

About the authors

The authors have known each other well for more than 25 years and on numerous occasions discussed writing a book on laser chemistry. However, it took until the turn of the millennium before we finally found time to put pen to paper, or rather fingers to keyboards, aided in that decision by the mellowing influence of wine consumed during the evening hours of a summer school in Andalucia.

Below we give you a brief insight into our careers and expertise.

Helmut H. Telle received BSc, MSc and PhD degrees in physics from the University of Köln (Germany), in 1972, 1974 and 1979 respectively. Between 1980 and 1984 he spent research periods at the Department of Chemistry, University of Toronto (Canada), the Centre d'Etude Nucleaire de Saclay (France) and the Laboratoire des Interactions Ioniques, University of Marseille (France), where he has been mainly engaged in research on molecular reaction dynamics exploiting laser spectroscopic techniques. Since 1984 he has been Professor for Laser Physics in the Department of Physics, Swansea University (Wales, UK), where he has pursued research and development of laser systems and spectroscopic techniques for trace detection of atomic and molecular species, applied to analytical problems in industry, biomedicine and the environment. His expertise includes the techniques of laser-induced breakdown spectroscopy (LIBS), tuneable diode laser absorption spectroscopy (TDLAS), resonant ionization mass spectrometry (RIMS) and Raman and near-field scanning optical microscopy (NSOM). More recently, he has once again returned to his roots associated with fundamental aspects in atomic and molecular physics, ranging from precision spectroscopy of exotic species, like positronium and anti-hydrogen, to probing of reactions at surfaces utilizing ultra-short laser pulses. He has held visiting appointments at the Centro de Investigación en Optica, León (Mexico), the Universidad Complutense de Madrid (Spain) and at the Katholieke Universiteit Leuven (Belgium).



Angel González Ureña obtained a chemistry degree from the University of Granada (Spain) in 1968, followed by a PhD in Physical Chemistry from the Complutense University (Madrid, Spain) in 1972. During the period 1972–1974 he worked in the fields of molecular beam and reaction dynamics at the Universities of Madison (Wisconsin, USA) and Austin (Texas, USA), and in later years at universities in the UK. He became Associate Professor in Chemical Physics in 1974 and Full Professor in 1983, both at the Complutense University of Madrid. His research interests focus mainly on gas-phase, cluster and surface reaction dynamics, using molecular beam and laser techniques. He was one of the pioneers in measuring threshold energies in chemical reactivity when changing the translational and electronic energy of the reactants,



as well as in the measurements of high-resolution spectroscopy of intra-cluster reactions. More recently, his interests have branched out into the application of laser technologies to Analytical Chemistry, Environmental Chemistry, Biology and Food Science. He is the head of the Department of Molecular Beams and Lasers at the Instituto Pluridisciplinar (Complutense University, Madrid); for the first 10 years of the institute's existence he also was its first director. He has held visiting appointments at Cambridge University (UK), at the Université de Paris Sud (France) and at the Academia Sinica, Taiwan National University (Taipei, Taiwan).

Robert J. Donovan graduated (BSc Hons) from the University of Wales in 1962. Following a year in industry, with Procter and Gamble Ltd, he went to Cambridge to do research for his PhD degree. He was appointed a Research Fellow of Gonville and Caius College (Cambridge) in 1966, and in 1970 he moved to the Department of Chemistry at the University of Edinburgh. In 1979 he was appointed Professor of Physical Chemistry, and in 1986 he was appointed to the Foundation (1713) Chair of Chemistry at Edinburgh. His research interests lie in the fields of gas-phase energy transfer, photochemistry, reaction dynamics, spectroscopy and atmospheric chemistry. He was one of the pioneers of kinetic spectroscopy in the vacuum ultraviolet and has contributed substantially to the use of lasers and synchrotron radiation for the study of chemical and physical processes involving electronically excited states.

His work in the field of spectroscopy has involved extensive studies of Rydberg, ionic and charge-transfer states, using optical–optical double resonance (OODR), resonance-enhanced multiphoton ionization (REMPI) and zero kinetic energy (ZEKE) photoelectron spectroscopy. In addition, he has applied laser techniques to a number of analytical areas, including LIBS, matrix-assisted laser desorption and ionization (MALDI) and aerosol mass spectrometry (AMS). He has held visiting appointments at the Universities of Alberta (Canada), Göttingen (Germany), Canterbury (New Zealand), the Australian National University at Canberra, the Tokyo Institute of Technology and the Institute for Molecular Science (Okazaki, Japan).

