

NCCAUS PEUG Meeting
Topic: MEMS Applications and Processing
Date: February 26, 2009

Co-Chairs: Lucia Feng, lmfeng@earthlink.net
Dan Flamm, dlf@mtag.com

Agenda

“Consumer MEMS Shine Forth Amid the Gloom”,
Jordan Selburn, iSuppli, jselburn@isuppli.com

Abstract

After an overview of the MEMS market and industry, iSuppli will present more focus on the fastest growing segment of MEMS i.e. consumer electronics and mobile phones. iSuppli expects this segment to grow an annual rate of 19% in the next 4 years, from \$1 B in 2006 to \$2.5 B in 2012.

“Silicon Carbide (SiC) Sensor Technology for Harsh Environment Applications”,
Dr. Debbie G. Senesky, UC Berkeley, dsenesky@eecs.berkeley.edu

Abstract:

Silicon carbide (SiC) is a chemically inert and mechanically robust semiconductor material that has been utilized to develop sensors for operation in extremely harsh environments. Demonstration of SiC strain sensor operation at 600 C in a dry steam environment and upon exposure to shocks of 64,000 g has been realized by researchers at UC Berkeley.

In addition, a thin film deposition technology and a technique for vacuum encapsulating SiC sensors have been developed. These compelling demonstrations support the further development of SiC sensors (temperature, pressure, acceleration and strain) for a variety of extreme harsh environment applications. These robust sensors when integrated with control circuits and radio circuits can be used to for the real-time monitoring of automotive engines, aircraft engines, gas turbines and oil wells.

"DRIE Technology For MEMS",
Steve Selbrede, TEGAL, sselbrede@tegal.com

Issues in Deep Reactive Ion Etching of silicon for MEMS applications will be discussed. Scallop control, silicon etch rate, wall angle deviation, thermal dissipation, notching control, Aspect Ratio Dependent Etching and process stability are reviewed.

“From Lab to Fab, preparing innovative technology for commercialization”,
Jon S. Owyang, SVTC Technology, jon.owyang@svtc.com

Abstract:

Understanding of the key considerations from taking novel technologies from concept and feasibility to high volume manufacturing. This talk will help describe how SVTC helps customers bridge the gap between engineering hand crafted prototyping on lab tools to commercialization on industrial standard manufacturing equipment.