Resource Summary Report

Generated by NIF on May 25, 2025

Simtk.org

RRID:SCR_002680
Type: Tool

Proper Citation

Simtk.org (RRID:SCR_002680)

Resource Information

URL: https://simtk.org

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Description: A National NIH Center for Biomedical Computing that focuses on physics-based simulation of biological structures and provides open access to high quality simulation tools, accurate models and the people behind them. It serves as a repository for models that are published (as well as the associated code) to create a living archive of simulation scholarship. Simtk.org is organized into projects. A project represents a research endeavor, a software package or a collection of documents and publications. Includes sharing of image files, media, references to publications and manuscripts, as well as executables and applications for download and source code. Simulation tools are free to download and space is available for developers to manage, share and disseminate code.

Abbreviations: SimTK

Synonyms: Simulation Toolkit, SimTK - the Simulation Toolkit

Resource Type: software repository, software resource, simulation software, software application

Keywords: model, modeling, rna folding, protein folding, myosin dynamics, neuromuscular biomechanics, cardiovascular dynamics, biomolecular simulation, biomedical computing, repository, cardiovascular, neuromuscular, myosin, rna, simulation, biocomputation

Funding: NIH ;
NIGMS U54 GM072970

Availability: Open unspecified license

Resource Name: Simtk.org

Resource ID: SCR_002680

Alternate IDs: nif-0000-23302, DOI:10.17616/R3QJ4B, DOI:10.18735

Alternate URLs: https://doi.org/10.17616/R3QJ4B, https://doi.org/10.17616/r3qj4b, https://doi.org/10.18735/, https://dx.doi.org/10.18735/

Record Creation Time: 20220129T080214+0000

Record Last Update: 20250525T030714+0000

Ratings and Alerts

No rating or validation information has been found for Simtk.org.

No alerts have been found for Simtk.org.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 16 mentions in open access literature.

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

Ghorbannia A, et al. (2023) Consistency of the continuous flow pressure gradient despite aortic arch anomalies co-existing with coarctation. medRxiv : the preprint server for health sciences.

Kainz H, et al. (2023) Influence of femoral anteversion angle and neck-shaft angle on muscle forces and joint loading during walking. PloS one, 18(10), e0291458.

Weisse B, et al. (2022) Effect of two types of shoulder prosthesis on the muscle forces using a generic multibody model for different arm motions. Biomedical engineering online, 21(1), 17.

Meise HF, et al. (2021) Development of a three-dimensional computer model of the canine pelvic limb including cruciate ligaments to simulate movement. Research in veterinary science, 136, 430.

Flores SC, et al. (2021) Mining the Protein Data Bank to improve prediction of changes in protein-protein binding. PloS one, 16(11), e0257614.

Farshad M, et al. (2021) Musculoskeletal biomechanics of patients with or without adjacent segment degeneration after spinal fusion. BMC musculoskeletal disorders, 22(1), 1038.

Leonard-Duke J, et al. (2020) Multi-scale models of lung fibrosis. Matrix biology : journal of the International Society for Matrix Biology, 91-92, 35.

Shourijeh MS, et al. (2020) Editorial: Advances in Musculoskeletal Modeling and Their Application to Neurorehabilitation. Frontiers in neurorobotics, 14, 65.

Sauder NR, et al. (2019) Computational Design of FastFES Treatment to Improve Propulsive Force Symmetry During Post-stroke Gait: A Feasibility Study. Frontiers in neurorobotics, 13, 80.

Heers AM, et al. (2018) Building a Bird: Musculoskeletal Modeling and Simulation of Wing-Assisted Incline Running During Avian Ontogeny. Frontiers in bioengineering and biotechnology, 6, 140.

Somarowthu S, et al. (2016) Progress and Current Challenges in Modeling Large RNAs. Journal of molecular biology, 428(5 Pt A), 736.

Erdemir A, et al. (2016) Open Knee: Open Source Modeling and Simulation in Knee Biomechanics. The journal of knee surgery, 29(2), 107.

Schellenberg F, et al. (2015) Review of Modelling Techniques for In Vivo Muscle Force Estimation in the Lower Extremities during Strength Training. Computational and mathematical methods in medicine, 2015, 483921.

Arbia G, et al. (2014) Numerical blood flow simulation in surgical corrections: what do we need for an accurate analysis? The Journal of surgical research, 186(1), 44.

Valente G, et al. (2014) Are subject-specific musculoskeletal models robust to the uncertainties in parameter identification? PloS one, 9(11), e112625.

Huang L, et al. (2013) The application of computer musculoskeletal modeling and simulation to investigate compressive tibiofemoral force and muscle functions in obese children. Computational and mathematical methods in medicine, 2013, 305434.