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The project AEREP (Argumentation on the Effects of Radiation and Environmental Policies) with research title: «High school students' and prospective teachers' argumentation in the context of radiation and the environment» will investigate pre-service teachers' and secondary education students' argumentation competence in the context of issues related to radiation. The main purpose of the project AEREP is to investigate the interplay between conceptual understanding and argumentation.

Nikolaos Zarkadis graduated from the Physics Department at the University of Ioannina (UOI), Greece and pursued a Master's Degree in "Didactics of Physics with Modern Technologies and Methods" (UOI) and a Master's Degree in "Environmental Education and Communication" from the Department of Forestry and Management of the Environment and Natural Resources at Democritus University of Thrace (DUTH). He received his Ph.D. in Science Education from the Department of Primary Education at the School of Education Sciences of DUTH in Alexandroupoli, with his doctoral thesis examining the effect of cognitive factors on secondary students' understanding of atomic structure. Following his Ph.D., Dr. Zarkadis undertook two postdoctoral research projects (DUTH, AUTH) and held various teaching positions in secondary education. His current position is a postdoctoral researcher (Department of Education, University of Cyprus).

Dr. Zarkadis is an active member of the European Science Education Research Association (ESERA) and the Greek Association for Science Education and Technology (ENEFET). He has taught in the field of science education in various capacities, including as a lecturer in the Department of Education Sciences in Early Childhood at DUTH, a teaching fellow in the Department of Primary Education at DUTH and as part of an academic teaching experience fellowship program at DUTH. In addition, he has served as a reviewer for an international peer-reviewed journal and participated in organizational and scientific committees. Dr. Zarkadis has published scientific articles in international peer-reviewed journals, in international conference proceedings (ESERA) and in national conferences.

The project AEREP (Argumentation on the Effects of Radiation and Environmental Policies) with research title: «High school students' and prospective teachers' argumentation in the context of radiation and the environment» will investigate pre-service teachers' and secondary education students' argumentation competence in the context of issues related to radiation. The main purpose of the project AEREP is to investigate the interplay between conceptual understanding and argumentation. To achieve this goal, a teaching-learning sequence will be designed and enacted engaging learners in the process of (a) thinking about radiation mechanisms and their contribution to global warming, as well as societal implications of the impact of human activities on these mechanisms, and, (b) developing and evaluating arguments on global warming policy ideas intended to mitigate the effects of human activities on the absorption of radiation. An inquiry-based teaching model will be implemented, where emphasis will be also given to argumentation tasks. Data will be collected on student engagement, understanding of relevant mechanisms and argumentation. The proposed project is innovative in that it sets out to explore connections between conceptual understanding and argumentation, in situ, as they evolve dynamically in the context of a challenging topic, across a wide age range that bridges school to university and across diverse student interests and orientations. Primary Advisor: Professor Costas P. Constantinou at the Department of Education, University of Cyprus Secondary Advisor: Professor Panos Papanastasiou at the Department of Civil and Environmental Engineering