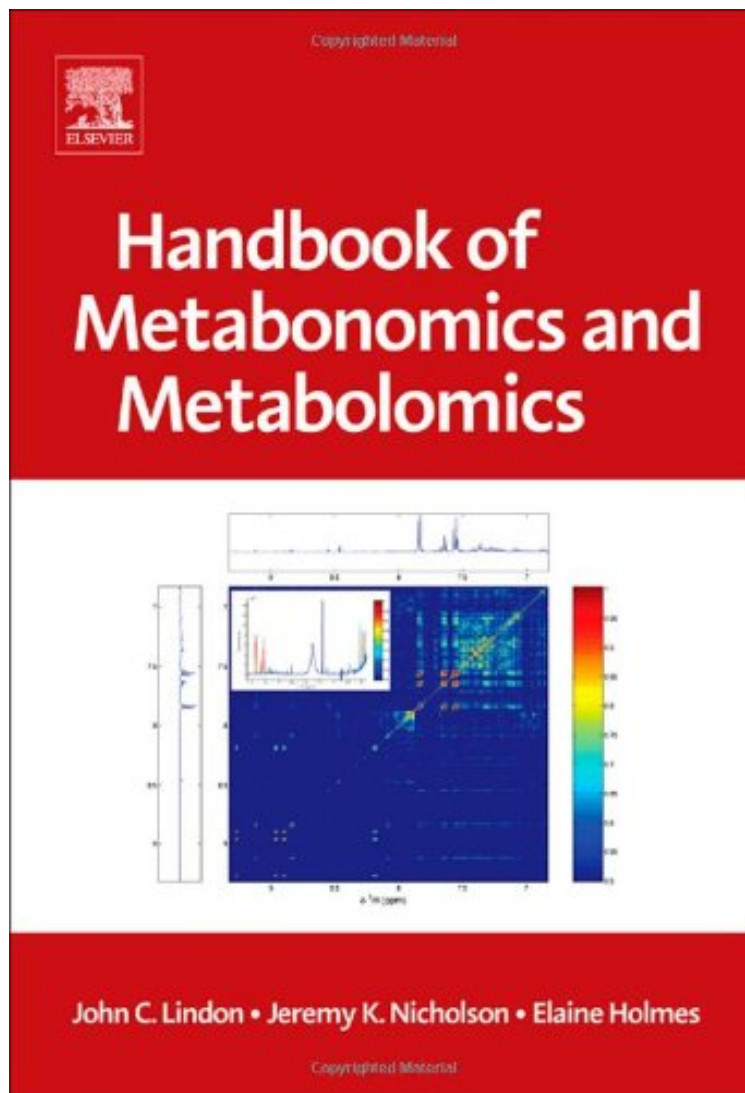


# The Handbook of Metabonomics and Metabolomics

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**From Elsevier Science :** The Handbook of Metabonomics and Metabolomics before purchasing it in order to gage whether or not it would be worth my time, and all praised The Handbook of Metabonomics and Metabolomics:

Molecular biology operates at three levels genes, proteins and metabolites. This book is unique in that it provides a comprehensive description of an approach (metabonomics) to characterise the endogenous metabolites in a living system, complementing gene and protein studies (genomics and proteomics). These "omics" methods form the basis

for understanding biology at a systems level. The Handbook of Metabonomics and Metabolomics aims to be the definitive work on the rapidly expanding subjects of metabolic profiling, metabolite and biomarker identification, encompassing the fields of metabonomics and metabolomics. It covers the principles of the subject, the analytical and statistical techniques used and the wide variety of applications. \* comprehensive description of an approach (metabonomics) to characterise the endogenous metabolites in a living system, complementing gene and protein studies\* aims to be the definitive work on the rapidly expanding subjects of metabolic profiling, metabolite and biomarker identification\* covers the principles of the subject, the analytical and statistical techniques used and the wide variety of applications.

About the Author John Lindon is a Professor and Senior Research Investigator in the Division of Computational and Systems Medicine, part of the Department of Surgery and Cancer, Imperial College London, UK. He is also a founder Director of, and a Consultant to, Metabometrix Ltd, a company spun out of Imperial College to exploit the commercial possibilities of metabolic phenotyping. He obtained his B.Sc (1966), Ph.D. (1969) and D.Sc (1993) degrees from Birmingham University UK. He was a postdoctoral fellow at Columbia University, New York, USA (1969-1970), and then joined the Chemistry Department of Southampton University UK, to use NMR methods to research the properties of liquid crystals and later as a faculty member. From 1976 to 1995 he was at the Wellcome Research Laboratories (a pharmaceutical company) in the UK, occupying several senior scientific and managerial roles related to the use of physical chemical methods in drug design and discovery, latterly as Head of Spectroscopy, until they were taken over by Glaxo, now part of GlaxoSmithKline in 1995. He then joined Birkbeck College, University of London and moved to Imperial College London as part of the transfer of the Jeremy Nicholson team in 1998. He has co-authored a book on NMR of oriented molecules, another on metabonomics in toxicology, one on metabonomics in general, one on NMR in pharmaceutical D and one on metabolic phenotyping in personalised medicine and population screening. He is Editor-in-Chief of the Encyclopedia of Spectroscopy and Spectrometry with a third edition in preparation, is on the editorial board of a number of journals and has authored many review articles and chapters, plus more than 450 research papers. He has given many key-note, plenary and invited lectures around the world. His major research interest is the use of NMR and other analytical methods coupled with multivariate statistics to study biofluids and tissues, a field now termed metabolic phenotyping, leading to new approaches for disease diagnosis, prediction of outcomes and assessing disease risks in populations. His other achievements include the pioneering of a range of NMR data acquisition and processing methods, the use of nematic liquid crystals and NMR spectroscopy for determining accurate molecular structures in the liquid state, and the application of spectroscopy and other physical chemistry methods in drug design. Developments of NMR-based approaches in biomedical research include the use of directly-coupled HPLC-NMR for mixture analysis and application of high resolution magic-angle-spinning NMR to tissue samples.

Jeremy K. Nicholson Professor of Biological Chemistry Head of the Department of Surgery, Cancer and Interventional Medicine Director of the MRC-NIHR National Phenome Centre Director of the Centre for Gut and Digestive Health (Institute of Global Health Innovation) Faculty of Medicine, Imperial College London Professor Nicholson obtained his BSc from Liverpool University (1977) and his PhD from London University (1980) in Biochemistry working on the application of analytical electron microscopy and the applications of energy dispersive X-Ray microanalysis in molecular toxicology and inorganic biochemistry. After several academic appointments at London University (School of Pharmacy and Birkbeck College, London, 1981-1991) he was appointed Professor of Biological Chemistry (1992). In 1998 he moved to Imperial College London as Professor and Head of Biological Chemistry and subsequently Head of the Department of Biomolecular Medicine (2006) and Head of the Department of Surgery, Cancer and Interventional Medicine in 2009 where he runs a series of research programs in stratified medicine, molecular phenotyping and molecular systems biology. In 2012 Nicholson became the Director of world's first National Phenome Centre specialising in large-scale molecular phenotyping and he also directs the Imperial Biomedical Research Centre Stratified medicine program and Clinical Phenome Centre. Nicholson is the author of over 700 peer-reviewed scientific papers and many other articles/patents on the development and application of novel spectroscopic and chemometric approaches to the investigation of metabolic systems failure, metabolome-wide association studies and pharmacometabonomics. Nicholson is a Fellow of the Royal Society of Chemistry, The Royal College of Pathologists, The British Toxicological Society, The Royal Society of Biology and is a consultant to several pharmaceutical/healthcare companies. He is a founder director of Metabometrix (incorporated 2001), an Imperial College spin-off company specializing in molecular phenotyping, clinical diagnostics and toxicological screening. Nicholson's research has been recognised by several awards including: The Royal Society of Chemistry (RSC) Silver (1992) and Gold (1997) Medals for Analytical Chemistry; the Chromatographic Society Jubilee Silver Medal (1994); the Pfizer Prize for Chemical and Medicinal Technology (2002); the RSC medal for Chemical Biology (2003); the RSC Interdisciplinary Prize (2008) the RSC Theophilus Redwood Lectureship (2008); the Pfizer Global Research Prize for Chemistry (2006); the NIH Stars in Cancer and Nutrition Distinguished Lecturer (2010), the Semelweiss-Budapest Prize for Biomedicine (2010), The Warren Lecturer, Vanderbilt University (2015). He is a Thomson-Reuters ISI Highly cited researcher (2014 and 2015, Pharmacology and Toxicology, WoS H index = 108).

Professor Nicholson was elected as a Fellow of the UK Academy of Medical Sciences in 2010, elected Lifetime Honorary Member of the US Society of Toxicology in 2013, and Honorary Lifetime Member of the International Metabolomics society in 2013. He holds honorary professorships at 12 Universities (including The Mayo Clinic, USA, University of New South Wales, Chinese Academy of Sciences, Wuhan and Dalian, Tsinghua University, Beijing and Shanghai Jiao Tong University, Nanyang Technological University Singapore. In 2014 was Elected as an Albert Einstein Professor of the Chinese Academy of Sciences. Professor Holmes main research area focuses on applying metabolic profiling and computational modelling of biofluids and tissues to understand pathological and physiological processes. She has a broad background in metabolic chemistry, with specific expertise in spectroscopy and in chemometric modelling of spectral data. She began her research career investigating molecular mechanisms of toxicology using spectroscopic methods and then broadened the scope to research clinical pathologies in a range of clinical fields. Professor Holmes has several research projects investigating the consequences of modification of the gut microbiota and has particular interest in the gut-brain axis. This involves both the development and application of spectroscopic and chemometric methods, and in particular the fusion of metagenomic and metabonomic data to provide a readout of the functionality of the microbiome. In 2015, Professor Holmes was awarded the Interdisciplinary Prize Medal by the Royal Society of Chemistry. She holds Visiting Professorship, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Peoples Republic of China; William Glasser Visiting Professor, University of the Sciences, Philadelphia; CEU Madrid, Spain; Adjunct Professor, King Abdul Aziz University Saudi Arabia; Visiting Professor, Purdue University, West Lafayette Indiana, USA. Professor Holmes has an H-index of 83 and is an ISI Highly Cited Researcher (Pharmacology 2014). She has trained over 60 PhD students.