Dr. Alison Nordon

Dr. Alison Nordon
Department of Pure
and Applied Chemistry
University of Strathclyde
295 Cathedral Street
Glasgow G1 1XL
alison.nordon@strath.ac.uk

Alison Nordon obtained a BSc (Hons) in Chemistry and a PhD in solid-state NMR spectroscopy from the University of Durham in 1994 and 1998, respectively. She then moved to the University of Strathclyde where she held research fellow and senior research fellow posts with the Centre for Process Analytics and Control Technology (CPACT). In 2004, she was awarded a Royal Society University Research Fellowship, which she held in the Department of Pure and Applied Chemistry at the University of Strathclyde, to work on developments in passive and active acoustics for process monitoring and control. She was appointed to a lectureship at Strathclyde in 2006, and was promoted to senior lecturer in 2011.

Research Interests

My main research interests concern the development of spectroscopic techniques in conjunction with data analysis tools to obtain physical and/or chemical information in situ and in real-time. I employ a wide range of spectroscopic methods in my research including acoustic techniques (active and passive), optical (uv-visible, mid and near infrared and Raman) and nuclear magnetic resonance. My research involves fundamental investigations to enhance the understanding of techniques through to application of the techniques in a wide range of industries at all scales from product discovery up to full-scale manufacturing. Multivariate procedures are used extensively throughout my research to extract information from typically low resolution and overlapping signals and to explore fusion of data from different sources.

Representative Publications

'Automated cosmic spike filter optimized for process Raman spectroscopy', S. Mozharov, A. Nordon, D. Littlejohn and B. Marquardt, Appl. Spectrosc., 2012, 66, 1326-1333.

'Effect of particle properties of powders on the generation and transmission of Raman scattering', N. Townshend, A. Nordon, D. Littlejohn, J. Andrews and P. Dallin, Anal. Chem., 2012, 84, 4665-4670.

'Maintaining the predictive abilities of multivariate calibration models by spectral space transformation', W. Du, Z.-P. Chen, L.-J. Zhong, S.-X. Wang, R.-Q. Yu, A. Nordon, D. Littlejohn and M. Holden, Anal. Chim. Acta, 2011, 690, 64-70.

'Systematic prediction error correction: A novel strategy for maintaining the predictive abilities of multivariate calibration models', Z.-P. Chen, L.-M. Li, R.-Q. Yu, D. Littlejohn, A. Nordon, J. Morris, A. S. Dann, P. A. Jeffkins, M. D. Richardson and S. L. Stimpson, Analyst, 2011, 136, 98-106.

'Calibration of Multiplexed Fiber-Optic Spectroscopy', Z.-P. Chen, L.-J. Zhong, A. Nordon, D. Littlejohn, M. Holden, M. Fazenda, L. Harvey, B. McNeil, J. Faulkner and J. Morris, Anal. Chem., 2011, 83, 2655-2659.

'Non-invasive monitoring of the mixing of pharmaceutical powders by broadband acoustic emission',P. Allan, L. J. Bellamy, A. Nordon and D. Littlejohn, Analyst, 2010, 135, 518-524.

'Estimating Particle Concentration Using Passive Ultrasonic Measurement of Impact Vibrations', G. Carson, A. J. Mulholland, A. Nordon, M. Tramontana, A. Gachagan and G. Hayward, Ieee Transactions on Ultrasonics Ferroelectrics and Frequency Control, 2009, 56, 345-352.

'Multivariate kinetic hard-modelling of spectroscopic data: A comparison of the esterification of butanol by acetic anhydride on different scales and with different instruments', G. Puxty, Y.-M. Neuhold, M. Jecklin, M. Ehly, P. Gemperline, A. Nordon, D. Littlejohn, J. K. Basford, M. De Cecco and K. Hungerbuehler, Chemical Engineering Science, 2008, 63, 4800-4809.