

Resource Summary Report

Generated by PRECISE-TBI on Aug 1, 2026

BioSig: An Imaging Bioinformatics System for Phenotypic Analysis

RRID:SCR_008428

Type: Tool

Proper Citation

BioSig: An Imaging Bioinformatics System for Phenotypic Analysis (RRID:SCR_008428)

Resource Information

URL: <http://biosig.sourceforge.net/>

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Description: Software library for processing of electroencephalogram (EEG) and other biomedical signals like electroencephalogram (EEG), electrocorticogram (ECoG), electrocardiogram (ECG), electrooculogram (EOG), electromyogram (EMG), respiration, and so on. Biosig contains tools for quality control, artifact processing, time series analysis, feature extraction, classification and machine learning, and tools for statistical analysis. Many tools are able to handle data with missing values (statistics, time series analysis, machine learning). Another feature is that more than 40 different data formats are supported, and a number of converters for EEG, ECG and polysomnography are provided. Biosig has been widely used for scientific research on EEG-based Brain-Computer Interfaces (BCI), sleep research, and ECG and HRV analysis. It provides software interfaces several programming languages (C, C++, Matlab/Octave, Python), and it provides also an interactive viewing and scoring software for adding, and editing of annotations, markers and events.

Abbreviations: BioSig

Resource Type: software toolkit, software application, data processing software, software resource, image processing software, software library

Defining Citation: [DOI:10.1109/MC.2008.407](https://doi.org/10.1109/MC.2008.407)

Keywords: application, autocorrelation, bsd, c, c++, connectivity analysis, correlation, cross-correlation, directed transfer analysis, discriminant analysis, domain independent, eeg, meg, electrocorticography, end event related potential, format conversion, german, gnome, granger causality, information theory, kde, linux, matlab, microsoft, multivariate analysis, partial directed coherence, posix/unix-like, python, regression, spectral analysis,

statistical operation, temporal transformation, time domain analysis, win32 (ms windows), windows, electrocorticogram, electrocardiogram, electrooculogram, electromyogram, respiration, signal, processing, biosignal

Availability: Free, Available for download, Freely available

Resource Name: BioSig: An Imaging Bioinformatics System for Phenotypic Analysis

Resource ID: SCR_008428

Alternate IDs: nif-0000-30190

Alternate URLs: <http://www.nitrc.org/projects/biosig>, <https://sources.debian.org/src/biosig-tools/>

License: GNU GPL

Record Creation Time: 20220129T080247+0000

Record Last Update: 20260801T042648+0000

Ratings and Alerts

No rating or validation information has been found for BioSig: An Imaging Bioinformatics System for Phenotypic Analysis.

No alerts have been found for BioSig: An Imaging Bioinformatics System for Phenotypic Analysis.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 158 mentions in open access literature.

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

Doornaert EE, et al. (2025) Postnatal environment affects auditory development and sensorimotor gating in a rat model for autism spectrum disorder. *Frontiers in neuroscience*, 19, 1565919.

Fabrizio-Stover EM, et al. (2025) Sound-evoked plasticity differentiates tinnitus from non-tinnitus mice. *Frontiers in neuroscience*, 19, 1549163.

Greger IH, et al. (2025) 'Mini analysis' misrepresents changes in synaptic properties due to incomplete event detection. *The Journal of physiology*, 603(22), 7189.

Moreland ZG, et al. (2025) Myosin-based nucleation of actin filaments contributes to stereocilia development critical for hearing. *Nature communications*, 16(1), 947.

Czepiel AM, et al. (2025) Audio-visual concert performances synchronize audience's heart rates. *Annals of the New York Academy of Sciences*, 1543(1), 117.

Awang D, et al. (2025) CircRNA-miRNA-mRNA regulatory network in high-altitude hypobaric hypoxia-induced hearing impairment and hearing acclimatization. *Brazilian journal of otorhinolaryngology*, 91(2), 101557.

McCain KJ, et al. (2025) The Contribution of the Koniocellular Visual Pathway to Aversive Learning in Human Visual Cortex. *bioRxiv : the preprint server for biology*.

Shen M, et al. (2025) Mesoporous Silica Nanoparticles for Quercetin-Controlled Delivery to Protect Cisplatin-Induced Ototoxicity. *ACS applied bio materials*, 8(11), 10419.

Grassi F, et al. (2024) Relevance acquisition through motivational incentives: Modeling the time-course of associative learning and the role of visual features. *Imaging neuroscience (Cambridge, Mass.)*, 2.

Perez-Gonzalez D, et al. (2024) Acetylcholine modulates the precision of prediction error in the auditory cortex. *eLife*, 12.

Martinez-Lizana E, et al. (2024) Resting state connectivity biomarkers of seizure freedom after epilepsy surgery. *NeuroImage. Clinical*, 44, 103673.

Oestreicher D, et al. (2024) CaBP1 and 2 enable sustained CaV1.3 calcium currents and synaptic transmission in inner hair cells. *eLife*, 13.

Hartig EI, et al. (2024) Proteins required for stereocilia elongation during mammalian hair cell development ensure precise and steady heights during adult life. *Proceedings of the National Academy of Sciences of the United States of America*, 121(40), e2405455121.

Chokr SM, et al. (2024) Loss of C1q alters the auditory brainstem response. *Frontiers in cellular neuroscience*, 18, 1464670.

Parida S, et al. (2024) Rapid and objective assessment of auditory temporal processing using dynamic amplitude-modulated stimuli. *bioRxiv : the preprint server for biology*.

Novitskaya Y, et al. (2024) Intracranial EEG-Based Directed Functional Connectivity in Alpha to Gamma Frequency Range Reflects Local Circuits of the Human Mesiotemporal Network. *Brain topography*, 38(1), 10.

Parida S, et al. (2024) Rapid and objective assessment of auditory temporal processing using dynamic amplitude-modulated stimuli. *Communications biology*, 7(1), 1517.

Deng Z, et al. (2023) Dysregulation of Grainyhead-like 3 expression causes widespread developmental defects. *Developmental dynamics : an official publication of the American Association of Anatomists*, 252(5), 647.

Guan Y, et al. (2023) Deafness-Associated ADGRV1 Mutation Impairs USH2A Stability through Improper Phosphorylation of WHRN and WDSUB1 Recruitment. *Advanced science (Weinheim, Baden-Wuerttemberg, Germany)*, 10(16), e2205993.

Quintela-Vega L, et al. (2023) Novelty detection in an auditory oddball task on freely moving rats. *Communications biology*, 6(1), 1063.