

Critical review

The previous October 10th a seminar with title *Reactive transport: numerical issues and challenges* given by professor Jesús Carrera took place at O.C. Zienkiewicz Conference Room from UPC. The main goal of this seminar was to explain briefly the basic concepts of Reactive Transport and explain the research done in this field.

Reactive Transport is a topic which general audience is not familiarized with so professor J. Carrera started showing the effects of this phenomena with a spectacular picture of a cave in Mexico where crystals were formed due to this effect. That is a good way to start because this helped the audience to have an idea about the topic and also, caught their attention from the beginning. With an initial idea provided by the picture, J. Carrera introduced the basic concepts of this phenomena by splitting the two key ingredients: transport and chemical reactions. Given that both concepts separately are easy to understand, when combining them together the Reactive Transport phenomena is self-explained.

Once the main ideas were introduced, the mathematical expressions which govern that phenomena were presented. At first sight those expressions could be confusing, however, J. Carrera managed to make clear what each term account for and explained its meaning to the audience. At this point, the presentation became more technical and the difficulties of that multidisciplinary topic arose. That fact was used to emphasise the necessity of interdisciplinary teams in research, an idea that has been extended hugely in the recent years.

After introducing the governing equations and the quantities of interest that can be measured experimentally and numerically, the computational part of the research was explained and the results presented. Here, the explanation became more and more confusing for different reasons. The presentation of the results was not easy to understand because many magnitudes were presented. Knowing what each magnitude represent in the problem when they have been introduced for first time recently makes following the explanation of the results and conclusions difficult to understand. Also, interpreting the graphics and making conclusions about the information plotted in them was difficult when one doesn't know what the magnitude plotted means. For those reasons, the final part of the seminar was not easy to understand and resulted confusing.

In conclusion, although the final part of the seminar resulted confusing, one could understand the basic ideas, see how interdisciplinary teams work to get some results and how research is done. Furthermore, that seminar was useful to see how research is presented in front of the general audience who is not expert on the topic presented, and learning different strategies to make the presentation easy to understand and interesting.