

Thermo-Electro-Mechanical mathematical modeling of Cardiac Tissue

Christian Cherubini (speaker)

*Nonlinear Physics and Mathematical Modeling, Department of Engineering, University Campus Bio-Medico of
Rome, Via A. del Portillo 21, 00128, Rome, Italy
c.cherubini@unicampus.it*

Ricardo Ruiz-Baier

*Mathematical Institute, University of Oxford, Woodstock Road, Oxford OX2 6GG, United Kingdom
ruizbaier@maths.ox.ac.uk*

Alessio Gizzi

*Nonlinear Physics and Mathematical Modeling, Department of Engineering, University Campus Bio-Medico of
Rome, Via A. del Portillo 21, 00128, Rome, Italy
s.filippi@unicampus.it*

Alessandro Loppini

*Nonlinear Physics and Mathematical Modeling, Department of Engineering, University Campus Bio-Medico of
Rome, Via A. del Portillo 21, 00128, Rome, Italy
a.loppini@unicampus.it*

Simonetta filippi

*Nonlinear Physics and Mathematical Modeling, Department of Engineering, University Campus Bio-Medico of
Rome, Via A. del Portillo 21, 00128, Rome, Italy
s.filippi@unicampus.it*

Abstract

We present a novel mathematical model[1] for cardiac electromechanics based on a passive exponential orthotropic model in union with an orthotropic active contraction formulation. In addition, nonlinear conductivity properties and temperature effects[2, 3] are included. Numerical simulations are performed in order to test the model and possible implications for cardiac pathologies as arrhythmia are discussed.

References

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