# Modeling of the human cardiovascular system on non-uniform time domains

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**Résumé**

Computational modeling of the cardiovascular system offers much promise. However, it represents a truly interdisciplinary challenge, requiring knowledge of physiology, mechanics of materials, fluid dynamics, and biochemistry. This work aims to provide a new approach in cardiovascular structural modeling, including the numerical methods, main constitutive models, and modeling procedures developed to represent cardiovascular structures and pathologies across a broad range of length and time scales; serving as an accessible point of reference to newcomers to the field. Using time scale theory, we will introduce a more general hybrid representation of the human cardiovascular system.

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