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# NURBS-based isogeometric analysis of a bi-ventricular heart model

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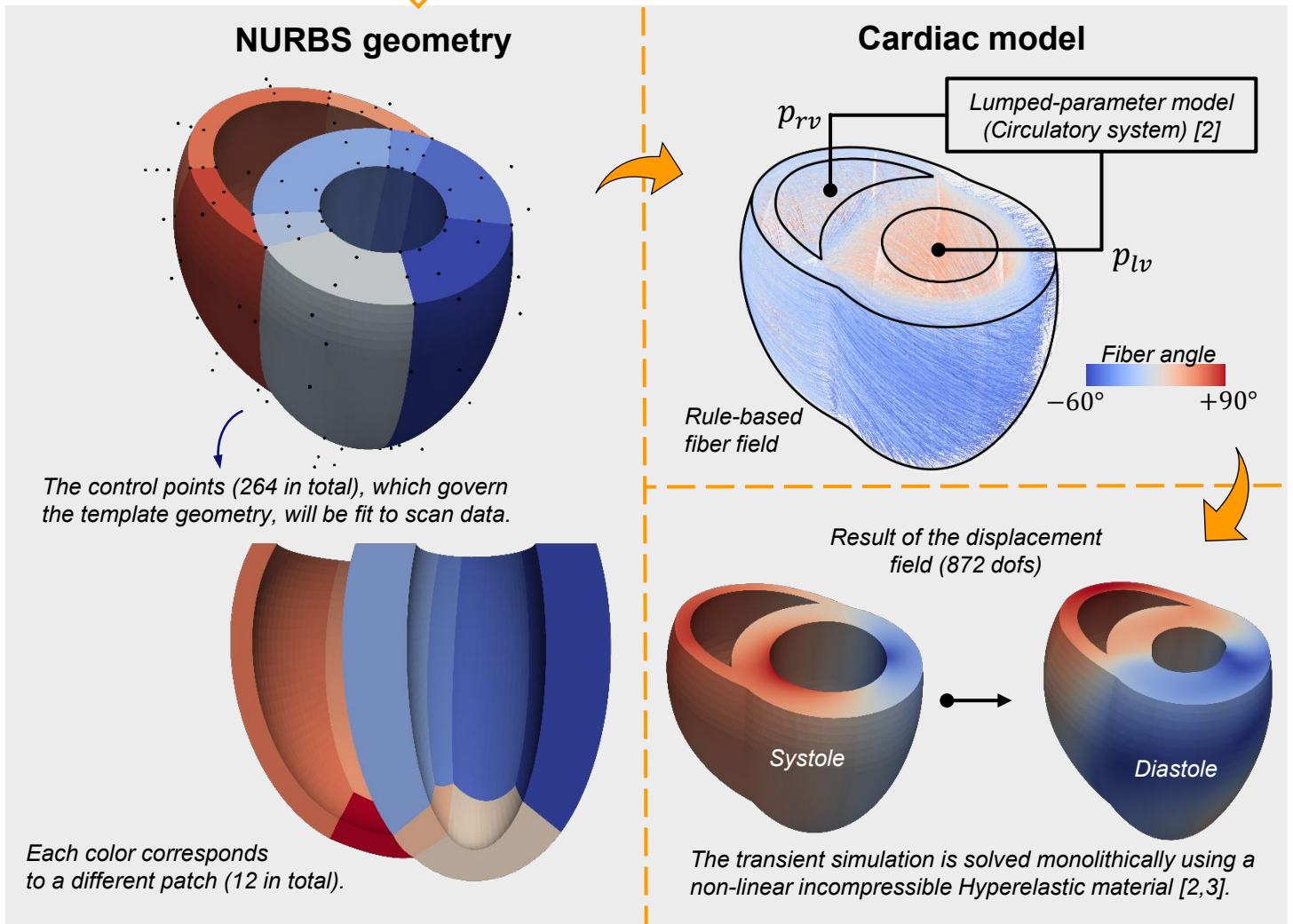
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## Motivation and objective

Computer simulations provide information that can be used by clinicians to support decision-making regarding the treatment of Ventricular Tachycardias (VTs). It is the goal of this project to develop efficient and robust models that can be integrated into the clinical workflow.

## Simulation workflow

Our simulation framework combines the Isogeometric Analysis (IGA) simulation paradigm [1] with image recognition techniques to obtain patient-specific computer models. Simulations will be performed directly on a Non-Uniform Rational B-Spline (NURBS) bi-ventricular geometry.



## Project outlook

IGA has the potential to give robust geometry and analysis models in the considered scenario of limited input data. Future project steps focus on the automation of image-based geometry reconstruction, while extending the model validation and clinical-integration. Attention will be given towards parameter sensitivity and uncertainty quantification.

## References

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