

# Haptics and Its Application in Data Perceptualization

2:00 p.m. Thursday, May 3rd, 2012

Room 2736, Science Building No. 2, Peking University

Prof. Hong Z. Tan

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Haptics research has reached a level of maturity that enough is now understood in order for data to be coded visually and haptically to increase information transfer through a data visualization system. In this talk, I will provide an overview of the human touch system, followed by a review of the latest haptic technologies that deliver a range of haptic sensations to human users. I will then describe several projects at Purdue University on data perceptualization: the visual and haptic rendering of information. I hope that these examples will spark the audience's imagination in creating new ways to incorporate haptic effects into visualization systems.



Hong Z. Tan is a Professor of Electrical and Computer Engineering with courtesy appointments in Mechanical Engineering and Psychological Sciences at Purdue University. Her research focuses on haptic human-machine interfaces and haptic perception. She has published more than 100 peer-reviewed journal and conference articles in haptics research. She is known internationally as a leading expert on haptics psychophysics,

taking a perception-based approach to solving engineering problems. She is frequently invited to give keynote speeches at international conferences and research institutions, educating a broad audience on haptics and its emerging applications in human computer interaction, robotics, medicine and education.

Tan was a recipient of the prestigious US National Science Foundation's Early Faculty Development (CAREER) Award. In addition to serving on numerous program committees, she was a co-organizer (with Blake Hannaford) of the International Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems from 2003 to 2005. In 2006, Tan served as the Founding Chair of the IEEE Technical Committee on Haptics (TCH). The TCH played a key role in launching the IEEE Transactions on Haptics (ToH) in 2008. Tan has served as a ToH Associate Editor since the journal's birth, and received a Meritorious Service Award in 2012. She currently serves as the Editor-in-Chief of the World Haptics Conference Editorial Board.

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