

**T5\_122 A DISCUSSION OF DISCIPLINARY KNOTS ON ELECTROMAGNETISM AND SUPERCONDUCTIVITY ON A WEB ENVIRONMENT IN THE CONTEXT OF AN EU PROJECT FOR RESEARCH-BASED IN SERVICE TEACHER TRAINING**

**Stefano Vercellati**, *Research Unit in Physics Education, University of Udine, Italy*  
(vercellati@fisica.uniud.it)

Research literature highlights the importance of a revisiting of disciplinary content in a didactic prospective starting from students reasoning and learning processes. This is particularly useful when lights up a re-examination of a classic phenomenology in a prospective of interpretation of phenomena. This is the case of electromagnetism and superconductivity in the framework of EU MOSEM Project. We carried out a research-based in-service teacher formation with different modalities to realize a professionalism based on PCK: in the framework of the Project "Lauree Scientifiche", the Research Unit in Physics Education of University of Udine leads 15 Italian research groups of as many universities and has activated, at a national level, a teacher training institutional course (Corso di Perfezionamento IDIFO2 - Innovazione Didattica in Fisica e Orientamento 2 - of 15 CTS) on modern physics organized in 6 thematic areas. One of them is dedicated to superconductivity, offering to the teacher the possibility of one year of situated training and action-research in the framework of MOSEM. Web environment in which involved teachers work and learn doing proposed activities and discussing with the other teachers and the researchers shows interesting results coming from the discussion on conceptual knots in a prospective of PCK.