

# Communication Skills 1

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## *Critical review of the presentation Modelling fluvial processes using the finite volume method by Ernst Blade*

On November 23<sup>rd</sup> 2016 in O.C. Zienkiewicz Conference Room, C1 Building at UPC Campus Nord in Barcelona, the seminar regarding “Modelling fluvial processes using the finite volume method” was presented by Ernst Blade, who is the Deputy Director of the Flumen Insitut at UPC. Presentation’s goal was to introduce to the audience the practical implementation of Finite Volume Method based on numerical schemes to solve fluvial processes and the possibilities of linking this type of schemes for additional results of interest to solve engineering problems. The aim of this paper is to review how the speech was presented and draw the conclusions in order to improve the presentation’s skills.

Mr Blade’s seminar started with the explanation, in which fields the 2D Finite Volume numerical simulation tool can be used, when it comes to river flow and fluvial processes. One of the biggest advantages of this presentation was the clear and easy language that was used by Mr Blade. He explained the hydrodynamics shallow water equation with a graph and provided the laws that are connected with this topic. What I found very useful, were the clear slides with visible pictures that were carefully analysed. When presented the formulas or matrices, all the unknown components were put across. In order to understand the main idea of the FVM method, the audience needed to be familiarised with basic concepts of hydraulics. That is why, when the characteristics of the open channel appeared on the slide, Mr Blade explained the basics of subcritical and supercritical flow. He presented it, as it was a new information for the audience, so we could easily understand the topic. To show how the water moves in open channel, he draw on the blackboard, which was definitely the best way to get the attention and provide the needed information. Starting with analysed formulas, passing through the graphs and using the easy language and visual examples, the audience could readily get the idea of water characteristics. On many occasions Mr Blade said not to hesitate in case the students shall have any questions.

After the introduction on how water behaves, he moved to the key of the presentation, which was the finite volume method. The presenter explained the importance of this method in case of partial differential equations, especially in solving the Shallow Water equations. Even though the slides were filled with unknown formulas and drawings, all was introduced in a surprisingly detailed and easy form. While presenting the Roe scheme and the fluxes, I have found the number of equations on the slide slightly chaotic and unclear. Although, after this part Mr Blade asked us if we have any questions and was willing to clarify all the doubts. He continued with Shallow Water equations presenting various examples and simulations, which I personally find the most efficient way to see how the water can affect different areas and how, using numerical methods, we can predict water’s behaviour and prevent the floods.

Summing up, Mr Blade definitely achieved his goal in giving the audience the overview regarding finite volume method. The seminar was well-prepared and accurately explained. The slides were clear and full of interesting graphs and visualisations. Easy language and contact with the audience was highly appreciated. The replies to the questions were answered with precision using the blackboard. I have found this seminar as one of the best-presented due to a good connection with the audience and the experience of Mr Blade.