

## 8 - Scientific Literacy and Socio-scientific Issues | Empirical

### SP - (16090) - HIGH SCHOOL BIOLOGY STUDENTS' USE OF VALUES IN THEIR MORAL ARGUMENTATION AND DECISION-MAKING

Tore Van Der Leij (Netherlands)<sup>1</sup>

1 - University of Groningen, The Netherlands

#### Short Abstract

This study investigates the use of values and its development in the process of moral argumentation and decision-making in the context of socioscientific issues among a group of twelve Dutch 10th grade biology students. Framed within an environmental ethical conceptual framework which also served as an analytical framework, this collective case study investigates students' use of values and its development in five socioscientific issues in the human-nature context. The data sources for this study consisted of written essays, worksheets with individual and group assignments and audio recordings of group dialogues and individual interviews. For the analysis of the data, we used in-vivo, line-by-line axial coding techniques from different data sources (written and audio data), using the environmental ethical conceptual framework as a basis. The analysis of the data contributed to insights into students' use of values in their moral argumentation and decision-making. The findings indicate that the values used by the students were predominantly value-oriented. In addition, during the group discussions, the students used a number of additional (non-anthropocentric) values. Furthermore, the findings demonstrated that relation-oriented values in students' moral argumentation and decision-making were hardly used. An important distinction between both approaches is that within relation-oriented ethics the addressed moral dilemmas are located in 'situated relational space'. An important consequence of this is that, unlike value-oriented ethics, relation-oriented ethics are 'explicitly concerned with practical implications', while value-oriented ethics are less so. The findings are discussed alongside implications for future research and design of classroom-based interventions with a focus on the use of values in guiding and stimulating students' moral argumentation and decision-making.