



Tools for the NanoWorld

PICO CAL INC. Announces completion of NSF funded research with a number of new products, patents, publications of innovative devices for topographical imaging, thermomechanical analysis, the study of local mechanical properties and high throughput applications.

Ann Arbor, Michigan--(July 1, 2011) – Angelo Gaitas, President of PicoCal Inc., announces the completion of PicoCal’s SBIR Phase II NSF grant Award No. 0822810, which resulted in a number of breakthrough innovations in high throughput scanning probe microscopy, thermomechanical analysis, and mechanical properties analysis. Angelo Gaitas said that: “PicoCal Inc. continues to innovate and grow. Our new patented technologies eliminate the need for complicated electronics, and therefore reduce overall system costs and make parallel probes a reality. Right now we are in discussions with larger instrumentation companies to bring our recent breakthroughs to market.”

Through this work the company has developed micromachined probes that include two embedded sensors on each probe: one for measuring the mechanical movement of the probe (deflection) and another for providing localized heating and measuring heat related parameters. These new devices were used for topographical imaging and thermomechanical analysis to characterize materials and determine transition temperatures. They were also used for the study of local mechanical properties such as adhesion and elasticity and for high throughput applications such as large area topographical mapping.

The new probes reduce costs and complexity and allow for portability. They eliminate the need for expensive instruments such as an atomic force microscope since all of the sensing capability has been embedded in the miniature probe. This feature has allowed the company to develop probe arrays for higher throughput applications.

PicoCal’s work has resulted in a number of product innovations, scientific peer reviewed publications, and patents. These include recent publications in [Sensors and Actuators A: Physical 2011](#), [Review of Scientific Instruments 2011](#), and an up and coming presentation at the Eurosensors 2011 conference.

Company Background:

PicoCal Inc. is a leader in microcantilever technologies for industrial, medical devices, microfluidic and scientific analytical sensing applications. Founded in 2004, [PicoCal Inc.](#) leverages the many years of experience of its founders and associates in microfabrication, microscopy, and engineering. Please email us: info@picocal.com

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