

CULMS Newsletter

Number 8 December 2013

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Foreword

This eighth edition of the CULMS newsletter is the second published in electronic format in 2013, available for download from our website at:

www.math.auckland.ac.nz/CULMS

This edition is timely, given that it follows soon after the 9th biennial Delta Conference on the teaching and learning of undergraduate mathematics and statistics, held in Kiama New South Wales from the 24th to the 29th November 2013. Like the papers presented at the Delta conference, the papers in this 8th CULMS newsletter highlight significant contemporary issues and challenges facing the undergraduate sciences, from delivery and assessment, through to the interactions between academics and their students. All the authors in this edition have also been regular contributors to the Delta symposia, and further studies by two, David Holgate and Peter Bier, may be found in one of the two publications produced by the Delta 2013 organisation. The first of these is a special edition of the journal *iJMEST* (Volume 44(7), October 2013), guest-edited by Kelly Matthews, with 11 papers covering a broad range of issues. The second, published in electronic format for distribution to conference delegates, contains a further 21 papers and 50 abstracts which gives some appreciation of the breadth of topics covered in the conference presentations (*Shining through the fog: Proceedings of Lighthouse Delta 2013, The 9th Delta Conference of teaching and learning of undergraduate mathematics and statistics*, edited by Deborah King, Birgit Loch and Leanne Rylands). We hope this latter publication will soon be available for all CULMS subscribers to download from the Delta website which is currently under construction.

The first article in this 8th CULMS Edition is a candid opinion piece by David Holgate, the Head of the Mathematics Department at the University of the Western Cape in South Africa. David ponders the nature of the relationship between academics and their students in a way which we are sure will resonate with many readers, and suggests possible ways in which explicit recognition of the nature of these relationships may be productively used. Liz Ackerley and Rua Murray describe the way in which they have attempted to better match students to the appropriate course in their university, and provide better and more meaningful support for students. Again, the situation they describe should resonate with readers, and their solution seems eminently feasible for those wishing to emulate some of their efforts. Peter Bier describes an ambitious attempt to implement complex-problem-based in-course projects within the confines of a short summer-school engineering course, and his paper details both the creative nature and the success of his efforts which have been widely recognised within the Engineering Science domain. Chris Sangwin and Dirk Hermans describe the long-term project they have implemented at the University of Birmingham, another ambitious project which has again received wide international recognition. Their *STACK* project allows for CAS-based online assessment which moves beyond the common static Multiple-Choice or True-False style questions, to include numeric and algebraic input of student solutions. It is almost certain that *STACK* allows for the most complex level of student-input and evaluation of the subsequent responses of any such other system currently available, as can be seen from the examples they include in this article.

We hope you find the articles in this edition stimulating and interesting, and we encourage you to follow up further with the Delta publications cited previously.

Note: We are continually looking for interesting and relevant submissions that consider new developments, research and practice in the teaching and learning of undergraduate mathematical sciences, including those that address the transition from secondary to tertiary levels. Please email submissions to:

Greg Oates, Department of Mathematics, The University of Auckland
Email: g.oates@auckland.ac.nz