SimVascular
RRID:SCR_002686
Type: Tool

Proper Citation
SimVascular (RRID:SCR_002686)

Resource Information

URL: https://simtk.org/home/simvascular

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Description: Open source software suite for cardiovascular simulation. It includes code for reading 3D images, segmenting structures, generating models and meshes, and modeling blood flow in deformable vessels. The suite also includes tools for physiologic boundary conditions, fluid structure interaction, and an accurate and efficient finite element Navier-Stokes solver. Commercial components have been used in the simulation process, and for these components, the project attempts to provide interfaces that allow substitution of open source components. The SimVascular project is derived from the ASPIRE2 software project and includes modified portions of PHASTA from RPI/SCOREC.

Synonyms: SimVascular: Cardiovascular Modeling and Simulation

Resource Type: simulation software, software resource, software application

Defining Citation: PMID:31446517

Keywords: simulation software, fluid dynamics, blood flow, cardiovascular, image-based geometric modeling, image segmentation, mesh generation, vascular, bio.tools

Availability: Free, Freely available

Resource Name: SimVascular

Resource ID: SCR_002686
Alternate IDs: nif-0000-23311, BioTools:SimVascular, biotools:SimVascular, biotools:SimVascular


Ratings and Alerts

No rating or validation information has been found for SimVascular.

No alerts have been found for SimVascular.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 30 mentions in open access literature.

Listed below are recent publications. The full list is available at RRID.


Schwarz EL, et al. (2021) Hemodynamic performance of tissue-engineered vascular grafts in Fontan patients. NPJ Regenerative medicine, 6(1), 38.


Cao H, et al. (2021) Hemodynamic Characteristics of Patients With Suspected Coronary Heart Disease at Their Initial Visit. Frontiers in physiology, 12, 714438.


