

Active Optical NanoProbe

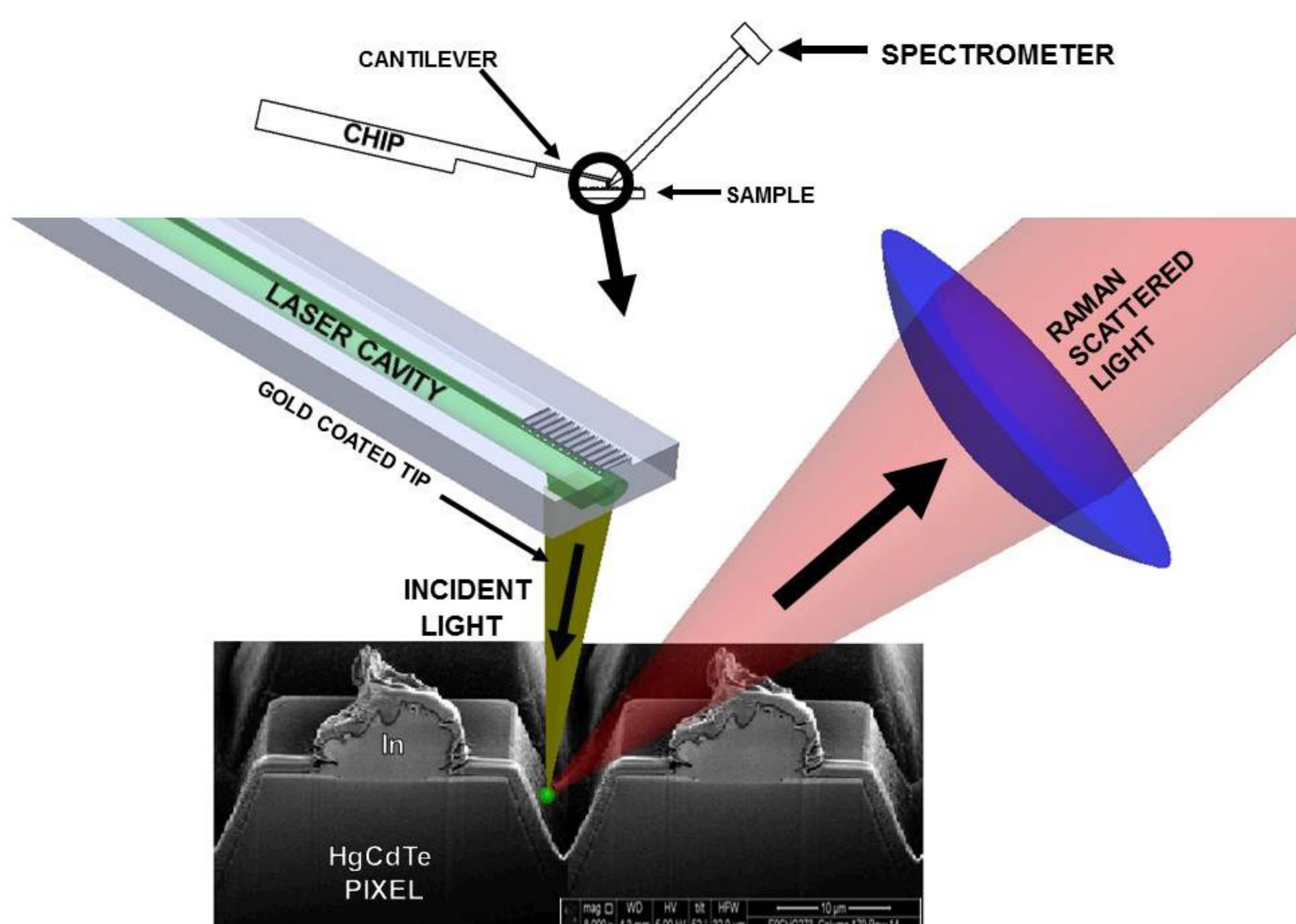
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TECHNOLOGY DESCRIPTION

Actoprobe LLC will develop and commercialize a novel class of probes for atomic force microscopy ("AFM Active optical probe" - AAOP) that will enhance characterization capabilities at the nanoscale.

These unique optical probes will perform the functions of conventional AFM probes and, in addition, will simultaneously provide information about optical and spectroscopic properties of the specimen at the nanoscale.



This innovation is accomplished by integrating a laser light source and a photo detector monolithically into the AFM probe.

The cost advantage compared to existing instruments on the market would be 10-100 times.

The AAOP is also significantly easier to use and will not require the special training in optics or probe microscopy that is needed to use in existing technology.

The low cost and simplicity in use of these probes will open important new opportunities for the application of near-field optical microscopy for research and engineering in academy and industry.

POTENTIAL MARKETS AND APPLICATIONS

Scientific Research and Nanotechnology

The total market for AFM probes for scientific research is about \$400 million, of which up to **20% (80 million)** is addressable with an average AAOP consumption of 100 probes per unit a year.

Night Vision Industry

The night vision industry has averaged ~\$5 billion in sales from 2007-2011, with focal plane arrays (FPA) a critical component in many of the military and civilian applications for advanced night vision systems. Our proposed product will be useful in both cooled and uncooled FPA systems (**\$1.5B projected market by 2017**).

COMMERCIALIZATION READINESS

This technology will be ready for commercialization in 2014

INTELLECTUAL PROPERTY

Actoprobe LLC filed a US provisional patent in December 2012 and will file utility patent in 2013

FOR MORE INFORMATION

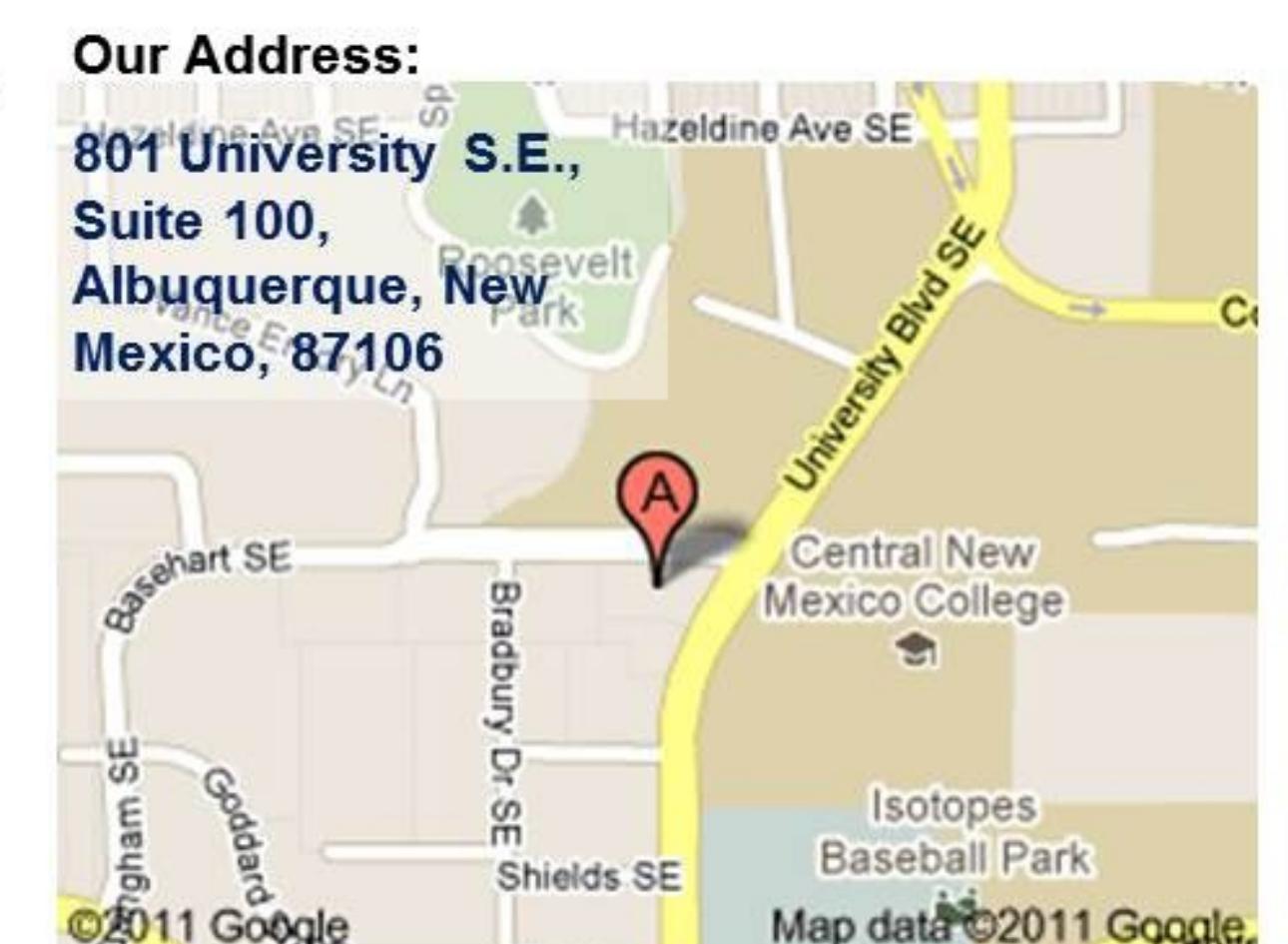
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ACTOPROBE LLC is a start-up company developing and selling custom optical spectroscopy/microscopy instruments for conventional Atomic Force Microscopy (AFM).

ACTOPROBE LLC was founded in March, 2009.

The company is privately owned by Dr. Alexander A. Ukhanov, who worked for 20 years in the field of optoelectronics and microscopy.



We are looking forward to discuss how we can help you!