

### **Design-Based Research meeting: A collaboration between research groups in Austria and Spain**

The Design-Based Research (DBR) meeting held on April 8th and 9<sup>th</sup>, 2025 brought together two groups of researchers from Austria and Spain to discuss and advance the DBR methodology. The meeting was held in the Austrian Educational Competence Centre Physics at the University of Vienna, and was attended by 15 participants in a hybrid format. The meeting was structured into several sessions, including a seminar, a symposium, two working sessions, and a keynote address, providing a platform for groups discussions and collaboration.

The seminar session kicked off the meeting on Tuesday morning, setting the stage for the subsequent discussions. In this session, the researchers discussed the DBR approaches of each group focusing on their similarities and opportunities for mutual enrichment. This session was concluded with a small coffee break and followed by a symposium. The symposium consisted of 4 presentations: Prof. Martin Hopf provided an overview of the work done by the Austrian research groups with the DBR methodology, followed by Dr. Clemens Nagel who presented an example of how he and his group of students are applying the DBR methodology on the topic of measurement uncertainty. Dr. Jaume Ametller, from the University of Girona, provided an overview of the research in DBR methodology in Spain, followed by Dr. Kristina Zuza, from the University of the Basque Country, who presented an example of the application of the DBR methodology to design teaching learning sequences in the framework of a STEAM project. The day ended with an informal meeting to discuss the key takeaways.

On Wednesday, the two groups gathered in two working sessions, focusing on the process to design the first draft of a teaching-learning environment and on sharing common definitions of important terms like key ideas and humble theories. After the working sessions, Dr. Kristina Zuza presented the keynote “Teacher education and DBR. Examples of in-service inclusion and pre-service formation” in the frame of the colloquium for teacher education. The day ended with a social gathering at a traditional Viennese wine house.

Overall, the Design-Based Research meeting was a very productive collaboration where the research groups from Spain and Austria worked towards reaching consensus on some aspects of the DBR methodology. The two groups have agreed on the importance of continuous collaboration to develop the DBR methodology in physics education research, through meetings, participation in conferences and joint publications.



Photo: From left to right, Esmeralda Campos, Martin Hopf, Kerstin Lindmaier, Jenaro Guisasola, Kristina Zuza and Jaume Ametller, after the keynote presentation on Wednesday afternoon.