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Assignment 3
Critical review

Fully coupled fluid-electro-mechanical cardiovascular simulations, by Mariano Vázquez.

Mariano Vázquez is one of the main architects of Alya red, a parallel multi-physics simulation code specifically designed to efficiently solve coupled complex problems in supercomputers. His current research goes through different computational mechanics aspects but puts special focus on biomedical research.

The seminar is focused on the discussion of several topics concerning the multi-physic simulations of cardiovascular and respiratory systems by going through several examples that they, the research group in Barcelona Supercomputing Center (BSC), have been through all these years.

Vázquez seminar's speech is started by means of a general description about what his research group at BSC does, what they are currently doing, and where they are located. This gives a brief introductory idea and brings to light the magnitude of the projects that they are carrying out and the tools they use to understand such problems.

Another idea is the relationship Mariano makes when explaining the concepts. He presents all the curious facts related to experiences or stories that his group and himself have had when working on the projects. This way of delivering facts helps the audience in understanding difficult concepts that they do not seem to appear difficult, rather they are easy to embrace.

And last but not least important, by giving fascinating examples of work they have been gone through, not just emphasise the point of the tedious job but also catches the attention of the audience . He also gave, at the end of the presentation, the chance for the public to ask questions about his research. As said before, he clarified everything by making some drawings on the blackboard so as to give a better insight on the answer.

One does not have to be so much related with this area of influence to get either the basics and the main ideas that Mariano Vázquez wants to communicate.