

Galaxy

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Dave Clements
Emory University
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Galaxy is

An open web-based platform for *accessible, reproducible, and transparent* computational biomedical research.

- Accessible:
 - Don't need programming experience to use
- Reproducible:
 - Captures information so any user can repeat a complete computational analysis
- Transparent:
 - Share, publish, and explain analyses via the web

5 URLs

- UseGalaxy.org
- GetGalaxy.org
- UseGalaxy.org/cloud
- GalaxyProject.org
- UseGalaxy.org/galaxy101

Use Case: Encouraging tomorrow's scientists

Your 9 year old daughter asks:
Dad (or Mom), we have been
studying *science* at school, and
I know you aren't a *real
scientist*, but
which coding exon on
chromosome 22 has the most
known SNPs?

If you are me,
you say:
Um, ...
Sweetheart, ...
Go to sleep.

A rough plan: Galaxy

- Get some data
 - Coding exons on chromosome 22
 - SNPs on chromosome 22
- Mess with it
 - Identify which exons have SNPs
 - Count number of SNPs in each such exon
 - Identify the exon with most SNPs.
- UseGalaxy.org, UseGalaxy.org/galaxy101

Some other worked examples

- Shared Data → Published Pages*
 - Heteroplasmy
 - Windshield Splatter (metagenomics)
 - Variant Analysis
 - RNA-Seq
 - ...
- All examples of Galaxy Pages

* Also accessible at usegalaxy.org/page/list_published

Things we didn't talk about

- Data libraries and genome builds
- Tool Shed
- Sample Tracking
- API – programmatic access to Galaxy
- Community
- Mailing Lists
 - galaxy-user@lists.bx.psu.edu (~ 2000 members)
 - galaxy-dev@lists.bx.psu.edu (~ 400 members)

Thanks



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clements@galaxyproject.org

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