

BioGPS: An online tool that allows users to building custom mashups of gene annotations and expression profiles

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A paper describing the usage and capabilities of BioGPS, was just published in the special issue of *Nucleic Acids Research* on databases. BioGPS is a gene annotation portal that enables users to create gene-centric reports using some of their favorite web resources.

BioGPS currently receives an average of 132,000 [page views](#) per month, from roughly 14,500 unique users, making it a useful platform for developers of gene-centric web tools to expand the usage of their tools. Browser-based, gene/protein-centric web resources can easily be converted into plugins and introduced to the BioGPS user community.

Dr. Chunlei Wu, associate professor at The Scripps Research Institute, and the primary developer behind BioGPS explained, "As a free, open resource, over 70% of BioGPS's capabilities are available to the user without a BioGPS account. Creating a free account with BioGPS enables the save/load functions of BioGPS. BioGPS currently has over 9000 registered users, so developers of relevant online tools can introduce their resources to potential users by creating a plugin for their tool or resource in BioGPS."

Four key components contribute to the power and utility of BioGPS; these components include Plugins, Layouts, Genes/Gene lists, and Data sets.

"Plugins extend the capabilities of BioGPS and enable users to include search results from some of their favorite gene-specific, web-based resources," said Wu. "Allowing users to easily create and share plugins enables them to integrate information from various resources, and this sets BioGPS apart from many other web-based gene-centric annotation portals."

"Users can use plugins of interest to them to create customized gene reports, but only users with accounts can save their custom layouts for use in future gene searches. Additionally, users with accounts can save/load their own gene list."

Through collaborations with EMBL/EBI, BioGPS has since replaced its GEO-based dataset library containing ~2000 dataset with identical datasets from ArrayExpress. In transitioning to an ArrayExpress-based library, BioGPS has been able to incorporate an additional ~4000 datasets and increase the functionality of its most popular plugin, the Gene Expression Viewer.

"BioGPS now has over 6000 datasets from ArrayExpress, and these datasets can be viewed quickly with virtually no noticeable load time using our Gene Expression (activity chart) plugin. This plugin is one of the few plugins originally developed and maintained by the BioGPS team and is included in over 50% of the user-created layouts."

MyGene.info, also developed by Dr. Wu, provides the up-to-date annotation data for translating gene identifiers and plugin-rendering used in BioGPS.

To use BioGPS, visit biogps.org. The site is free to use and no registration is required.

More information: C. Wu et al. BioGPS: building your own mash-up

of gene annotations and expression profiles, *Nucleic Acids Research* (2015). [DOI: 10.1093/nar/gkv1104](https://doi.org/10.1093/nar/gkv1104)

Provided by Su lab at The Scripps Research Institute

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