

ICPE 2022 Special Issue (Part 6)

Special Issue Guest Editor:
Associate Professor John Debs^a

^aResearch School of Physics, The Australian National University

This is part 6 of a Special Issue, celebrating The International Conference on Physics Education which was held online in late 2022. This series of three articles spans a range of work in physics education across Europe, South America, and Australia. Two broad topics are covered: Tools of interest *to teachers*, and; studies that relate to the education *of teachers*.

In support of teachers, Kellner focusses on how to quickly make effective videos and online lectures to support content delivery. It is well known that flipped classroom approaches to physics teaching leads to more effective learning outcomes than traditional didactic delivery. Yet, many organisations continue to deliver physics via traditional lectures with low attendance and automatic recordings. A key aspect to this work is the *fast* production of videos – and often cited hurdle to topic coordinators deciding to create video content; and this will be of interest to those teachers in both the higher and secondary education sectors.

The other two contributions look at two very different but equally important aspects of physics-teacher education. Gejdošová and Velmovská focus on the critical role feedback plays in helping pre-service physics teachers build good practice around lesson planning – an activity which plays a significant role in both the teacher and pupil experience, especially early in their teaching career. A notable result from this work is that a single well-targeted piece of assessment feedback is all that is needed to significantly improve student lesson plans, while further feedback does not statistically improve their performance; implying best practice is quickly learned.

Finally, Aguiar and Nardi's work focuses on the interesting and broadly relevant cultural phenomenon of how diverse belief systems impact classroom conversations in science, focussing on the topic of 'origins of the universe'. They importantly find that teachers do not feel well equipped to manage culturally diverse beliefs (e.g. religion), at least in their study population within São Paulo, Brazil. While their sample size is relatively small, the results are perhaps unsurprising and interesting to those considering pre-service science teacher education, particularly in countries where religion and diverse belief systems play a significant role in public conversations and discourse.

I thank the authors, reviewers, and conference organisers for their thoughtful and careful contributions to ICPE2022 and this special issue, and hope you the reader find these articles useful, and thought provoking.