

# Resource Summary Report

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## Dynamic Regulatory Events Miner

RRID:SCR\_003080

Type: Tool

### Proper Citation

Dynamic Regulatory Events Miner (RRID:SCR\_003080)

### Resource Information

**URL:** <http://www.sb.cs.cmu.edu/drem>

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**Description:** The Dynamic Regulatory Events Miner (DREM) allows one to model, analyze, and visualize transcriptional gene regulation dynamics. The method of DREM takes as input time series gene expression data and static transcription factor-gene interaction data (e.g. ChIP-chip data), and produces as output a dynamic regulatory map. The dynamic regulatory map highlights major bifurcation events in the time series expression data and transcription factors potentially responsible for them. DREM 2.0 was released and supports a number of new features including: \* new static binding data for mouse, human, D. melanogaster, A. thaliana \* a new and more flexible implementation of the IOHMM supports dynamic binding data for each time point or as a mix of static/dynamic TF input \* expression levels of TFs can be used to improve the models learned by DREM \* the motif finder DECOD can be used in conjunction with DREM and help find DNA motifs for unannotated splits \* new features for the visualization of expressed TFs, dragging boxes in the model view, and switching between representations

**Abbreviations:** DREM

**Synonyms:** Dynamic Regulatory Events Miner (DREM)

**Resource Type:** data processing software, software resource, software application

**Defining Citation:** [PMID:22897824](#)

**Keywords:** transcription, gene regulation, dynamics, time series, gene expression, static, dynamic, transcription factor-gene interaction, chip-chip, transcription factor, regulatory network, hidden markov model, systems biology, gene regulatory network, times series

expression data, dynamic network, chip-seq

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**Resource Name:** Dynamic Regulatory Events Miner

**Resource ID:** SCR\_003080

**Alternate IDs:** nif-0000-30478

**Record Creation Time:** 20220129T080217+0000

**Record Last Update:** 20250426T055608+0000

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## Ratings and Alerts

No rating or validation information has been found for Dynamic Regulatory Events Miner.

No alerts have been found for Dynamic Regulatory Events Miner.

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## Data and Source Information

**Source:** [SciCrunch Registry](#)

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## Usage and Citation Metrics

We found 5 mentions in open access literature.

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

Gérard D, et al. (2019) Temporal enhancer profiling of parallel lineages identifies AHR and GLIS1 as regulators of mesenchymal multipotency. *Nucleic acids research*, 47(3), 1141.

Chasman D, et al. (2019) Inferring Regulatory Programs Governing Region Specificity of Neuroepithelial Stem Cells during Early Hindbrain and Spinal Cord Development. *Cell systems*, 9(2), 167.

Abernathy DG, et al. (2017) MicroRNAs Induce a Permissive Chromatin Environment that Enables Neuronal Subtype-Specific Reprogramming of Adult Human Fibroblasts. *Cell stem cell*, 21(3), 332.

Xiao Y, et al. (2009) Identification of yeast transcriptional regulation networks using multivariate random forests. *PLoS computational biology*, 5(6), e1000414.

Ernst J, et al. (2007) Reconstructing dynamic regulatory maps. *Molecular systems biology*, 3,

