

# NEWSLETTER

LPD Lab Services

TEL: +44 (0)1254 676 074

One-Stop Shop for Industrial Process Problem Solving, Consulting and Routine Analysis

**Welcome** to our second newsletter, we intend sending this infrequently as a means of keeping our customers up to date with some of our capabilities, services and news at LPD Lab Services.

## How Technically Sound is Your Process? Site Sanity Audits

Often at the start of, or during the laboratory's response to a customer's problem it proves prudent to visit the customers' site and perform a "process sanity audit". Lots of customers have technically complex processes where even the finest of details may be critical in causing the problem. Cuts to technical departments over the last few decades can mean the customer is incapable of providing all the internal support required. A "Site Sanity Audit" does not audit against a quality system; instead a highly experienced member of our staff will visit our customers' site to witness the manufacturing process, giving practical advice on where problems or complex interactions can occur. Advice can also be given as to what stage in the process spot samples can be taken for further laboratory analysis, as the choice of samples are critical in cost effective problem solving.

## Particle Characterisation, Contamination Elimination and Particle Counting for the Pharmaceutical Industry

As part of the drug validation process, regulatory bodies (e.g. FDA) require understanding of the chemical and physical characteristics of drug particles and any potential process contaminants.

In Respiration products particles, especially those indistinguishable by transmitted light optical microscopy can be characterised by electron microscopy. Our laboratory can enable optical microscopy laboratory service providers to more accurately discriminate between true drugs, filler particles and contaminants in their day to day activities. The SEM / EDX coupled with sophisticated image processing capabilities can automatically perform analysis on 2µm sized particles, however the ultimate resolution of the SEM is 2nm. All the particles in multiple fields can be automatically characterised according to the following parameters:

- ★ Chemical Composition (EDX)
- ★ Dimensional Characteristics

The strength of this analysis technique is its ability to gather statistically significant data on the size, morphology and composition of the particles in a time efficient manner. Pareto plots can be employed to focus the customer on the most frequently encountered particles in order to eliminate the key contaminants.

These techniques have also been successfully applied to other industrial sectors including automotive, medical devices and semiconductor industries.

## Research and Development

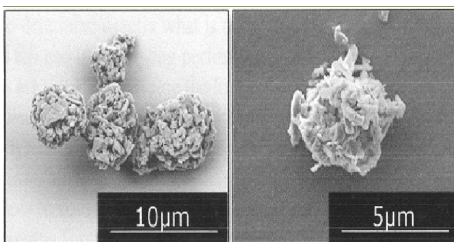
As well as providing a 'one-stop-shop' for reactionary [problem solving](#), [LPD Lab Services](#) is now offering our customers support and advice in product and process Research and Development, as well as industrialisation projects.

The addition of Tim Lee, coupled with the sound advice based on our specialist team's [technical skills](#), strengthens the technical project management and industrialisation capabilities to help the timely delivery of larger more organisationally complex activities.



## New member of staff joins the team

Tim Lee joined the laboratory team in March this year and you may have already had contact with him. Tim is working alongside Steve Jenkins and Mike Ellicott on the technical customer facing side of the business. Tim brings a great deal of additional experience in engineering, product and process development, industrialisation & ramp up, project management and Six Sigma techniques, having worked in Quality Product and Process Development and Manufacturing support roles. We believe he is a strong compliment to the existing team.



## Corrosion, Degradation and Oxidation

Materials can be attacked by the environment shortening their functional life without the correct protection. Often the consequential cost of corrosion and degradation are much higher than the component itself. Types of attack vary from aqueous corrosion to de-lamination and degradation of polymers.

At LPD we have extensive expertise in solving these problems from a wide range of industrial sectors. As the range of samples can vary, LPD typically adopts a multi-technique approach to solving your problems; usually SEM/EDX coupled with optical



microscopy and a combination of surface analytical techniques. XPS/ESCA and SIMS are used to analyse the failure mechanism and identify the source of the problem. When the source has been identified the laboratory can make practical recommendations on how best to avoid or solve the problem in the future.

## Website Update

For more information on any of the subjects mentioned in this newsletter, please visit our website or feel free to call us on:

**TEL:** +44(0) 1254 676 074

**WEB:** [www.lpdlabservices.co.uk](http://www.lpdlabservices.co.uk)