Main speaker (45 minutes talk)

Cardiovascular mathematics between Data, Models and Clinics

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Working in Cardiovascular Mathematics is a rewarding experience, as one has the opportunity to bridge theory and practice with the ultimate purpose of improving healthcare. The reliability and efficiency required by the clinical timelines naturally triggered the development of data assimilation, uncertainty quantification, and reduced-order modeling techniques. The integration of Data-driven and Model-driven approaches is crucial in this field, where each patient may represent a different and unique challenging problem. In this talk, we will see some examples, ranging from aortic diseases to bioresorbable stents, pointing out the role of computational mechanics in the "Big-Data" era.