

Editorial - Welcome to Volume 4, Number 3 of the Journal of Learning Design

With great excitement, we bring you this special issue of the Journal of Learning Design focusing on Science Education, and published in conjunction with the second Queensland University of Technology "Science Educators' Symposium", held on 1 July 2011 at QUT Gardens Point campus. This special issue includes a selection of papers from academics from within the Science Disciplines of QUT Faculty of Science and Technology, as well as colleagues from other institutions in Australia and overseas. This publication demonstrates a commitment to promoting a culture which values the importance of research into university-level teaching and learning and, as such, we are especially pleased to note that some of the authors are publishing for the first time in a journal devoted to teaching, learning and education. This special issue on Science Education showcases studies in two broad areas, (1) strategies for enhancing teaching and learning, and (2) addressing graduate attributes and student confidence. In the first broad category, we have Dann Mallet considering the "difficulties of understanding a course of mathematics instruction in a particular language for mathematically competent but language deficient students", as language and interpretation are key to learning. From another perspective, Madeleine Schultz reports on her implementation of a sustainable assessment system in large chemistry lecture classes, and Debbie Starkey describes the use of integrated medical images as a resource in tutorials. These exemplify our attempts to improve learning outcomes. In the second broad category, we have Vincent Chan addressing the critical area of science communication, "embedding, teaching and assessing oral communication in a bid to adequately train and equip future scientists... in their responsibilities to the advancement of science or across other professions". Along the same vein, Jill Urbanic has examined design and management skills for senior industrial engineering students. Integrating process and graduate attributes, we see a skilful paper on research writing in the sciences by Pauline Ross, Shelley Burgin, Claire Aitchison and Janice Catterall. Finally, Manju Sharma probes self-confidence amongst first year physics students. Gender related findings are pertinent to some science disciplines, emerging in the studies by Ross et al, as well as Manju Sharma. All in all, the collection of papers captures the challenges facing educators, and diversity in cohorts and approaches, offering some interesting reading. We wish our authors success in their efforts to improve teaching and learning and in their endeavors to pursue publication in this field. **We would also like to express our sincere thanks to Associate Professor Margaret Lloyd for her expert guidance and tireless support in preparing the papers for this issue.** We commend these papers to you.

Guest editors, **Associate Professor Manjula Devi Sharma** and **Stephanie Beames**



Associate Professor Manjula Devi Sharma completed her PhD in physical optics at The University of Sydney. She is the Director of the Institute for Innovation in Science and Mathematics Education (IISME) and heads the Sydney University Physics Education Research (SUPER) group. Manju's primary research focus is physics education and she currently supervises Honours and PhD students doing physics education research projects in the School of Physics at The University of Sydney. She has some 70 refereed publications and book chapters in science and mathematics education, and has led projects funded by ALTC and the ASISTM project.

Stephanie Beames is a Learning and Teaching Developer in the QUT Faculty of Science and Technology. She completed her M.Ed majoring in ICT at QUT in 2004. Stephanie coordinates an annual Science Educators' Symposium and this "Science Education" special issue of the JLD. She is also tasked with creating opportunities for faculty academic staff to explore and share ideas and practices as well as gain knowledge and information from leaders in teaching and learning across the STEM disciplines. In 2010, she established BUNSE, the Brisbane Universities Network of Science Educators, and won a Vice-Chancellor's Award for Excellence.

