

## When Science Meets the Real World in 2017: exploring the ethical dimension in our classrooms

The students in our classes today are part of a rapidly changing world, surrounded by mixed messages and “alternate facts”, and ethical aspects of our choices in science can be difficult to navigate. In the world into which they will move and work, our students will be faced with increasingly complex decisions that challenge their thinking from an ethical dimension. In 2013 we surveyed those working in the geosciences to determine: (1) whether there were ethically problematic aspects within their day-to-day working environment as scientists; (2) if so, what these might be; and (3) whether they believed there was a need to incorporate more education around ethics in their undergraduate science world. The results of this survey indicated that we can no longer teach science simply as a set of facts, skills and concepts: we must adapt our courses to include the ethical considerations. This has led us to develop ways to explicitly incorporate the ethical dimension into our teaching in environmentally-related courses, geoscience courses, and in a leadership in science course. A follow-up study on the impact of explicitly introducing the ethical aspect into the curriculum even at the first year level, indicates that not only do students respond positively to incorporating this dimension, they also broaden their perspective, develop their ethical decision making, and come to appreciate the complexity of their science. We present our findings, and through a sharing of case studies and ethical decision-making approaches, we offer suggestions for best practices in making the ethical explicit within the curriculum, and within our classroom time constraints.