



MicroScope: an integrated platform for the annotation and exploration of microbial gene functions through genomic and metabolic comparative analysis

David Vallenet, Alexandra Calteau, Mathieu Dubois, Mylène Beuvin, Laura Burlot, Xavier Bussell, Stéphanie Fouteau, Guillaume Gautreau, Aurélie Lajus, Jordan Langlois, et al.

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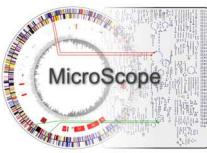
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MicroScope: an integrated platform for the annotation and exploration of microbial gene functions



David Vallenet, Alexandra Calteau, Mathieu Dubois, Mylène Beuvin, Laura Burlot, Xavier Bussell, Stéphanie Fouteau, Guillaume Gautreau, David Roche, Zoé Rouy, Jordan Langlois, Rémi Planel, David Roche, Johan Rollin, Zoé Rouy, Claudine Médigue
Laboratoire d'Analyses Bioinformatiques pour la Génomique et le Métabolisme, Génomique Métabolique, Genoscope, Institut François Jacob, CEA, CNRS, Univ Evry, Université Paris-Saclay, 91057 Evry, France

MicroScope features

- High throughput automatic annotation of microbial genomes
- Expression and evolutionary studies by NGS data integration
- Function and biological process predictions
- Data exploration tools (keyword search, comparative genomics and metabolism)
- Collaborative curation environment for expert annotation
- User support & MicroScope Open Days

Professional Trainings

- Audience:** researchers, engineers, technicians, students, industrials
- Sessions:**
 - General training on comparative genomics, metabolism exploration and expert annotation (4.5 days)
 - Advanced course (2 days)
- Location:** at Evry University (2 sessions per year) and external training session in France and abroad
- Since 2008 > 500 persons participated in our trainings
- Check our website!



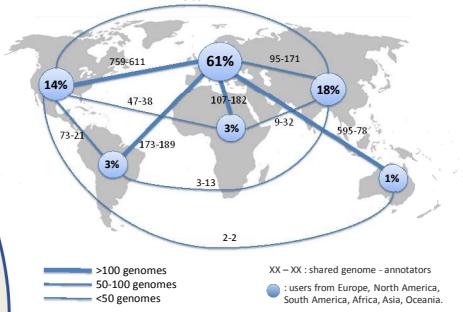
The Quality Management System of the LABG-M team has been certified according the ISO 9001:2015 and NF X50-900:2016 standards for its activities of research, developments, services and MicroScope trainings.

Statistics

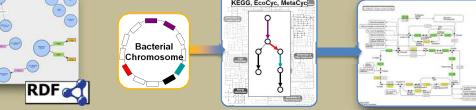
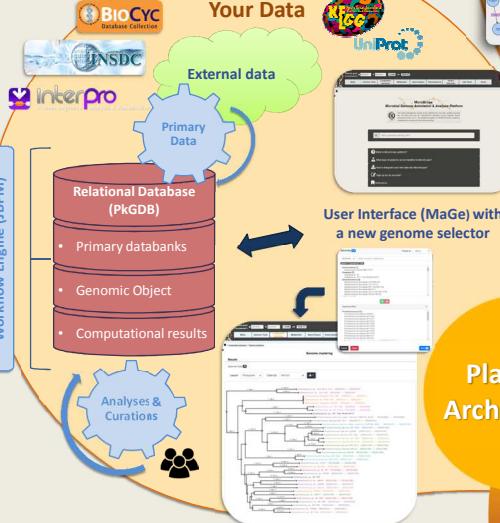
- 4 400 user accounts
- 375 active accounts per month
- 200 new genomes per month

- About 11 000 genomes
- 3 000 human-expertized annotations a month
- 140 collaborative publications
- More than 900 citations

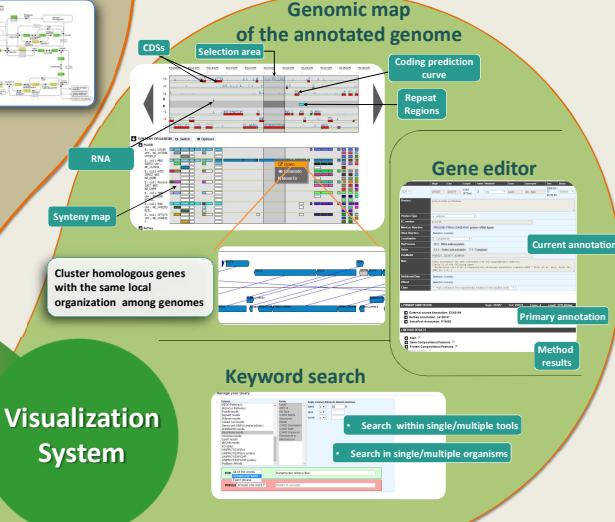
Users & Interactions



Manage & Process Your Data



Genome Annotation

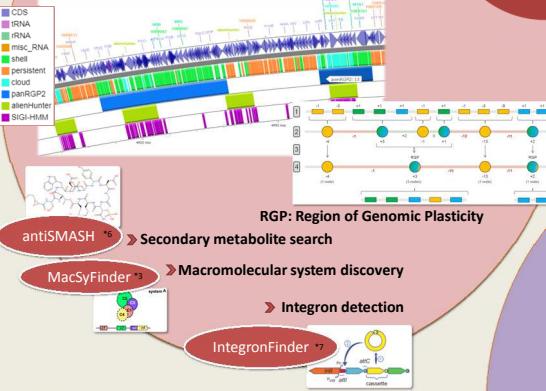


Available Soon

CRISPR-CasFinder & MacSyFinder: detect CRISPR regions with good specificity and orientation

Automatic phage detection

Already Available



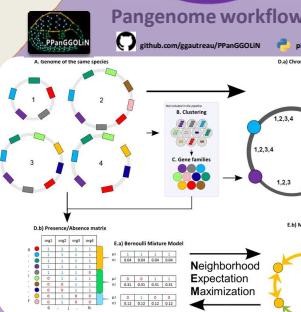
Genomic Regions

MicroScope

Visualization System

Functional Annotation

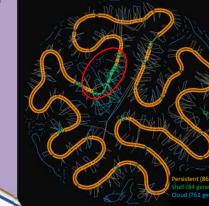
Pangenomes



Pangenomes:

- For all MicroScope Genome Clusters
- All public genomes (GenBank)

PPGn on 144 *C. trachomatis* strains



Applications:

- Detection of regions of genomic plasticity
- Comparative genomics and pangenomics

References

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- www.genoscope.cns.fr/agc/microscope
mage@genoscope.cns.fr

Collaborations & Services

- MicroScope is part of National infrastructures:
 - France Génomique (www.france-genomique.com)
 - IFB (www.france-bioinformatique.fr)
- Collaborations with industrial & biotech companies
- ANR projects
- European infrastructure (IBISBA, Elixir Microb. Biotech.)