2014

Research and Creative Achievement (2014)

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Xiaobing Feng

Xiaobing Feng is a professor of mathematics and a world leader in the field of numerical methods for fully nonlinear partial differential equations. Computer simulation of physical and biological phenomena has joined numeric analysis and computation as a paradigm for discovery. Feng has applied computational techniques to a wide range of problems and shed light on a number of biological and physical phenomena. His work helps to tackle challenges with image processing, material phase transition, complex fluids, high frequency wave scattering, and gene regulatory networks.

Lee Han

Lee Han is working to make the world a safer place to live. His research covers transportation safety and security; human behavior; big data applications; and issues of mobility, energy, and sustainability. A professor of civil and environmental engineering, Han has worked on projects that find the best routes for disaster zone evacuees. He has also helped the Department of Transportation handle real-time data on a system that pinpoints road deficiencies as a means for decision making. Han’s research on red-light cameras compared different signal-timing plans, often used to induce red-light running and increase profit, in terms of their effect on traffic safety and congestion.

Michael Langston
Seemingly unsolvable problems are no match for Michael Langston, a professor of electrical engineering and computer science. In fact, he seems to have a knack for finding them. He has moved knowledge forward on a number of foundational topics, from the mathematical analysis of algorithms and parameterized complexity to high-performance computing and a variety of domain science applications. Langston recently joined forces with colleagues at MIT and the University of Victoria, British Columbia, to resolve the Keller tiling conjecture, which has resisted previous attempts dating back to 1930. His determination to take on difficult research has helped him achieve results that have eluded others.

Kenton Yeager
Kenton Yeager is lighting the way for theatre students—in more ways than one. An associate professor in the Department of Theatre, Yeager teaches lighting design. His 1-to-6-scale lab, the Yeagerlab, gives students the flexibility to experiment with lighting design choices before committing to a theater’s lighting plot. The Yeagerlab has been packaged into an affordable concept and is being marketed to universities across the country. Yeager’s creative accomplishments reach beyond the university level. He has been an invited exhibitor at three successive World Stage Design exhibitions, a rare feat in the field, and provided lighting designs for many nationally recognized theaters. The experiences he gains through his creative research and professional projects come back to benefit UT as they help him provide students with an inspired and updated look at lighting design.