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# Prof. David Littlejohn



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**David Littlejohn** is currently Associate Deputy Principal (Research) and from 2005 to 2010 he was Head of the Department of Pure and Applied Chemistry. He has been Professor of Analytical Chemistry at the University since 1988, was elected Fellow of the Royal Society of Chemistry in 1991, and became a Fellow of the Royal Society of Edinburgh (FRSE) in 1998. He is a past winner of three Royal

Society of Chemistry (RSC) awards: the SAC Silver Medal, the Theophilus Redwood Lectureship (2001/2) and the Award in Chemical Analysis and Instrumentation (2005). Professor Littlejohn has served on the Membership, Fellowship, and Accreditation Committees of the Royal Society of Edinburgh and the Royal Society of Chemistry in the UK.

Professor Littlejohn is a founder member of the Centre for Process Analytics and Control Technology (CPACT), which is a multi-disciplinary industry-university collaborative research, training and KE centre that has been in operation since 1997 ([www.cpact.com](http://www.cpact.com)).

## Research Interests

Professor Littlejohn has published over 165 papers on various analytical chemistry topics including atomic spectrometry, chromatography, environmental analytical chemistry, conservation science and process analysis. His activities in the development and application of in-line, on-line and non-invasive methods of process monitoring cover a range of techniques and data analysis methods, including NIR, MIR, and Raman spectrometries, acoustic techniques and mass spectrometry. He receives several invitations each year to present his group's research at international conferences, has supervised over 50 PhD students to graduation, and been external examiner at multiple universities in the UK and Europe.

## Representative Publications

Non-invasive analysis in micro-reactors using Raman spectrometry with a specially designed probe  
Sergey Mozharov, Alison Nordon, John M. Girkin\* and David Littlejohn\*, Lab on a Chip, 2010, 10, 2101-2107 (DOI: 10.1039/coan00171f)

Improved method for kinetic studies in micro-reactors using flow manipulation and non invasive Raman spectrometry  
Sergey Mozharov, Alison Nordon\*, David Littlejohn\*, Charlotte Wiles, Paul Watts, Paul Dallin and John M. Girkin, Journal of American Chemical Society, 2011, 133, 3601-3608.

Studies of particle drying using non-invasive Raman spectrometry and particle size analysis  
Peter Hamilton, David Littlejohn\*, Alison Nordon\*, Jan Sefcik, Paul Slavin, Paul Dallin and John Andrews, Analyst, 2011, 136, 2168 – 2174. Doi: 10.1039/coan00893a

Signal dependence on depth in transmission Raman spectroscopy  
Pavel Matousek\*, Neil Everall, David Littlejohn, Alison Nordon and Matthew Bloomfield, Applied Spectroscopy, 2011, 65, 724 – 733. Doi: 10.1366/11-06259

Validity of particle size analysis techniques for measurement of the attrition that occurs during vacuum agitated powder drying of needle-shaped particles  
Peter Hamilton, David Littlejohn\*, Alison Nordon\*, Jan Sefcik, and Paul Slavin, Analyst, 2012, 137, 118 – 125. Doi: 10.1039/c1an15836h

Quantitative analysis of powder mixtures by Raman spectrometry: the influence of particle size and its correction  
Zeng-Ping Chen, Li-Mei Li, Jing-Wen Jin, Alison Nordon, David Littlejohn, Jing Yang, Juan Zhang and Ru-Qin Yu  
Analytical Chemistry, 2012, 84, 4088-4094. Doi: 10.1021/ac300189p

Effect of particle properties of powders on the generation and transmission of Raman scattering  
Nichola Townshend, Alison Nordon, David Littlejohn, John Andrews and Paul Dallin  
Analytical Chemistry, 2012, 84, 4665 – 4670. Doi: 10.1021/ac203446g

Comparison of the determination of a low-concentration active ingredient in pharmaceutical tablets by backscatter and transmission Raman spectrometry  
Nichola Townshend, Alison Nordon, David Littlejohn, Michael Myrick, John Andrews and Paul Dallin  
Analytical Chemistry, 2012, 84, 4671 – 4676. Doi: 10.1021/ac203447k