

John W. Blunt

John Blunt is currently a Professor in Chemistry at the University of Canterbury, New Zealand, an institution from which he gained his PhD in 1966. Since 1970 he has collaborated closely with Professor Murray Munro in the study of natural products, and since 1983 the focus has been on bioactive natural products from marine macroorganisms. More recently, these investigations have been extended through collaboration with Professor Tony Cole into the study of marine and terrestrial microorganisms. Professor Blunt's particular involvement with this research has been in the construction and maintenance of the literature and structure database Marinlit, and in the development and exploitation of NMR techniques for examination of natural product structures. Since 2002, he has been the coordinating author of the annual review on marine natural products published in Natural Product Reports.

S-4 DEREPLICATION TO DISCOVERY: NEW METHODOLOGY FOR RAPID, SMALL-SCALE INVESTIGATIONS OF FUNGAL METABOLITES

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In our program for the discovery of novel bioactive natural products, which could become new lead compounds for drugs, we are finding an increasing proportion of the extracts from marine and terrestrial fungi contain known bioactive compounds. In order to minimize the time required to establish the presence of known compounds (the process of dereplication) we have developed new methodology based on HPLC–MS, –UV and –NMR in combination with UV libraries and natural product databases pre-coded with NMR structural features data. Typically, <1 mg of extract is required to identify the known compounds, and will often provide sufficient data to establish the structures of any novel bioactive compounds also present. Examples of this approach will be provided for extracts from:

- fungi isolated from marine algae, driftwood and forest litter;
- endophytic fungi from New Zealand plants;
- basidiomycetes from Malaysia.

The presentation will include work on the pteratides and pteralides, novel bioactive depsipeptides; the *spiro*-mamakones, a new class of bioactive spirobisanaphthalenes, and the polyketide cladobotric acids.