Customer-Based Development

Project Outline.

EXECUTIVE SUMMARY

Surface Enhanced Raman Spectroscopy (SERS) is an analytical technique which can be used to detect and identify chemical and biological material down to the parts-per-billion level. Mesophotonics are offering customers the opportunity to enter into a fee-for-service based development project. The primary goals of these projects are to investigate the feasibility of using SERS to analyse and identify important molecules and to use our resource and expertise to rapidly develop and optimise methodology for transfer to customers. The outcome is the development of an optimised SERS assay with a vastly reduced implementation time at the customer site. Mesophotonics are offering a complete solution which includes consultancy on the feasibility and planning of projects and access to cutting edge R&D technology and personnel.

APPLICATION AREAS

We are currently working with a number of companies and institutions on projects designed to develop and optimise SERS analysis in the following areas:

- Homeland Security and Defence
- Biomedical Assays
- Drugs of Abuse testing
- Pharmaceutical Small Molecule analysis
- Pathogen detection

We are also applying SERS outside these application areas; please call us to discuss your needs on the contact number overleaf.

MESOPHOTONICS TECHNOLOGY; KLARITE SERS SUBSTRATES AND SE1000 RAMAN SPECTROMETER

Mesophotonics' intellectual property centres around unique, reproducible SERS substrates which are the only commercial, stable, off-the-shelf product for this type of analysis. Klarite represents the market leading, gold-standard SERS substrate consumable which is used in over 150 laboratories worldwide. Mesophotonics can also draw on experience to re-design the architecture of the Klarite surface for the purpose of application-specific optimisation.

The SE1000 Raman Spectrometer is the perfect development tool for SERS method optimisation using Klarite and was developed in response to customer requests for a simple, easy-to-operate analysis platform for non-specialist operators without any loss in SERS measurement performance. In addition to advances in hardware and an automated stage, we have developed unique instrument control software for automated scanning of the subtstrate and included a camera to capture images of the sample deposited on the Klarite. Additionally, a software package is included to facilitate data analysis of the spectra. Methods created and optimised as part of the development project can be directly transferred to an SE1000 in the customer laboratory.

Surface Enhanced Raman Spectroscopy

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mesophotonics

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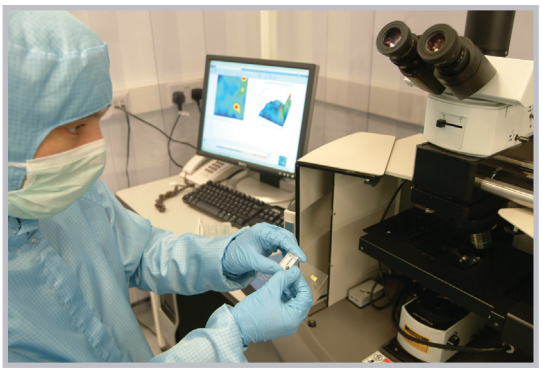
FACILITIES

Mesophotonics is based in a 2500-ft^2, state-of-the-art laboratory which includes clean room facilities for Klarite production, a laser-safe engineering suite for production of the SE1000 Raman Spectrometer, two application laboratories and a high-resolution Raman microscope system, for analysing and mapping the Klarite surface. All these resources are available to draw upon for customer-centric Development Projects.



PROJECTS

Examples of Development Projects currently on-going at Mesophotonics include:

- Optimisation of the architecture of SERS substrate to improve detection limits
- Biochemical improvement of protein and peptide deposition onto Klarite surface to enhance SERS spectra
- Novel physical deposition techniques of material onto Klarite to optimise analysis
- Specific capture surface development to provide an in-situ separation step prior to the SERS analysis
- Pharmaceutical Protein and Small Molecule analysis
- Novel formats to make Klarite substrates compatible with analytical instrumentation

MESOPHOTONICS' EDGE

- Fast moving, cutting-edge technology firm
- High output, with a track record of delivering projects on-time
- Consultancy on project development
- 10+ years of experience in photonic crystal design and manufacture for SERS analysis
- Access to the R&D group of Mesophotonics

CONTACT

To find out how a Development Project with Mesophotonics could reduce your implementation time and enhance your productivity contact;

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