

## Sarah KOSTA

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United States

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### EDUCATION

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2007-2010:	Bachelor's degree in Physics (Summa Cum Laude) University of Liège, Belgium
2010-2012:	Master's degree in Physics (Summa Cum Laude) University of Liège, Belgium
2012-2018:	PhD in Physics, University of Liège, Belgium  Thesis: " <i>In silico</i> analysis of the Frank-Starling mechanism" Advisor/Co-advisor: Prof. P. Dauby and Prof. M. Hoebeke Jury: Prof. J. Braggard, Dr. T. Desaive, Prof. P. Kolh, Dr. J. Lumens , Prof. A. Seret and Prof. V. Seutin

### EMPLOYEMENT

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2012-2018:	Teaching Assistant, University of Liège, Belgium
2018-2019:	Pedagogical Assistant, University of Liège, Belgium
2020-present:	Postdoctoral Scholar, University of Kentucky, Kentucky, USA

### SKILLS

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<i>Programming</i>	MatLab, Mathematica, Python. Basic knowledge of C++, HTML, Javascript
<i>Teaching</i>	General Physics, Analytical Mechanics, Modeling of Biological Systems
<i>Languages</i>	French (native speaker), English (excellent command)

## PUBLICATIONS

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- Pironet, A., Dauby, P., Paeme, S., Kosta, S., Chase, J. G., & Desaive, T. (2013). Simulation of Left Atrial Function Using a Multi-Scale Model of the Cardiovascular System. PLoS ONE, 8(6), 65146.
- Pironet, A., Desaive, T., Kosta, S., Lucas, A., Paeme, S., Collet, A., Pretty, C., Kolh, P., & Dauby, P. (2013). A multi-scale cardiovascular system model can account for the load-dependence of the end-systolic pressure-volume relationship. BioMedical Engineering OnLine, 12(1), 8.
- Kosta, S., Negroni, J., Lascano, E., & Dauby, P. (2017). Multiscale model of the human cardiovascular system: Description of heart failure and comparison of contractility indices. Mathematical Biosciences, 284, 71-79.
- Lascano, E. C., Felice, J. I., Wray, S., Kosta, S., Dauby, P., Cabrera-Fischer, E. I., & Negroni, J. A. (2018). Experimental assessment of a myocyte-based multiscale model of cardiac contractile dysfunction. Journal of Theoretical Biology, 456, 16-28.
- Kosta, S., Dauby, P. (in press). Frank-Starling mechanism, fluid responsiveness, and length-dependent activation: unravelling the multiscale behaviors with an in silico analysis. PLOS Computational Biology.
- Kosta, S., Colli, D., Ye, Q., Campbell, K. S. (2021). FiberSim: a flexible open-source model of myofilament-level contraction. Manuscript submitted for publication. doi:10.1101/2021.06.11.448126.

## ACTIVITIES AND INTERESTS

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- Improv comedy. Engaged in two amateur companies from Liège and Brussels.
- Scientific popularization projects. Engaged in scientific presentations aimed at high school students.