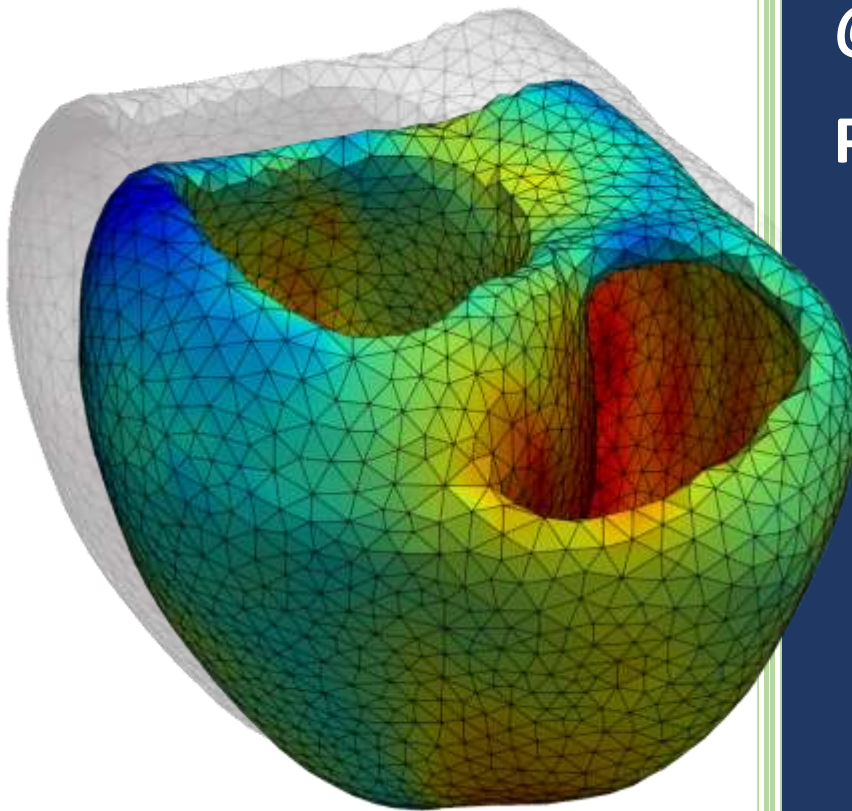


26 March 2025

# INNOVAHEART 2025

A joint European workshop on the digital heart



@Future4care  
Paris



SIM  
CARDIO  
TEST



Co-funded by the  
European Union



DS MEDY TWIN



Inria

inHEART

DS DASSAULT  
SYSTEMES

CHARITÉ



## SUMMARY

InnovaHeart is a series of workshop dedicated to the digital twin of the heart. This annual rendez-vous offers the opportunity for the scientific community (from private and academic sectors, including health care and regulatory experts) to meet and exchange on the latest scientific advances in cardiac in-silico medicine.

This one day-workshop on the Digital Heart will be hosted this year at [Future4care](#) in Paris on the **26th of March 2025, upon the invitation of inHeart**. This 2025 edition is co-organised by Inria through the EIT Health project [inEurHeart](#) and EU funded project [SimCardioTest](#), the French project **MediTwin** together with inHeart, Universitat Pompeu Fabra, Charité Universitätsmedizin and Boehringer Ingelheim.

**This one-day workshop is a combination of lectures, talks and live demonstrations, with opportunities for knowledge exchange and discussion on state of the art, exploitation and social perspectives, contributing to the creation of an e-health ecosystem dedicated to the digital twin of the heart.**

The participation to this workshop is open to all, cardiologists, regulatory bodies, engineers, scientists from academia, SMEs and industries with registration fees.

## REGISTRATION HERE

REGISTRATION FEES: early bird [before 10 March](#): 120€ TTC and after 10 March: 180€ TTC

WEBSITE: [SimCardioTest](#)

LOCATION: [Future4Care](#), [Watt-Biopark](#), 8 Rue Jean Antoine de Baïf, 75013 Paris, France

### Organizers

Luis Kabongo, inHeart Medical  
Ceren Duffour, Adera Congres

### Information - Contacts

Michele Barbier, [michele.barbier@inria.fr](mailto:michele.barbier@inria.fr)

### SCIENTIFIC ORGANISING COMMITTEE

**Cécile Bonnard**, Dassault Systèmes, France  
**Jan Brüning**, Charité Universitätsmedizin Berlin, Germany  
**Oscar Camara**, Universitat Pompeu Fabra, Spain  
**Liesbet Geris**, VPHi, international  
**Todor Jeliaskov**, inHeart Medical, France

**Titus Kühne**, Charité Universitätsmedizin Berlin, Germany  
**Michael Leitner**, Boehringer-Ingelheim, Germany  
**Maxime Sermesant**, Inria, France  
**Michèle Barbier**, Inria, France

Cover picture: @Desrues, Inria, 2022



# THE PROGRAMME

**Appropriate time and space will be dedicated to discussions for creating a cross-sector ecosystem.** Educational materials/demos will also be collected (Images, caption and videos, demos) for further scientific communication: dissemination to students and for popularizing the topic to the general public.

## PROGRAMME AT A GLANCE (Draft agenda)

8h45-9h30	Welcome coffee and notes	
9h-30 – 10h45	<b>Session 1 - HYBRID DIGITAL TWINS &amp; AI</b>	
9h30-9h35	<b>Maxime Sermesant, Inria</b>	<b>Session introduction and chair</b>
9h35- 10h00	Cecile Bonnard, 3DS	Generative Experiences for Human Twin
10h00-10h10	Maxime Sermesant, Inria	Learning by Heart: Combining Virtual Human Twins and Artificial Intelligence
10h10-10h20	Jan Brüning, Charité	<i>TBD</i>
10h20-10h30	Eduardo Castañeda, Siemens-healthineers	AI-based Left Atrium Digital Twin
10h30-10h45	<b>Q&amp;A</b>	
10h45- 11h15	Coffee break & Demo	
11h15-12h40	<b>Session 2 – PREDICTION &amp; PREVENTION</b>	
11h15 - 11h20	<b>Titus Kühne, Charité</b>	<b>Session introduction and chair</b>
11h20- 11h45	Beatriz Trenor, UPV	Use of Computational Tools to Improve Prediction of Cardiac Safety and Efficacy
11h45-11h55	Elena Visibelli, 3DS	Integrative approaches for cardiometabolic prevention
11h55-12h05	Marcu Kelm, Charité	Preclinical prediction of heart failure with preserved ejection fraction using integrated multi-omics AI approach
12h05-12h15	Michael Leitner, Boehringer-Ingelheim	Virtual Clinical Studies – Establishing the virtual QT interval as translatable biomarker
12h15-12h25	Yves Coudière, UBx	A credible computational model to predict cardiac capture by stimulation devices
12h25-12h40	<b>Q&amp;A</b>	
12h40- 14h30	Lunch break & Demo	



14h30-15H45	<b>Session 3 – VIRTUAL INTERVENTIONS</b>	
14h30-14h35	<b>Cécile Bonnard, 3DS</b>	<b>Session introduction and chair</b>
14h35- 15h00	Irene Vignon-Clementel, Inria	Hemodynamics modelling for virtual interventions in CHD: the Potts procedure and other examples
15h00-15h10	Luis Kabongo, inHeart	Advancing precision medicine with an AI-based digital twin of the heart
15h10-15h20	Francesco Migliavacca, Politecnico de Milano	Towards the use of virtual validated transcatheter aortic valve implantation in clinical practice
15h20-15h30	Deniz Oztruk, CapVidia	Application of a Staged Validation Approach to Patient-Specific Pulmonary Heart Valve FSI Simulations: From Material Modeling to Post-Op FSI
15h30-15h45	<b>Q&amp;A</b>	
15h45- 16h15	Coffee break & Demo	
16h15-17h30	<b>Session 4 – HUMAN DIGITAL TWINS AND SOCIETY</b>	
<b>16h15-16h20</b>	<b>Michèle Barbier, Inria</b>	<b>Session introduction and chair</b>
16h20-16h45	Ine Van Hoyweghen, KU Leuven	Virtual Human Twins, societal readiness
16h45-16h55	Davide Montesarchio, VPHi	From scientists to society and back: How to effectively engage with different stakeholders
16h55 - 17h05	Anisse Chagraoui, Paris - PSL DAUPHINE	Digital bodies and digital integrity: towards new legal constructs?
17h05 - 17h15	Valerie Centis, Microport	European Challenges of EU MDR 2017/45
17h15- 17h25	Jordi Mill, Virtest Technologies	Virtual interventions in action: Bridging technology and society
17h25-17h35	<b>Q&amp;A</b>	
17h35 – 19h00	Cocktail	



## SPONSORS

The organisation of this day is supported by inHeart medical, Dassault Systèmes, the EITHealth project inEurHeart, the EU project SimCardioTest, and the French project MEDITWIN.



**inEurHeart** is an innovation project in Artificial Intelligence, Digital Twin & Clinical Trial for a Disruption in Catheter Ablation for Ventricular Tachycardia, making ablation therapy accessible to most patients. inEurHeart is funded by EIT Health supported by the European Commission.



**inHeart Medical** is a startup committed to delivering the world's most sophisticated, AI-enabled, digital twin of the heart to advance the care of patients living with cardiac disease. inHeart is actively involved in inEurHeart to support improved clinical outcomes during VT ablation and return patients to full, healthy lives. inHeart is based at Future4care.



**MediTwin** project aims to develop personalized virtual twins of organs, metabolism and cancer, for better diagnosis and treatment. In particular, MEDITWIN will enable doctors to simulate future scenarios for a patient. Seven new medical practices will be developed from the virtual twins, in neurology, cardiology and oncology. This will result in seven "virtual healthcare products" that will be deployed on a sovereign industrial cloud platform. The project is funded by FRANCE 2030. The MEDITWIN project leverages the expertise of 14 world-class partners in each of the fields covered: Dassault Systèmes, as the industrial leader of the consortium; seven University Hospital Institutes at the highest level of medical and scientific excellence; Nantes University Hospital via l'institut du thorax; startups inHEART, Codoc, Qairnel and Neurometers; and Inria through 11 project teams involved in this project.



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**SimCardioTest** aims to design new predictive tools in cardiac pathologies and aims to accelerate the uptake of computer simulations for testing medicines and medical devices. One objective is to provide a framework and wide approach of in-silico methods (Computer modelling and simulation) where generic and standardized elements can be used for other applications. The second one aims to demonstrate that such approach can help develop devices and drugs as well as reduce the cost and time to market and to gain the trust of scientists, companies, regulatory bodies, physicians, patients. The final objective is to impact the whole clinical trials, since this approach can replace some invasive aspects of these trials, and maybe provide novel biomarkers for more accurate clinical trials.

