on the Environmental Protection Agency’s Science Advisory Board.