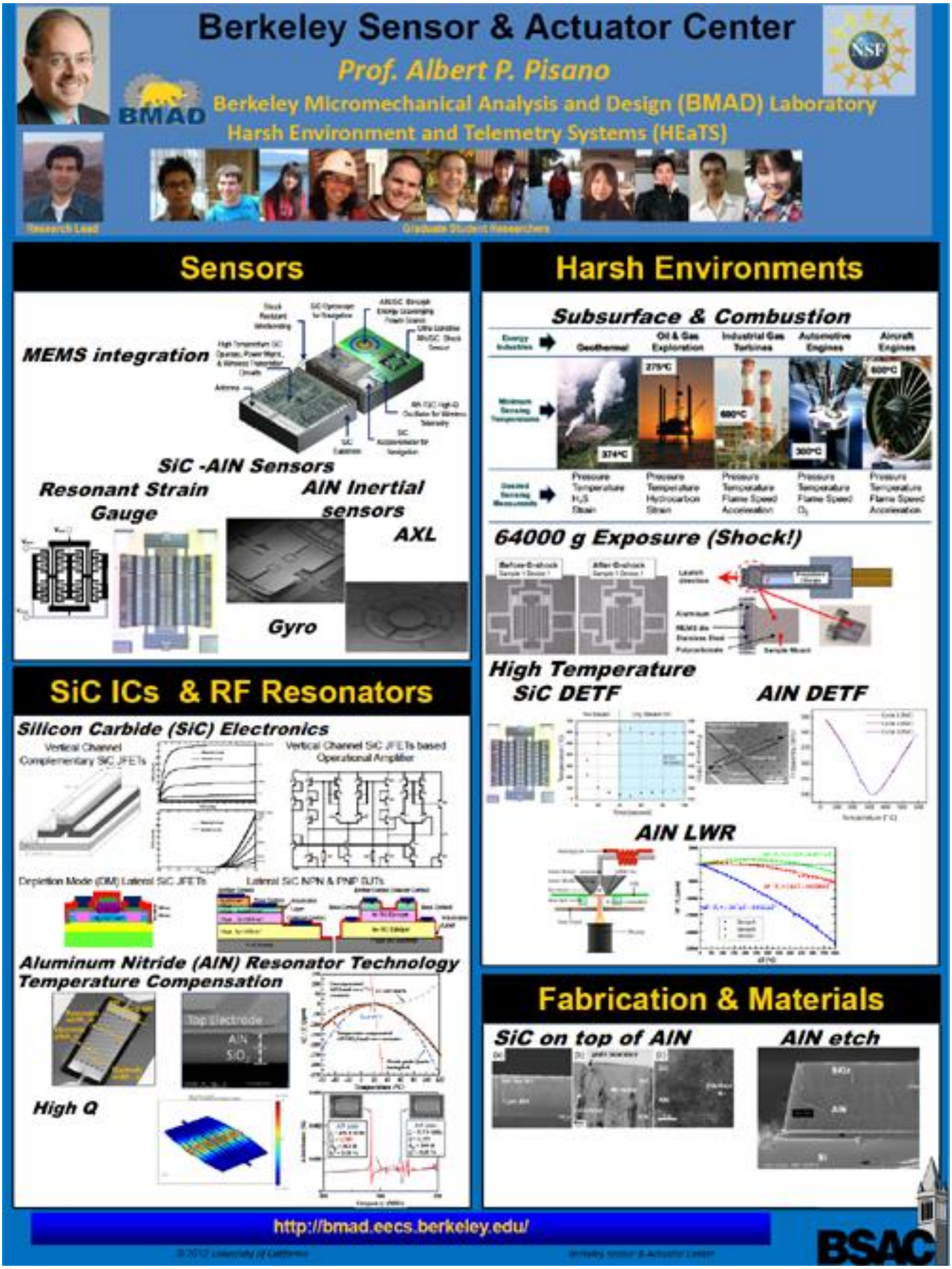
Poster 18

Berkeley Sensor & Actuator Center (BSAC)



Berkeley Sensor & Actuator Center

Prof. Albert P. Pisano

Berkeley Micromechanical Analysis and Design (BMAD) Laboratory
Harsh Environment and Telemetry Systems (HEaTS)

Research Lead

Graduate Student Researchers

Sensors

MEMS integration

SiC -AlN Sensors

Resonant Strain Gauge

AlN Inertial sensors

AXL

Gyro

Harsh Environments

Subsurface & Combustion

Energy Industries	Geothermal	Oil & Gas Exploration	Industrial Gas Turbines	Automotive Engines	Aircraft Engines
Minimum Sensing Temperatures	374°C	275°C	600°C	300°C	600°C
Desired Sensing Measurands	Pressure Temperature H_2S Strain	Pressure Temperature Hydrocarbon Strain	Pressure Temperature Flame Speed Acceleration	Pressure Temperature Flame Speed O_2	Pressure Temperature Flame Speed Acceleration

64000 g Exposure (Shock!)

High Temperature SiC DETF

AlN DETF

AlN LWR

SiC ICs & RF Resonators

Silicon Carbide (SiC) Electronics

Aluminum Nitride (AlN) Resonator Technology

Temperature Compensation

High Q

Fabrication & Materials

SiC on top of AlN

AlN etch

http://bmad.eecs.berkeley.edu/