**MicroElectronics**

DARPA, Air-Coupled Acoustic Microsensors Workshop held on August 24 and 25, 1999 in Crystal City, VA., The original document contains color images.
From Biology to Silicon: Ear

Biological

FEM Model

Circuit Simulation

VLSI Realization

Hardware Test

Allyn Hubbard
From Biology to Silicon: Eye

Spatial filtering chip

Spatial filter response

Allyn Hubbard
From Biology to Silicon: Eye

Spatial filtering chip

Spatial filter response

Allyn Hubbard
High-bandwidth Asynchronous Integrated Intermodule Pixel-to-Pixel Communication

- Analog/Digital design
- Low Power Standby
- Communicates “as needed”
- 6 MHz Maximum throughput

Array of Pulsatile Neurons

Allyn Hubbard
Chemistry on Silicon

Wafer-scale Chemical Analysis

Microelectrophoresis

Silicon micro-well with micro-servicing apparatus

Microchip with two separate electrophoresing pathways plus sensor electronics

Allyn Hubbard