South Green Galaxy: a suite of tools for plant genomics


South Green is a bioinformatics platform applied to the genomic resource analysis of southern and Mediterranean plants. The South Green web portal (http://www.southgreen.fr/) provides access to a large panel of bioinformatics resources including its own Galaxy instance which support a large community of users in Montpellier, France and beyond.

In addition to the generic tools provided with the standard installation of Galaxy, the South Green Galaxy instance (http://galaxy.southgreen.fr/galaxy/) contains a large collection of exclusive tools, Galaxy wrappers and workflows designed for analyses applied to plant genomes.

It actually comprises more than 100 Galaxy wrappers, 9 pre-configured workflows designed for recurrent analyses such as NGS mapping/cleaning, RNAseq, SNP calling and filtering, Genome-Wide Association Study, basic population genetics, structural variations, metagenomics and phylogenetics. We also developed innovative solution to graphically display outputs of each workflows.

Home-made Galaxy wrappers have been deposited in our local/central toolshed (http://galaxy.southgreen.fr/toolshed/) or in github (https://github.com/SouthGreenPlatform/galaxy-wrappers). Galaxy is extensively used to conduct capacity building activities. It is currently connected to HPC but we are also initiating use of Docker to disseminate some workflows in the IFB cloud, thus facilitating training activities worldwide.