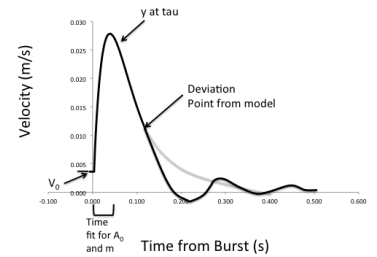


Exploratory Procedures: 30 Years Later A Workshop at WorldHaptics -15

Organizers: Roberta L. Klatzky and Astrid Kappers



In 1987, Roberta Klatzky and Susan Lederman published a paper documenting patterns of haptic exploration – exploratory procedures -- and connecting them with the structural, material, and functional properties of objects. Subsequent research has further documented such systematic exploration across multiple species and over the course of human development. Details of exploratory parameters have been specified in relation to tasks and objects, models have been developed for the neural processes that connect exploration to perception, and corresponding exploratory patterns have been implemented in dexterous robots.

This workshop presents research on purposive haptic exploration with the goals of:

- Communicating state-of-the-art efforts across a variety of domains and measurements
- Describing applications where an understanding of exploration has high relevance, e.g., medical palpation
- Motivating discussion of the next steps in analyzing exploration: What tools are needed in terms of models, analysis, and instrumentation?

Participants:

Wouter Bergmann Tiest, VU University of Amsterdam, Netherlands
Quantifying hand movements for object exploration

Knut Drewing, Giessen University, Germany
Tuning of movement parameters in exploratory procedures

Martha Flanders, University of Minnesota, USA
Somatosensory feedback in contour following and object manipulation

Hilary Kalagher, Drew University, USA (developmental)
The haptic abilities of young children

Carla Pugh & Shlomi Laufer, University of Wisconsin, USA
Palpation: Use of sensors and video classification to characterize exploratory procedures in medicine

Roberta Klatzky, Carnegie Mellon University, USA
A look back at EPs and a look today at compliant surface interactions