Resource Summary Report

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Vascular Modeling Toolkit

RRID:SCR_001893
Type: Tool

Proper Citation

Vascular Modeling Toolkit (RRID:SCR_001893)

Resource Information

URL: http://www.vmtk.org/

Proper Citation: Vascular Modeling Toolkit (RRID:SCR_001893)

Description: Software collection of libraries and tools for 3D reconstruction, geometric analysis, mesh generation and surface data analysis for image-based modeling of blood vessels.

Abbreviations: vmtk

Synonyms: vmtk - the Vascular Modeling Toolkit

Resource Type: software resource, software toolkit, software application

Defining Citation: PMID:19002516, PMID:19447701, DOI:10.1109/TMI.2009.2021652

Keywords: 3d reconstruction, geometric analysis, mesh generation, surface data analysis, image-based modeling, blood vessel, reconstruction, 3d

Resource Name: Vascular Modeling Toolkit

Resource ID: SCR_001893

Alternate IDs: nlx_155869, OMICS_13947

Alternate URLs: https://sources.debian.org/src/vmtk/

Ratings and Alerts

No rating or validation information has been found for Vascular Modeling Toolkit.

No alerts have been found for Vascular Modeling Toolkit.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 64 mentions in open access literature.

Listed below are recent publications. The full list is available at FDI Lab - SciCrunch.org.

Bartolo MA, et al. (2024) Computational framework for the generation of one-dimensional vascular models accounting for uncertainty in networks extracted from medical images. ArXiv.

Zheng Y, et al. (2023) Effects of myocardial sheetlet sliding on left ventricular function. Biomechanics and modeling in mechanobiology, 22(4), 1313.

Rezaeitaleshmahalleh M, et al. (2023) Characterization of small abdominal aortic aneurysms' growth status using spatial pattern analysis of aneurismal hemodynamics. Scientific reports, 13(1), 13832.

Gharleghi R, et al. (2023) Annotated computed tomography coronary angiogram images and associated data of normal and diseased arteries. Scientific data, 10(1), 128.

Hegner A, et al. (2023) Using averaged models from 4D ultrasound strain imaging allows to significantly differentiate local wall strains in calcified regions of abdominal aortic aneurysms. Biomechanics and modeling in mechanobiology, 22(5), 1709.

Wong HS, et al. (2023) Fluid Mechanical Effects of Fetal Aortic Valvuloplasty for Cases of Critical Aortic Stenosis with Evolving Hypoplastic Left Heart Syndrome. Annals of biomedical engineering, 51(7), 1485.

Sturla F, et al. (2023) Fast Approximate Quantification of Endovascular Stent Graft Displacement Forces in the Bovine Aortic Arch Variant. Journal of endovascular therapy : an official journal of the International Society of Endovascular Specialists, 30(5), 756.

Baltazar S, et al. (2023) Effects of endothelial nitric oxide synthase on mouse arteriovenous fistula hemodynamics. Scientific reports, 13(1), 22786.

Bennati L, et al. (2023) An Image-Based Computational Fluid Dynamics Study of Mitral Regurgitation in Presence of Prolapse. Cardiovascular engineering and technology, 14(3), 457.

Takiyama T, et al. (2022) A maternal high-fat diet induces fetal origins of NASH-HCC in mice. Scientific reports, 12(1), 13136.

Cairelli AG, et al. (2022) Fluid mechanics of the zebrafish embryonic heart trabeculation. PLoS computational biology, 18(6), e1010142.

Veeturi SS, et al. (2022) Hemodynamic Analysis Shows High Wall Shear Stress Is Associated with Intraoperatively Observed Thin Wall Regions of Intracranial Aneurysms. Journal of cardiovascular development and disease, 9(12).

Waldmann M, et al. (2022) An effective simulation- and measurement-based workflow for enhanced diagnostics in rhinology. Medical & biological engineering & computing, 60(2), 365.

Bian Z, et al. (2022) Validation of a robust method for quantification of three-dimensional growth of the thoracic aorta using deformable image registration. Medical physics, 49(4), 2514.

Uchiyama Y, et al. (2022) Role of patient-specific blood properties in computational fluid dynamics simulation of flow diverter deployed cerebral aneurysms. Technology and health care : official journal of the European Society for Engineering and Medicine, 30(4), 839.

Wong HS, et al. (2022) Fluid Mechanics of Fetal Left Ventricle During Aortic Stenosis with Evolving Hypoplastic Left Heart Syndrome. Annals of biomedical engineering, 50(9), 1158.

Colombo M, et al. (2021) In-Stent Restenosis Progression in Human Superficial Femoral Arteries: Dynamics of Lumen Remodeling and Impact of Local Hemodynamics. Annals of biomedical engineering, 49(9), 2349.

Calò K, et al. (2021) Combining 4D Flow MRI and Complex Networks Theory to Characterize the Hemodynamic Heterogeneity in Dilated and Non-dilated Human Ascending Aortas. Annals of biomedical engineering, 49(9), 2441.

Hwang YS, et al. (2021) 3D Ultrastructure of Synaptic Inputs to Distinct GABAergic Neurons in the Mouse Primary Visual Cortex. Cerebral cortex (New York, N.Y. : 1991), 31(5), 2610.

Boumpouli M, et al. (2021) Characterization of Flow Dynamics in the Pulmonary Bifurcation of Patients With Repaired Tetralogy of Fallot: A Computational Approach. Frontiers in cardiovascular medicine, 8, 703717.