

Intelligent Medical Decision Making for Health Equity

Amirtahà Taebe, Ph.D.

Assistant Professor of Bioengineering



LEHIGH
UNIVERSITY

Department of Bioengineering

PI Background



Dr. Amirtahà Taebi

Keywords: Cardiorespiratory health monitoring, seismocardiography, wearables, digital twins

Education and Training

Postdoctoral Fellowship, *University of California, Davis* (2021)
Ph.D., Mechanical Engineering, *University of Central Florida* (2018)
M.Sc., Bioengineering, *Politecnico di Milano* (2013)
B.Sc., Mechanical Engineering, *Sharif University of Technology* (2010)

Areas of Research Interest

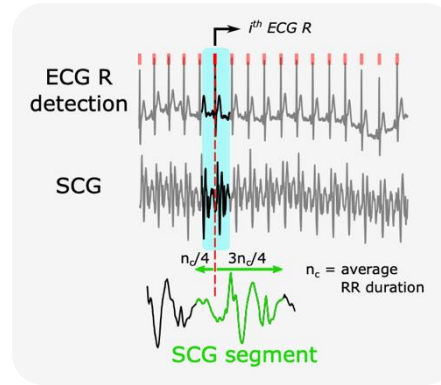
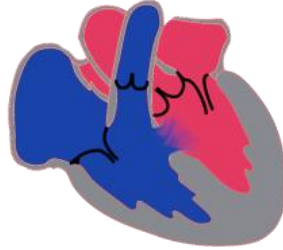
Smart and digital health
Multiphysics simulation
Medical devices and sensors
Physiological sensing

Selected Publications

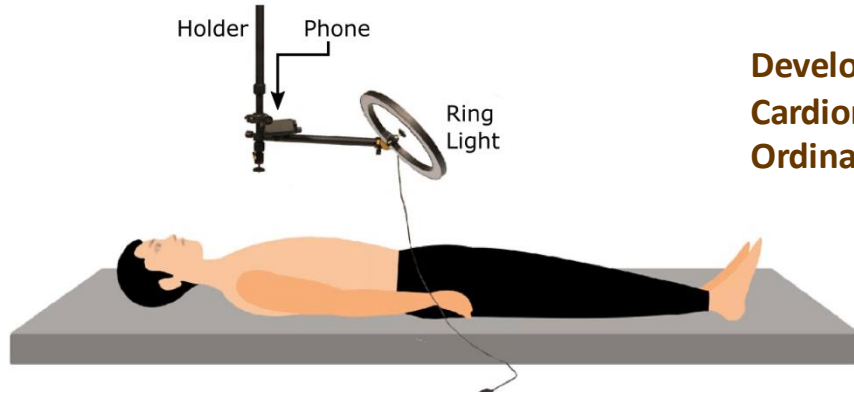
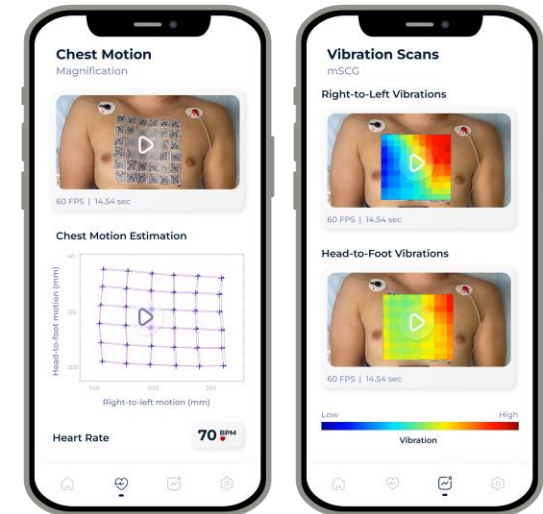
- Rahman, M., Kakavand, B., Wurm, W., Holman, W., Movahed, M.R., **Taebi, A.** (2025). From video to vital signs: A new method for contactless multichannel seismocardiography. *npj Cardiovascular Health*, 2(1), p.1.
- Monfared, M., Gamage, P., Loghmani, A., **Taebi, A.** (2025). Computational Modeling of Cardiovascular-Induced Chest Vibrations: A Review and Practical Guide for Seismocardiography Simulation. *Int J for Num Meth in Biomed Eng*, 41(5), p.e70047.

Novel Cardiorespiratory Health Monitoring

Characterizing
Cardiorespiratory
Signals Such as
Seismocardiograms
Under Various
Cardiovascular Conditions



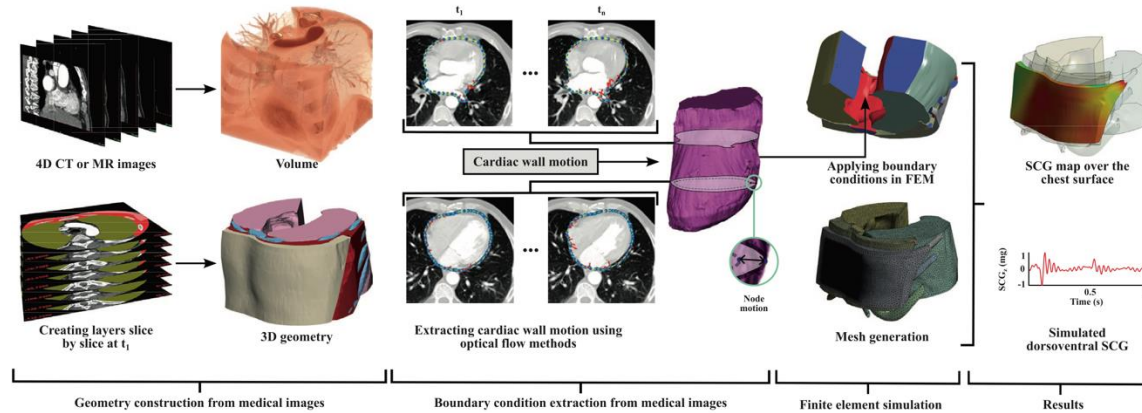
Developing Ubiquitous
and Smart Healthcare
Monitoring Methods



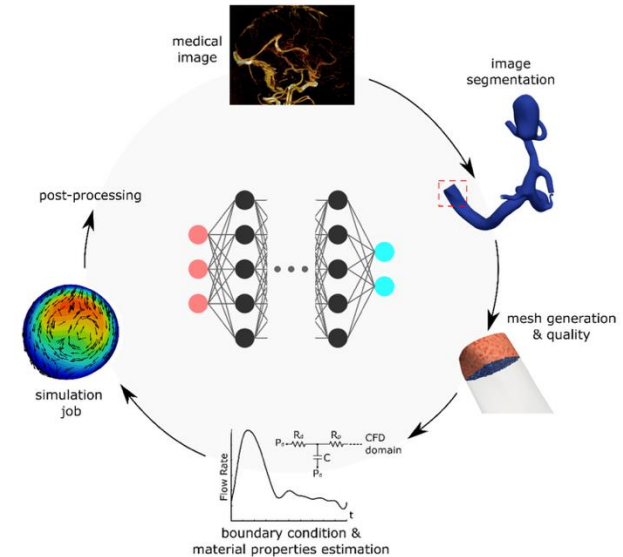
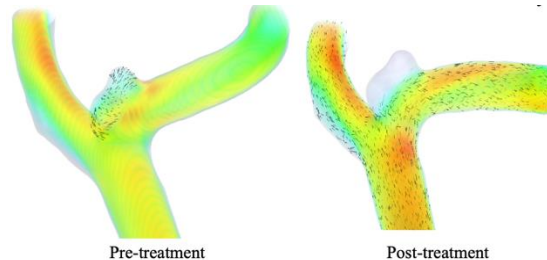
Developing Novel Contactless
Cardiorespiratory from
Ordinary Videos

Digital Twin Modeling of Cardiovascular System

Computational Modeling of Cardiovascular-Induced Chest Vibrations



Personalized Treatment Planning Based on Digital Twin Technology



Deep Learning for Computational Hemodynamic Modeling

Contact Information



Iacocca Hall, Health Research Hub, Room C346
111 Research Dr.
Bethlehem, PA 18015

Webpage <https://taebilab.lehigh.edu>
YouTube <https://www.youtube.com/@TaebiLab>
LinkedIn <https://www.linkedin.com/company/taebi-lab>
X @TaebiLab
Email taebilab@gmail.com

Dr. Amirtahà Taebi

Email amirtaha@lehigh.edu
Phone (610) 758-4096



Taebi Lab's end-of-semester lunch gathering – Spring 2025

Sponsors



National
Science
Foundation

