

Resource Summary Report

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CalC

RRID:SCR_014259

Type: Tool

Proper Citation

CalC (RRID:SCR_014259)

Resource Information

URL: <https://web.njit.edu/~matveev/calc.html>

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Description: A modeling tool for simulating intracellular calcium diffusion and buffering. CalC solves continuous reaction-diffusion PDEs describing the entry of calcium into a volume through point-like channels, and its diffusion, buffering and binding to calcium receptors. Its features include: being platform-independent; being operated by simple script; combinable with MATLAB; and providing real-time views. Demos and manuals are provided on the website.

Synonyms: Calcium Calculator

Resource Type: simulation software, software application, software resource

Keywords: simulation software, modeling tool, intracellular calcium diffusion, intracellular calcium buffering, pde

Funding: NSF 0417416;
NSF 0817703;
NSF 1517085

Availability: Free, Acknowledgement requested

Resource Name: CalC

Resource ID: SCR_014259

License: CalC is provided on an as-is basis.

Record Creation Time: 20220129T080319+0000

Record Last Update: 20260903T235802+0000

Ratings and Alerts

No rating or validation information has been found for CalC.

No alerts have been found for CalC.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 31 mentions in open access literature.

Listed below are recent publications. The full list is available at [NIF](#) .

Liatsos AC, et al. (2026) Short- and Long-Term Survival Prediction Using Different Prognostic Scores in Cardiovascular Surgeries. *Journal of clinical medicine*, 15(7).

Nixon-Abell J, et al. (2025) ANXA11 biomolecular condensates facilitate protein-lipid phase coupling on lysosomal membranes. *Nature communications*, 16(1), 2814.

Koumaki D, et al. (2024) Color Analysis of Merkel Cell Carcinoma: A Comparative Study with Cherry Angiomas, Hemangiomas, Basal Cell Carcinomas, and Squamous Cell Carcinomas. *Diagnostics (Basel, Switzerland)*, 14(2).

Amaral JL, et al. (2024) UPbGeoChronSPZ2024: U-Pb data from the South Portuguese Zone, Iberian Massif. *Data in brief*, 57, 111089.

García-Sánchez VJ, et al. (2024) Carbon and Nitrogen Sources Influence Parasitic Responsiveness in *Trichoderma atroviride* NI-1. *Journal of fungi (Basel, Switzerland)*, 10(10).

Li X, et al. (2023) Synthesis, Photoswitching Behavior and Nonlinear Optical Properties of Substituted Tribenzo[a,d,g]coronene. *Molecules (Basel, Switzerland)*, 28(3).

Eisner D, et al. (2023) Physiology of intracellular calcium buffering. *Physiological reviews*, 103(4), 2767.

Martínez-Martínez C, et al. (2022) A cryptic variation in a member of the Ovate Family Proteins is underlying the melon fruit shape QTL fsqs8.1. *TAG. Theoretical and applied genetics. Theoretische und angewandte Genetik*, 135(3), 785.

Tran V, et al. (2022) Three small vesicular pools in sequence govern synaptic response dynamics during action potential trains. *Proceedings of the National Academy of Sciences of the United States of America*, 119(5).

Stogios PJ, et al. (2022) Molecular analysis and essentiality of Aro1 shikimate biosynthesis multi-enzyme in *Candida albicans*. *Life science alliance*, 5(8).

Magar P, et al. (2021) Novel Sulfonamide-Based Carbamates as Selective Inhibitors of BChE. *International journal of molecular sciences*, 22(17).

Huang Z, et al. (2021) Serum metabolomics of Bama miniature pigs bitten by *Bungarus multicinctus*. *Toxicology letters*, 350, 225.

Iaparov BI, et al. (2021) In silico simulations reveal that RYR distribution affects the dynamics of calcium release in cardiac myocytes. *The Journal of general physiology*, 153(4).

Kobbersmed JR, et al. (2020) Rapid regulation of vesicle priming explains synaptic facilitation despite heterogeneous vesicle:Ca²⁺ channel distances. *eLife*, 9.

Ahn KO, et al. (2019) The influence of behavioural and socioeconomic factors on the community injury rates of adolescents assessed by the south Korean emergency medical services: an ecological approach. *BMC public health*, 19(1), 830.

Moon YJ, et al. (2019) Quantitative Analysis of an Intraoperative Digitalized Esophageal Heart Sound Signal to Speculate on Perturbed Cardiovascular Function. *Journal of clinical medicine*, 8(5).

Park YS, et al. (2019) Beat-to-Beat Tracking of Pulse Pressure and Its Respiratory Variation Using Heart Sound Signal in Patients Undergoing Liver Transplantation. *Journal of clinical medicine*, 8(5).

Montefusco F, et al. (2019) From Local to Global Modeling for Characterizing Calcium Dynamics and Their Effects on Electrical Activity and Exocytosis in Excitable Cells. *International journal of molecular sciences*, 20(23).

Neef J, et al. (2018) Quantitative optical nanophysiology of Ca²⁺ signaling at inner hair cell active zones. *Nature communications*, 9(1), 290.

Sharif F, et al. (2018) Effectiveness of Life Review Therapy on Quality of Life in the Late Life at Day Care Centers of Shiraz, Iran: A Randomized Controlled Trial. *International journal of community based nursing and midwifery*, 6(2), 136.