

“Imagination is more important than knowledge.
Knowledge is limited;
imagination encircles the world.”

Albert Einstein

“I let my fingers move along my body.
Realization warns them, and my nerves
Prepare their rapid messages and signals.
While Memory begins recording, coding,
Repeating...”

Harold Monro

Foreword

The National Science Foundation (NSF) and the Defense Advanced Research Projects Agency (DARPA) sponsored the NSF-DARPA Sensitive Skin Workshop that was held on October 14 and 15, 1999, at the Key Bridge Marriott Hotel in Arlington, Virginia. The purpose of the Workshop was to find consensus on the nascent Sensitive Skin technology, and provide recommendations for the research community and government agencies. The Workshop covered principles, methodology, and prototypes of sensing skin-like devices and related intelligence and software. It drew more than 40 participants from universities, companies, government laboratories, and government research agencies.

In this Report, we attempt to provide a detailed description of the Workshop, to convey its spirit of open and free discussion, and to give profile to an exciting vision of this newly emerging interdisciplinary field.

All Workshop participants contributed to these discussions and this report. We are especially grateful to Professors Fearing, Mangione-Smith, and Sturm, who wrote summaries of the discussions for the three sections which they lead. Dr. Jack Kenney of Analog Devices provided valuable information on A/D conversion. Mr. Daniel O’Neil designed the cover of this report and Dr. Elena Borovitskaya was the Technical Editor.

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