Genomes & Diversity

Gramene currently hosts 53 complete reference genomes. In collaboration with Ensembl Genomes, for each reference genome, we incorporate community annotation from primary sources and enrich this information with a series of standardized functional analyses (e.g., InterProScan, GO and PO assignments). Evolutionary histories are provided by Compara phylogenetic gene trees and complemented by analyses of whole genome alignments. Gramene has also positioned itself as a resource for genome variation data in food crops including rice, maize, sorghum, wheat, barley, grape and tomato.

Pathways & Networks

The Plant Reactome (http://plantreactome.gramene.org) is a new platform for the comparative analysis of plant metabolic and regulatory networks, produced in collaboration with the Human Reactome Project. The May release of Plant Reactome includes 264 metabolic and signaling pathways for 75 plant species including rice, Arabidopsis, maize, Brassicas, and other crucifers.

Gramene also produces and hosts or mirrors metabolic pathways databases and visualization tools in the BioCyc collection. These are now hosted at CyVerse (http://pathway.iplantcollaborative.org).

Web Services

Gramene Mart for custom data dumps

- Public MySQL & DAS servers
- RESTful APIs

Outreach

Meet us at key scientific meetings including ASPB's Plant Biology and PAG. We also participate in Research Coordination Networks to understand community needs, and to establish and promote common data exchange formats.

PUIs and interested students

Apply for a **scholarship** to join our Genome Annotation Jamborees!

feedback@gramene.org

Cite Us

Tello-Ruiz *et al* (2018). Gramene 2018: unifying comparative genomics and pathway resources for plant research. NAR 46 (D1): D1181

Contact us

Like our Facebook page!



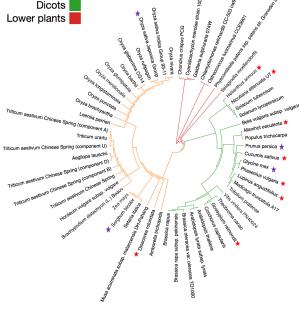


Funding

Current work is being supported by the NSF Plant Genome Research Resource grant award #1127112 and the USDA-ARS #1907-21000-030-00D.







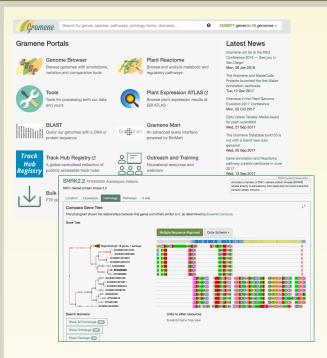
★ New

★ Updated

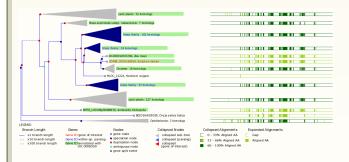
Comparative Genomics Across the Plant Kingdom

http://www.gramene.org

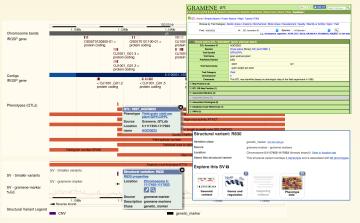
Gramene continues to grow! Now at 53 reference genomes and pathways for 75 species, including crops, model organisms and lower plants (build 57). Together these serve as a reference resource for comparative analyses, for the broad scientific community, in support of basic and translational research which impact societal interests in food security, energy production, and mitigating the effect of climate change.



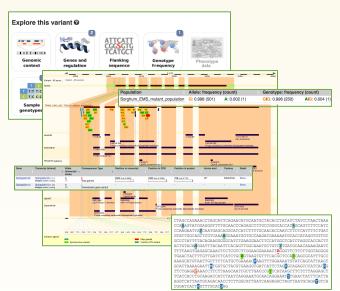
New homepage & improved search capabilities including new expression & pathways panels, pruning of gene trees to show selected species, highlighted



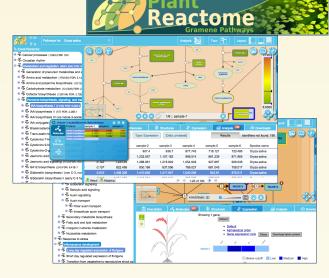
Phylogenetic tree for a sorghum gene similar to PAL1, a phenylalanine ammonia-lyase. Genes associated with L-Phe catabolism (GO:0006559) are highlighted showing conservation throughout the eukaryotic lineage



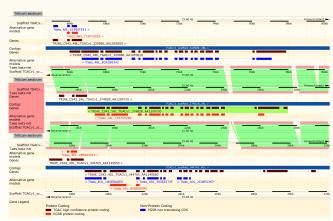
Rice QTLs and legacy genetic markers remapped to IRGSP1. This data will soon be available via the Gramene Mart, together with variants from the Arabidopsis 1001 genome project



View, mine, and download SNP and structural diversity and their consequence on gene/ transcript function. Featured above is EMS-induced variation in sorghum



Plant Reactome hosts curated rice pathways and homology-based projections to 75 species, including maize, black bean, wheat, sorghum, barley, chickpea, soybean, tomato, potato, banana, grape, orange, pepper, and coffee. Gene expression views from ATLAS available in



Wheat polyploid views and whole-genome alignments in the context of gene annotations across multiple species.