

Project summary

Numerous methods have been developed for inferring (reverse engineering) gene regulatory networks from expression data. However, both their absolute and comparative performance remain poorly understood. **The aim of this project is to provide benchmarks and tools for rigorous testing of methods for gene network inference.**

We have developed novel approaches for the **generation of realistic *in silico* benchmarks** and for the **identification of systematic errors** of network inference algorithms. Our framework is available as an easy-to-use Java tool called **GeneNetWeaver (GNW)**. We are using *in vivo* microarray compendia side-by-side with synthetic (GNW) data to assess the performance of network inference methods in the **DREAM challenge**, an annual community-wide network inference challenge.

Team

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Funding

- Swiss National Science Foundation
- Swiss SystemsX.ch Initiative (WingX project)

Web design: Daniel Marbach Last update: Jul 1, 2014



Click to launch GNW.
Verify that v3.1 was loaded (clear your Java cache if not).

Java Web Start is required. See the **software tab** for further information.

Spotlight

GeneNetWeaver paper published in *Bioinformatics*, **Faculty of 1000** features it as a *must read* [Jul 21, 2011]

Boehringer Ingelheim Best Poster Award for our poster at the **Systems Biology of Human Disease** conference in Boston [Jun 24, 2011]

GNW 3.1 has been released. New: additional parallel processes. [Mar 31, 2011]

GNW 3.0 has been released. New: evaluation of predictions, command-line interface, ... [Nov 15, 2010]

Subscribe to receive news about GNW and the DREAM challenge by email.

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Related work

Other *in silico* benchmark generators:

- **AGN**: Pedro Mendes et al.
- **GeNGe**: Hendrik Hache et al.
- **GRENDel**: Brian C. Haynes and Michael R. Brent.
- **Netsim**: Barbara di Camillo et al.
- **RENCO**: Sushmita Roy et al.
- **SynTReN**: Tim van den Bulcke, Koenraad van Leemput, et al.

Other inference challenges:

- **The causality workbench**

Do you know another one? Let us know!