Press release

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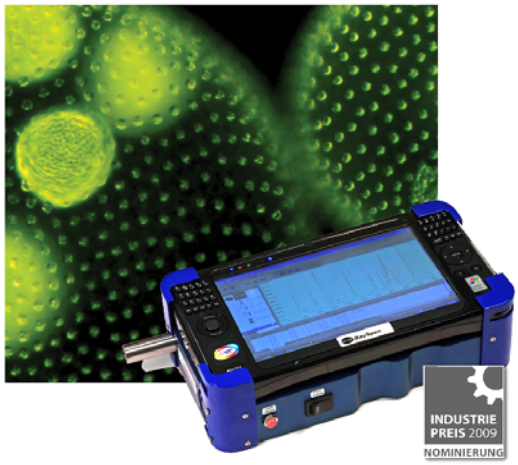
Unique 1064 nm Raman Spectrometer resolves fluorescence issues seen at lower wavelengths

Raman-specific Spectrometer for Algae Biofuels Measurement

Wessling, 15 July 2009 **BaySpec, Inc., a leader in affordable spectral engines for bio-chemical identification, today announced it has shipped a Raman-specific 1064nm spectrometer designed for measuring micro-Algae, a promising future source of renewable biomass oilcrop biofuels.**



Unique 1064nm Raman Spectrometer resolves fluorescence issues seen at lower wavelengths : While algal oil is similar to other vegetable oils in terms of fatty acid composition, the oil productivity of microalgae, on an annual per-acre basis, could potentially provide 100 times greater yield than soy and 10 times greater yield than oil palm. Utilizing BaySpec's unique Nunavut 1064nm designed system, researchers were able to overcome issued with fluorescence seen at lower wavelengths.

Microalgae producing oils can be converted into biodiesel, thus promising a viable fuel to help solve the global energy crisis. However, despite the recent booming of research on microalgae, until now research has not benefited from modern high-throughput, high-resolution, real-time, and in vivo biophysical techniques.

Traditionally, these microalgae were treated in bulk, lyophilized or in extracted forms, making it impossible to assess the information on fundamental biological processes in the single-cell or sub-cellular level. Utilizing BaySpec's 1064nm Raman spectrometer, in situ, in vivo and label-free Raman characterizations of modeled algal lipids are made, extracted algal oil, and most importantly, single living algae. Studies have demonstrated a label-free and direct method to obtain quantitative information of chain length and degree of unsaturation of the oil produced inside algae. It also connects with the important issues of the cloud point and the quality of algal biodiesel. Single-cell, real-time, and in vivo study of algae, with various lipid-triggering mechanisms, enables the possibility of researching and engineering of the best conditions and the best species for algal growth and oil production.

BaySpec's Nunavut™ series NIR long wave Raman spectral engines are designed to meet real-world challenges for best-in-class performance, long-term reliability, compact size and ultra-low fluorescence interference for Raman instrumentation of biological, tissue and skin samples.

Benefiting from experience manufacturing high-volume spectral monitoring devices for the telecommunications industry, BaySpec's NIR spectral devices utilize low-cost field proven components. For the first time in instrumentation history an affordable, accurate and ruggedized Raman spectral device is a reality.

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About BaySpec, Inc.

BaySpec, Inc., founded in 1999 with 100% manufacturing in the USA (Fremont, CA), is a vertically integrated spectral sensing company. The company designs, manufactures and markets advanced fiber-optic components, modules and subsystems for the homeland defense, pharmaceuticals, biomedical, test & measurement, fiber sensing, NIR spectroscopy, and optical telecom industries. For more information visit www.bayspec.com.

About Laser 2000:
Since 1986 Laser 2000 GmbH is a supplier of high technology in the field of lasers, micromachining equipment, optics, and fiber optic equipment. Our products are designed to meet the challenges of both research and industrial production as well as your actual or future requirements of your applications.

Laser 2000 is headquartered in Munich, Germany and operates local offices in all major business areas of the European market. In order to support your application we deliver top-level service and products and meet the highest standard of quality. With an installed base of thousands of applications around the world, Laser 2000 has shown the ability to provide onsite-support in time.

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