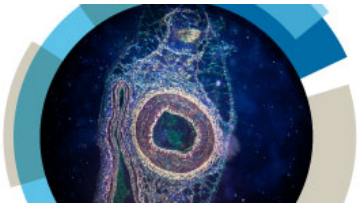
Advanced Vibrational Spectroscopy for Biomedical Applications
Faraday Discussion



21-23 March 2016
Cambridge, UK

Monday 21 March

11:00	Registration, Tea and Coffee	
12:00	Lunch	
12:45	**Welcome and Introductions** Peter Gardner, *Chair of Scientific Committee*	
12:55	**Outline of Discussion Format** Laura Fisher and Jane Meharry *Royal Society of Chemistry Publishing Editors*	
13:00	**Introductory Lecture** Max Diem *Northeastern University*	
	Session 1: Spectral Pathology Session Chair: Peter Gardner and Matthew J. Baker	
14:00	**Development of a practical spatial-spectral analysis protocol for breast histopathology using Fourier transform infrared spectroscopic imaging** F. Nell Pounder, Rohith K. Reddy, Rohit Bhargava *University of Illinois at Urbana-Champaign*	**Paper 9158**
14:05	**FTIR spectroscopic imaging and mapping with correcting lenses for studies of biological cells and tissues** James A. Kimber, Liberty Foreman, Benjamin Turner, Peter Rich and Sergei G. Kazarian *Imperial College London*	**Paper 9323**
14:10	**Multi-Centre Raman Spectral Mapping of Oesophageal Cancer Tissues: a study to assess system transferability** M. Isabelle, J. Dorney, A. Lewis, G. R. Lloyd, O. Old, N. Shepherd, M. Rodriguez-Justo, H. Barr, K. Lau, I. Bell, S. Ohrel, G. Thomas, N. Stone and C. Kendall *Biophotonics Research Group, Gloucestershire Hospitals NHS Foundation Trust*	**Paper 9384**
14:15	Discussion	
15:30	Afternoon tea	
16:00	**Label-free classification of colon cancer grading using infrared spectral histopathology** C. Kuepper, F. Großerueschkamp, A. Kallenbach-Thieltges, A. Mosig, A. Tannapfel and K. Gerwert *Ruhr-Universität Bochum*	**Paper 9159**
16:05	**Advancements in quantum cascade laser-based infrared microscopy of aqueous media** K. Haase, N. Kr¨oger-Lui, A. Pucci, A. Sch¨onhals and W. Petrich *Kirchhoff Institute for Physics*	**Paper 9451**
16:10	**High throughput Quantum Cascade Laser (QCL) spectral histopathology : a practical approach towards clinical translation** Michael J. Pilling, Alex Henderson, Benjamin Bird, Mick D. Brown, Noel W. Clarke, Peter Gardner *University of Manchester*	**Paper 9641**
16:15	Discussion	
17:30	Lightning presentations (by invitation of the scientific committee)	

18:00	Poster Session and Wine Reception

Tuesday 22 March

	Session 2: Single cell analysis/data handling Session Chair: Sergei G. Kazarian and Hugh J. Byrne	
09:00	**Raman spectroscopy for cytopathology of exfoliated cervical cells** I. R. Ramos, A. D. Meade, O. Ibrahim, H. J. Byrne, M. McMenamin, M. McKenna A. Malkin and F. M. Lyng *Dublin Institute of Technology*	**Paper 9160**
09:05	**Towards quantitative molecular mapping of cells by Raman microscopy: using AFM for decoupling molecular concentration and cell topography** Radu Boitor, Faris Sinjab, Stephanie Strohbuecker, Virginie Sottile and Ioan Notingher *University of Nottingham*	**Paper 9276**
09:10	**Vibrational spectroscopy in sensing radiobiological effects: analyses of targeted and non-targeted effects in human keratinocytes** Aidan D. Meade, Orla Howe, Val´erie Unterreiner, Ganesh D. Sockalingum, Hugh J. Byrne and Fiona M. Lyng *Dublin Institute of Technology*	**Paper 9404**
09:15	Discussion	
10:30	Morning Tea	
11:00	**Mie scatter corrections in single cell infrared microspectroscopy** Tatiana Konevskikh, Rozalia Lukacs, Reinhold Blümel, Arkadi Ponossov, Achim Kohler *Norwegian University of Life Sciences*	**Paper 9161**
11:05	**Infrared imaging of small molecules in living cells: from in vitro metabolic analysis to cytopathology** Luca Quaroni, Theodora Zlateva, Katia Wehbe and Gianfelice Cinque *Institute of Nuclear Physics of the Polish Academy of Sciences*	**Paper 9326**
11:10	**Chemotherapeutic Response to Cisplatin-like Drugs in Human Breast Cancer Cells Probed by Vibrational Microspectroscopy** A. L. M. Batista de Carvalho, M. Pilling, P. Gardner, J. Doherty, G. Cinque, K. Wehbe, C. Kelley, L. A. E. Batista de Carvalho and M. P. M. Marques *University of Coimbra*	**Paper 9298**
11:15	Discussion	
12:30	Lunch	
	Session 3: Clinical Spectroscopy Session Chair: Josep Sulé-Suso and Nick Stone	
13:30	**Non-invasive chemically specific measurement of subsurface temperature in biological tissues using surface-enhanced spatially offset Raman spectroscopy** Pavel Matousek, Benjamin Gardner, Nicholas Stone *Rutherford Appleton Laboratory*	**Paper 9162**
13:35	**High resolution FTIR imaging provides automated discrimination and detection of single malaria parasite infected erythrocytes on glass** David Perez-Guaita, Dean Andrew, Philip Heraud, James Beeson, David Anderson, Jack Richards and Bayden R. Wood *Monash University*	**Paper 9273**
13:40	**Rapid characterisation of Klebsiella oxytoca isolates from contaminated liquid hand soap using mass spectrometry, FTIR**	**Paper 9395**

	and Raman spectroscopy Ralf Dieckmann, Jens Andre Hammerl, Hartmut Hahmann, Amal Wicke, Sylvia Kleta, Piotr Wojciech Dabrowski, Andreas Nitsche, Maren St¨ammler, Sascha Al Dahouk and Peter Lasch *Robert Koch-Institute*	
13:45	Discussion	
15:00	Afternoon Tea	
15:30	**Fiber-optic Raman spectroscopy for in vivo diagnosis of gastric dysplasia** Jianfeng Wang, Kan Lin, Wei Zheng, Khek Yu Ho, Ming Teh, Khay Guan Yeoh and Zhiwei Huang *National University of Singapore*	**Paper 9163**
15:35	**Investigation of intervertebral disc degeneration using multivariate FTIR spectroscopic imaging** Kerstin T. Mader, Mirte Peeters, Suzanne E. Detiger, Marco N. Helder, Theo H. Smit, Christine L. Le Maitre and Chris Sammon *Sheffield Hallam University, Materials and Engineering Research Institute*	**Paper 9378**
15:40	**Assessing corneal biomechanics with Brillouin spectromicroscopy** Guillaume Lepert, Ricardo M. Gouveia, Che J. Connon and Carl Paterson *Imperial College London*	**Paper 9364**
15:45	Discussion	
17:00	Close of sessions	
18:30	Pre-Dinner Drinks	
19:00	Conference Dinner	

Wednesday 23 March

	Session 4: Biofluids and other techniques Session Chair: Royston Goodacre and Gianfelice Cinque	
09:00	**From Synthetic DNA to PCR product: Detection of Fungal Infections using SERS** Samuel Mabbott, David Thompson, Narayana Sirimuthu, Graeme McNay, Karen Faulds and Duncan Graham *University of Strathclyde*	**Paper 9165**
09:05	**Sheath flow SERS for chemical profiling in urine** Colleen M. Riordan, Kevin T. Jacobs, Pierre Negri and Zachary D. Schultz *University of Notre Dame, USA*	**Paper 9243**
09:10	**Toward SERS-based point-of-care approaches for therapeutic drug monitoring: the case of methotrexate** Stefano Fornasaro , Silvia Dalla Marta , Marco Rabusin , Alois Bonifacio and Valter Sergo *University of Trieste*	**Paper 9450**
09:15	**SERS as a tool for *in vitro* toxicology** Kate M. Fisher, Jennifer A. McLeish, Lauren E. Jamieson, Jing Jiang, James Hopgood, Stephen McLaughlin, Ken Donaldson, Colin J. Campbell *University of Edinburgh*	**Paper 10688**
09:20	Discussion	
11:00	Morning Tea	

11:30	**Biofluid infrared spectro-diagnostics: pre-analytical considerations for clinical applications** L. Lovergne, P. Bouzy, V. Untereiner, R. Garnotel, M. J. Baker, G. Thiéfin and G. D. Sockalingum *University of Reims Champagne-Ardenne*	**Paper 9164**
11:35	**New IR imaging modalities for cancer detection and for intra-cell chemical mapping with a sub-diffraction mid-IR s-SNOM** H. Amrania, L. Drummond, R. C. Coombes, S. Shousha, L. Woodley, K. Weir, W. Hart, I. Cartera and C. C. Phillips *Imperial College London*	**Paper 9166**
11:40	**High spatial resolution (1.1 μm and 10 nm) FTIR polarization contrast imaging reveals pre-rupture disorder in damaged tendon** Richard Wiens, Catherine R. Findlay, Samuel G. Baldwin, Laurent Kreplak, J. Michael Lee, Samuel P. Veres, Kathleen M. Gough *University of Manitoba*	**Paper 10657**
11:45	Discussion	
13:00	**Concluding Remarks Lecture** Wolfgang Petrich *Roche Diagnostics and Heidelberg University*	
13:40	**Acknowledgements**	
13:45	**Close of meeting and Lunch**	

Presenting authors are indicated in the programme by an underline. The affiliation is for the presenting author. If the presenting author of your paper has changed since abstract selection please email events@rsc.org. Please note that this is a draft programme and timings may change.