January 2016

## Webinar reveals how the Renishaw inVia Raman microscope can be used to study redox biology research

Resonance Raman spectroscopy is the ideal tool for redox biology research. A webinar is now available which demonstrates some of the benefits of using this technique.

In this two-part webinar, viewers will learn why Resonance Raman spectroscopy, using the inVia Raman microscope, is the ideal tool for redox biology and also how Raman spectroscopy is beneficial for myoglobin stem cell priming.

When used to research redox biology, Resonance Raman is a powerful technique. It demonstrates high sensitivity to haem proteins and also elucidates their oxidation and oxygenation states. It can be applied, *in situ*, to haem proteins in solution, organelles, cells and tissues*.*

In the webinar, Dr Katherine Lau, Applications Scientist at Renishaw plc, and Dr James Armstrong, from the University of Bristol (now at Imperial College), explain how Resonance Raman imaging provides both chemical and spatial information, enabling correlations to be made between haem protein distribution, oxidation state, and protein/cell function.

Dr Armstrong discusses his myoglobin stem cell priming study, which was recently published in [Nature Communications](http://www.nature.com/ncomms/2015/150617/ncomms8405/full/ncomms8405.html#close). In his study, human mesenchymal stem cells were primed with myoglobin, which resulted in improved biochemistry and matrix distribution of cartilage grown using these stem cells. Resonance Raman imaging provided useful insights into these improvements.

To view the webinar, [please register your details here](http://www.renishaw.com/en/36628.aspx).

-Ends-

**About Renishaw**

Renishaw is one of the world's leading engineering and scientific technology companies, with expertise in precision measurement and healthcare. The company supplies products and services used in applications as diverse as jet engine and wind turbine manufacture, through to dentistry and brain surgery. It is also a world leader in the field of additive manufacturing (also referred to as 3D printing), where it is the only UK business that designs and makes industrial machines which ‘print' parts from metal powder.

The Renishaw Group currently has more than 70 offices in 33 countries, with over 4,000 employees, of which 2,700 people are employed within the UK. The majority of the company's R&D and manufacturing is carried out in the UK and for the year ended June 2015 Renishaw achieved sales of £494.7 million of which 95% was due to exports. The company's largest markets are the USA, China, South Korea, Germany and Japan.

The Company's success has been recognised with numerous international awards, including eighteen Queen's Awards recognising achievements in technology, export and innovation. Renishaw received a Queen’s Award for Enterprise 2014, in the Innovations category, for the continuous development of the inVia confocal Raman microscope. For more information visit [www.renishaw.com](http://www.renishaw.com)

### For further information

Please contact:

|  |  |
| --- | --- |
| David Reece Renishaw plc New Mills Wotton-under-Edge Gloucestershire GL12 8JR UK Tel: +44 1453 523968 (direct) Tel: +44 1453 524524 (switchboard) Fax: +44 1453 523901 Email: [david.reece@renishaw.com](mailto:ian.hayward@renishaw.com) [www.renishaw.com/raman](http://www.renishaw.com/raman) |  |