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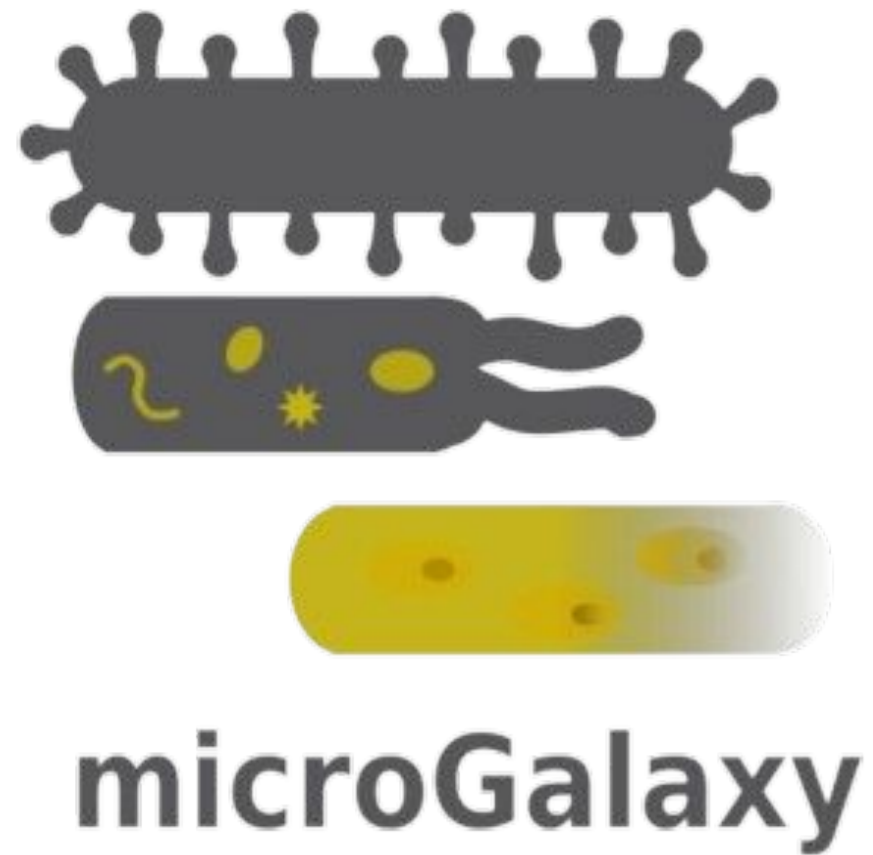
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microGalaxy SIG: microbial data analysis resources in Galaxy



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Introduction

Microbiology research involving microbiomes, meta*omics, and targeted microbial data analysis requires advanced programming skills, specialized tools, and significant computing power. Autonomous handling of these tasks can impede researchers' progress. The microGalaxy Scientific Interest Group (SIG) is here to help! The microGalaxy SIG maintains the Galaxy Community Hub page and a dedicated microbial Galaxy subdomain: <https://microgalaxy.usegalaxy.eu>.

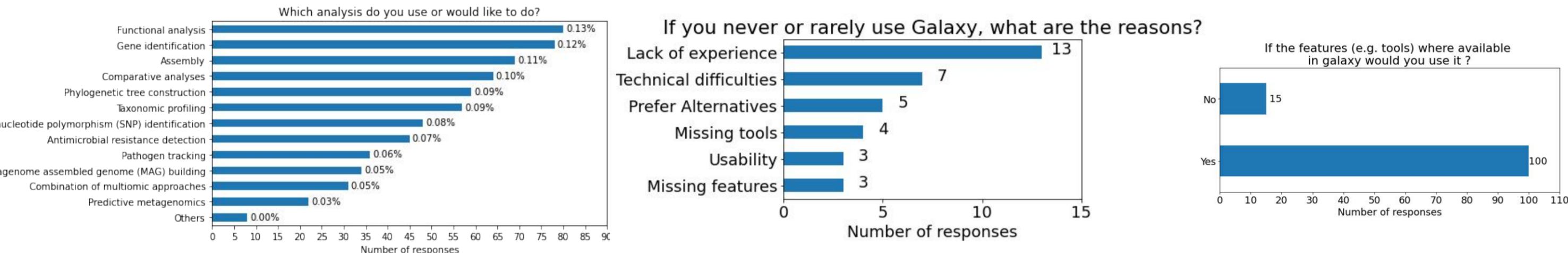
Mission of microGalaxy SIG

1. Develop and maintain microbial data analysis tools in Galaxy.
2. Establish standardized "best practices."
3. Expand documentation and training resources.
4. Coordinate collaborative efforts to avoid redundancy.
5. Outreach to the microbiology research communities.

Latest Achievements

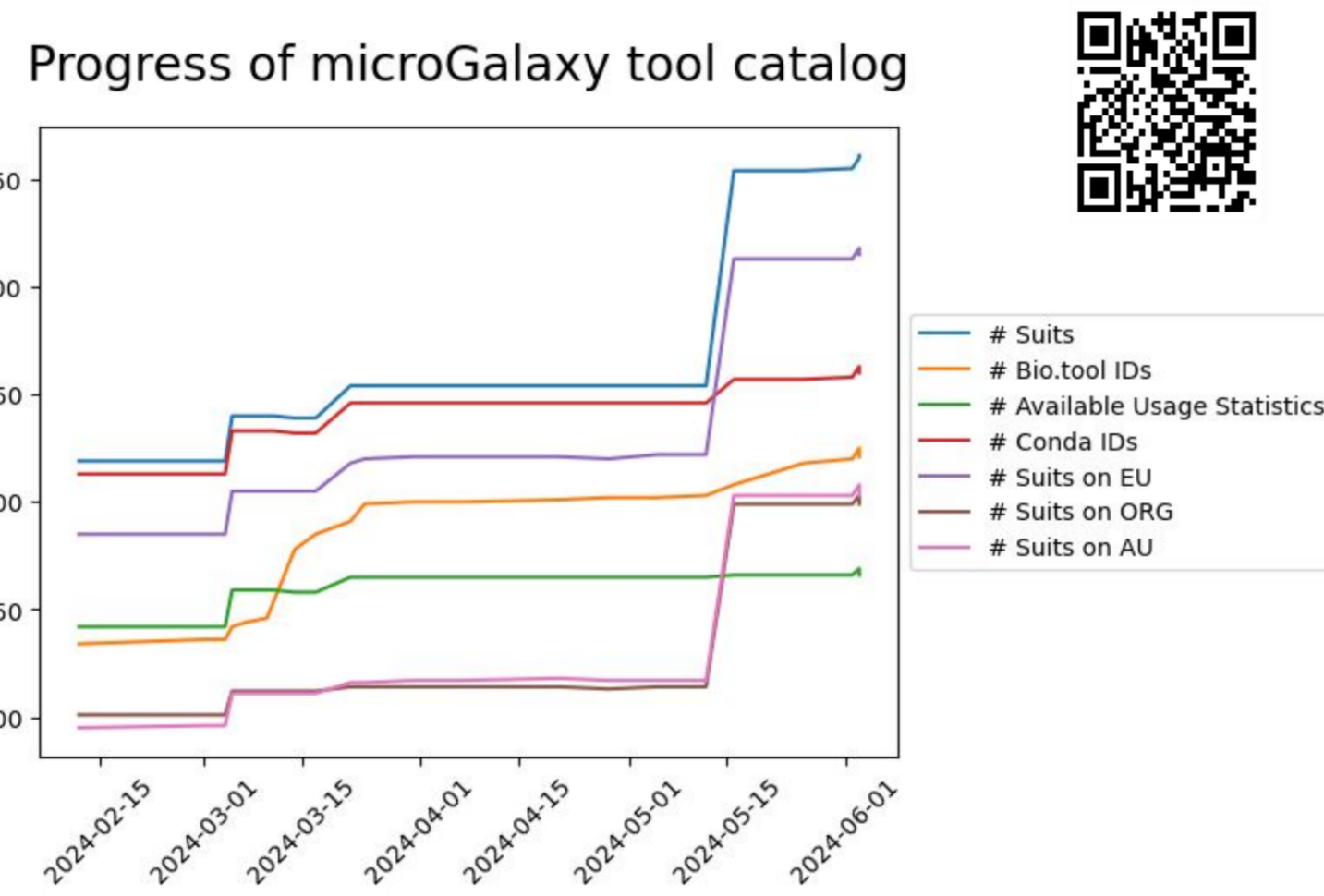
Community outreach

Survey with **100+** participants to evaluate the current usage and future needs of Galaxy for microbial data analysis.
Collection of **63** use cases to be selected for a use-case oriented research article.



Tool metadata curation

40+ tools added to the bio.tools registry
100+ Galaxy tool suites linked to corresponding bio.tools entries
40+ bio.tools with improved EDAM ontology annotations
30+ tutorials annotated with EDAM



Workflows and Training added in the last year

Amplicon analysis with

- MGnify (IWC)
- dada2 (IWC, GTN)
- QIIME2 (GTN)

Binning of metagenomic sequencing data (GTN)

Pathogen detection from (direct Nanopore) sequencing data (Public on usegalaxy.eu, IWC, GTN)

Clinical metaproteomics workflow (GTN)

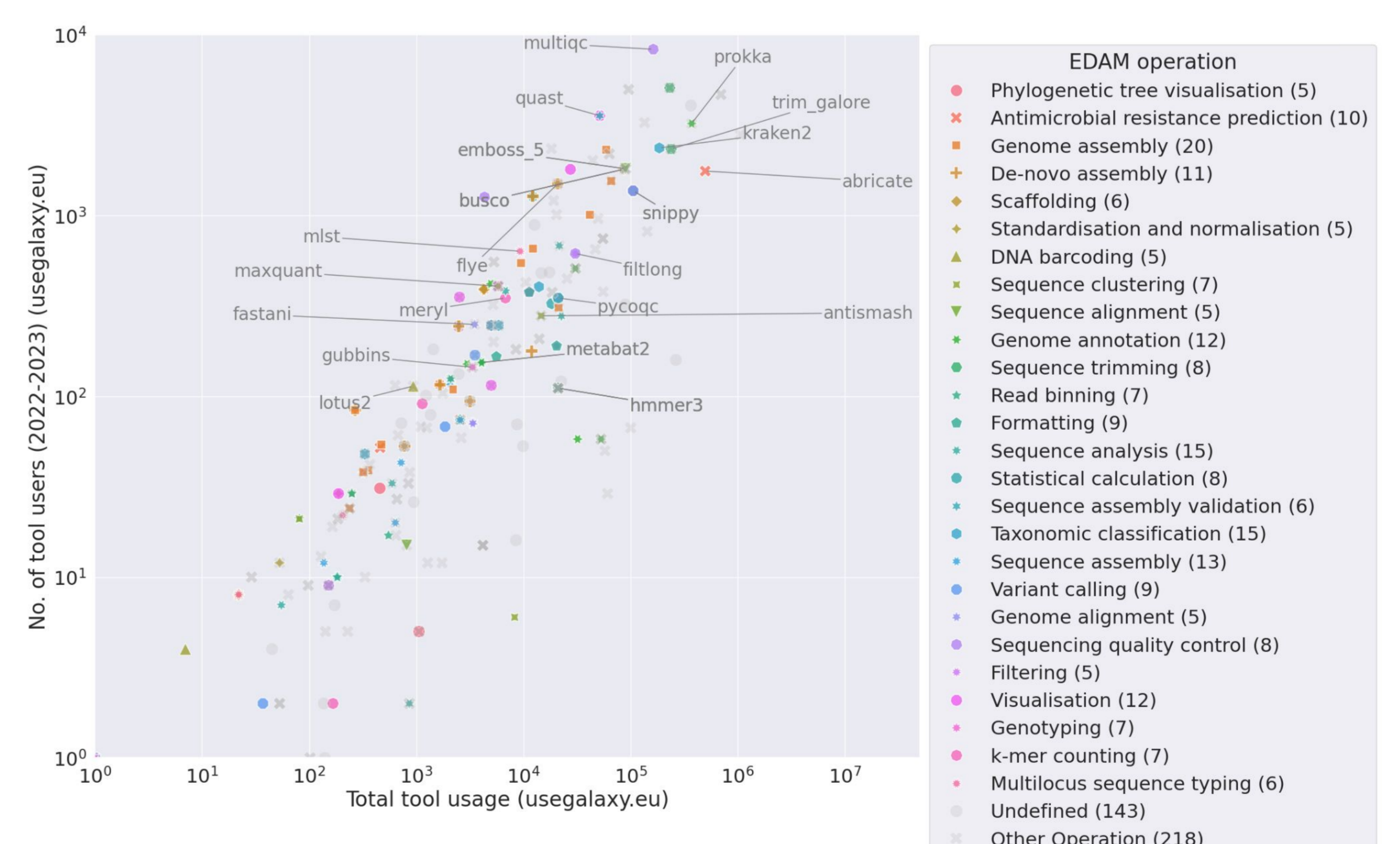
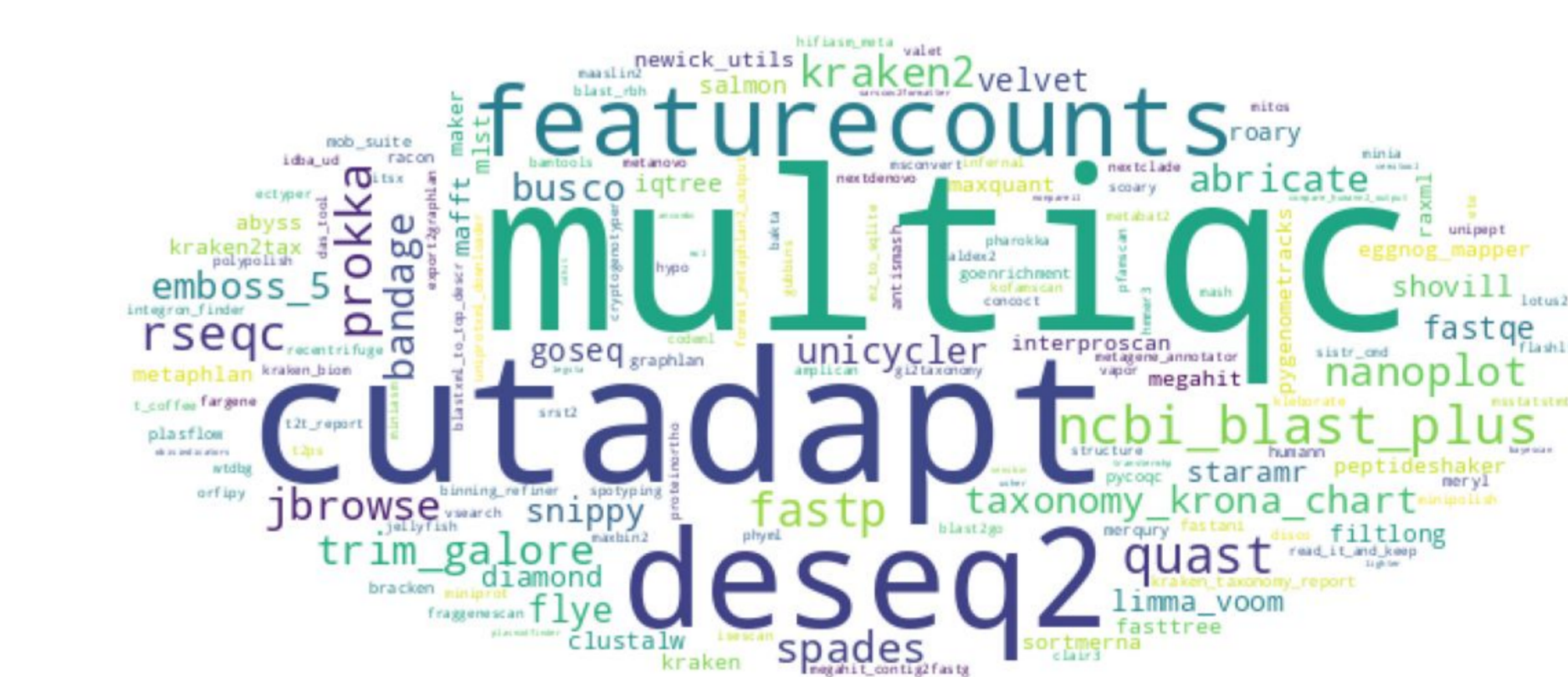
metaQuantome workflow for quantitative and statistical analysis of microbial taxonomy and functions (GTN)

Integrated meta-omics on short-read sequences for metagenomics/-transcriptomics (Public on usegalaxy.eu)

Bacterial genome annotation and AMR gene detection (Public on usegalaxy.fr, IWC, GTN)

microGalaxy Catalog

260+ Tool Suites: Taxonomic profiling, genome annotation, metaproteomics, AMR detection, and more
50+ Workflows: Customizable workflows for various analyses
30+ Tutorials: Learning pathways from basic navigation to advanced analyses via the Galaxy Training Network (GTN)



Visualization of the curated tool catalog of the microGalaxy community. Number of tool users and tool usage on the usegalaxy.eu server. Grouped by EDAM operation and topic. The tools with the highest usage are shown for each EDAM group.

Join us

galaxyproject/microGalaxy
 microgalaxy@lists.galaxyproject.org

Quarterly 2-hour meetings
2 working groups: Tool, Paper(s)



Partners

ELIXIR Microbiome Community
Seq4AMR - JPIAMR / jbioinfo Slack