



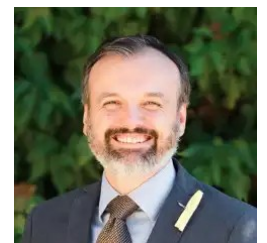
# Teacher education and Design-Based Research: Examples of in-service inclusion and pre-service formation

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The inclusion of educational innovation in STEM is among the objectives of many secondary schools in Spain. However, teachers, due to their teaching commitments, do not have time to keep up to date with the results of research in education or to design materials based on these results. With the aim of including educational research in the classroom, we have worked along two lines: in-service and pre-service teachers. The first of the proposals aims to include secondary school teachers actively in different phases of the Design-Based Research process. The second line of action aims to provide future teachers with tools for the design and evaluation of STEM proposals that include research results in science education.

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**Jaume Ametller** is Associate Professor of Science Didactics in the Department of Specific Didactics at the University of Girona, where he teaches in teacher training programmes for early childhood, primary and secondary teachers' education. His research focuses on the design and evaluation of teaching-learning sequences and on how language, especially dialogue, influences learning and teaching in classrooms, both with and without digital technology.



**Kristina Zuza** is a lecturer in the Department of Applied Physics at the University of the Basque Country (UPV/EHU), where she specialises in physics education research. Her work focuses on the design and evaluation of materials for teaching physics and STEM in both secondary and introductory university courses. She teaches general physics in the first year of engineering and curriculum and innovation in science teaching in the secondary school teachers' master.

