

Editorial – Welcome to Volume 22, Numbers 4 & 5

Welcome to the Special Edition of IJ-ISME on Science Communication in the Undergraduate Curricula. As editors, we were delighted with the response to the call for papers for this special edition, and are pleased to present to you a showcase of quality research articles on curricula that build communication skills.

The ability to communicate science effectively is widely regarded as one of the key attributes science graduates should possess, and this was reflected by the prominence of science communication in the recently published Science Learning and Teaching Academic Standards Statement (http://www.olt.gov.au/system/files/altc_standards_SCIENCE_240811_v3.pdf). Communication of science is vital both within the scientific disciplines, to promote sharing of knowledge and to further scientific research, and with the wider community, to increase scientific literacy and understanding of the challenges facing our society. It is essential for our graduates to have had opportunities to build and practice their science communication skills throughout their undergraduate study, across a variety of media, for varying purposes and to a range of audiences. The challenge for us, as science academics and developers, is to create engaging and valuable activities within our curricula that allow our students to meet these outcomes and develop their skills. The activities highlighted within the articles in this edition are examples of innovative practices that do just that, providing evidence-based examples of activities that build communication skills and which can be built upon by academics across the science disciplines.

The examples presented here include discipline-specific, interdisciplinary and programmatic approaches to science communication. Broadly, the articles can be separated into four themes, including: (1) Embedding communication skills/tasks into science discipline subjects; (2) Use of technology to facilitate learning of science communication; (3) Designing programs and courses to develop science communication; and (4) Developing science communication skills across discipline boundaries. In the first of these themes, the first two articles are examples of communication between peers within the disciplines, showing the benefits of modelling scientific writing and the scientific process respectively for higher level students. In the final article of this theme, Philip Sharpe and Joanne Blanchfield took a different approach, by encouraging communication of disciplinary concepts to a general audience.

While technology is now ubiquitous in science education, articles in the second theme show how its accessibility can be used to benefit students. While Louise Kuchel and colleagues show how their students' familiarity with technology aids the creation of videos, they also help students to connect at the earliest stages of their university education. Maureen Bell and Paul Carr show how technology can help students connect at another level, using videoconferencing to promote communication across international boundaries. The final article of this theme shows how online tools can support students, scaffolding their writing skills. Articles in the third theme show how communication activities at the course and program levels can be used to help students connect with a broader audience, both across the scientific research community and the general community. Finally, the articles in the fourth theme show how the principles of scientific communication - the ability to communicate collaboratively, to create sound scientific arguments, and to communicate the passion that underpins scientific endeavours - are common across disciplines.

As the editorial team, we would like to thank the authors for their contributions. By detailing their practice, evaluating their students' experience, and disseminating their findings, our contributing

authors are demonstrating their commitment to the ongoing improvement of the science curriculum. We applaud their achievements.

We hope that this special edition of IJ-ISME has highlighted the key nature of communication in a quality science education. We trust that the articles within it will act to inspire academics from all science disciplines to consider the variety and role of communication activities in their curricula.

We commend these papers to you.

**Susan Rowland, Kay Colthorpe and Stephanie Beames,
Guest Editors**



Dr Susan Rowland, Senior Lecturer (Teaching and Learning Research Focused), School of Chemistry and Molecular Biosciences, The University of Queensland
s.rowland1@uq.edu.au



Dr Kay Colthorpe, Lecturer School of biomedical Sciences, The University of Queensland
k.colthorpe@uq.edu.au



Stephanie Beames, Learning & Teaching Coordinator, Faculty of Science, University of Technology, Sydney
Stephanie.Beames@UTS.edu.au