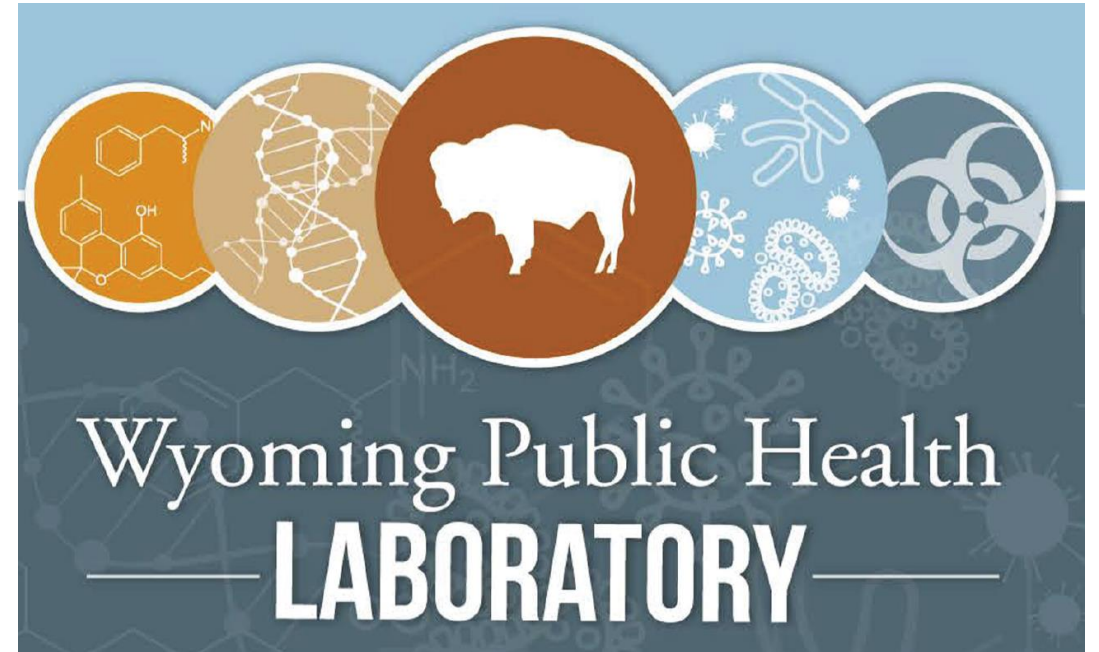


# Designing mechanisms into Bactopia to support its users and contribute back to the community

Nextflow Summit 2022

Robert A. Petit III, PhD.

Wyoming Public Health Laboratory



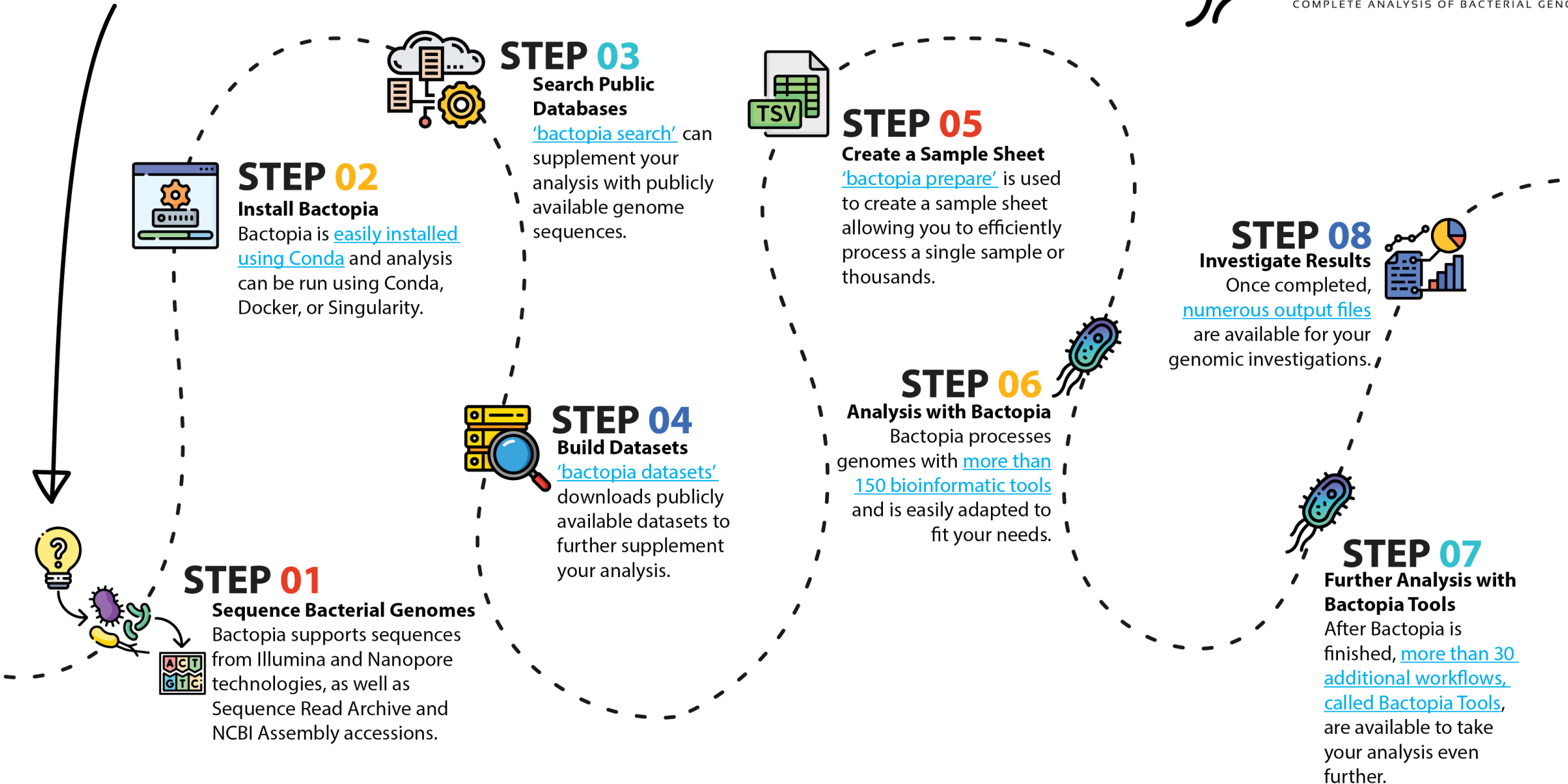


Less Bioinformatics  
More Science

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# What is Bactopia?

Bactopia is an extensive Nextflow pipeline for the complete analysis of bacterial genomes. To learn more, follow the step-by-step guide below.

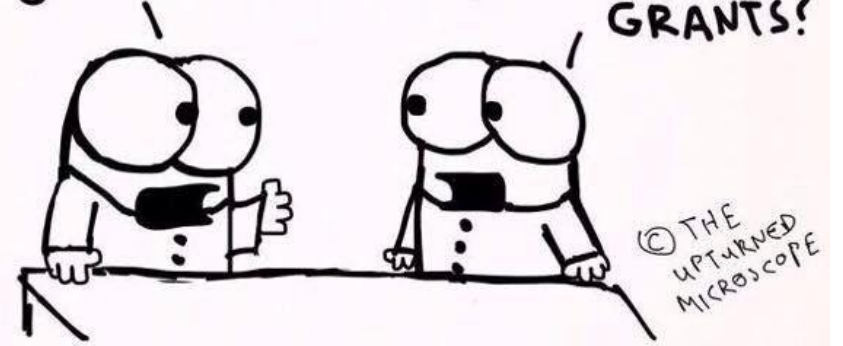




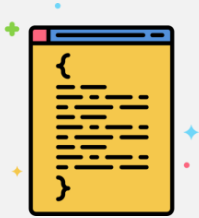
How can I minimize maintenance burdens for Bactopia, but also contribute back to the community?

I ASKED  
SANTA  
FOR A  
RESEARCH  
GRANT.

YOU STILL  
BELIEVE IN  
RESEARCH  
GRANTS?



# I set some ground rules for design



Tools must be free and open-source



Tools must be available from Bioconda or Conda-Forge



Bactopia Tools must be available from nf-core/modules

What are the outcomes of these rules?



Bactopia Tools must be available from nf-core/modules

From nf-core Bactopia has implemented:

- CI modeled after nf-core/modules
- Dynamic configs/schema via nf-core lib
- Many more features...

In return contributions to nf-core/modules

- 45 new modules
- 19 updates to existing modules



Tools must be available from Bioconda or Conda-Forge

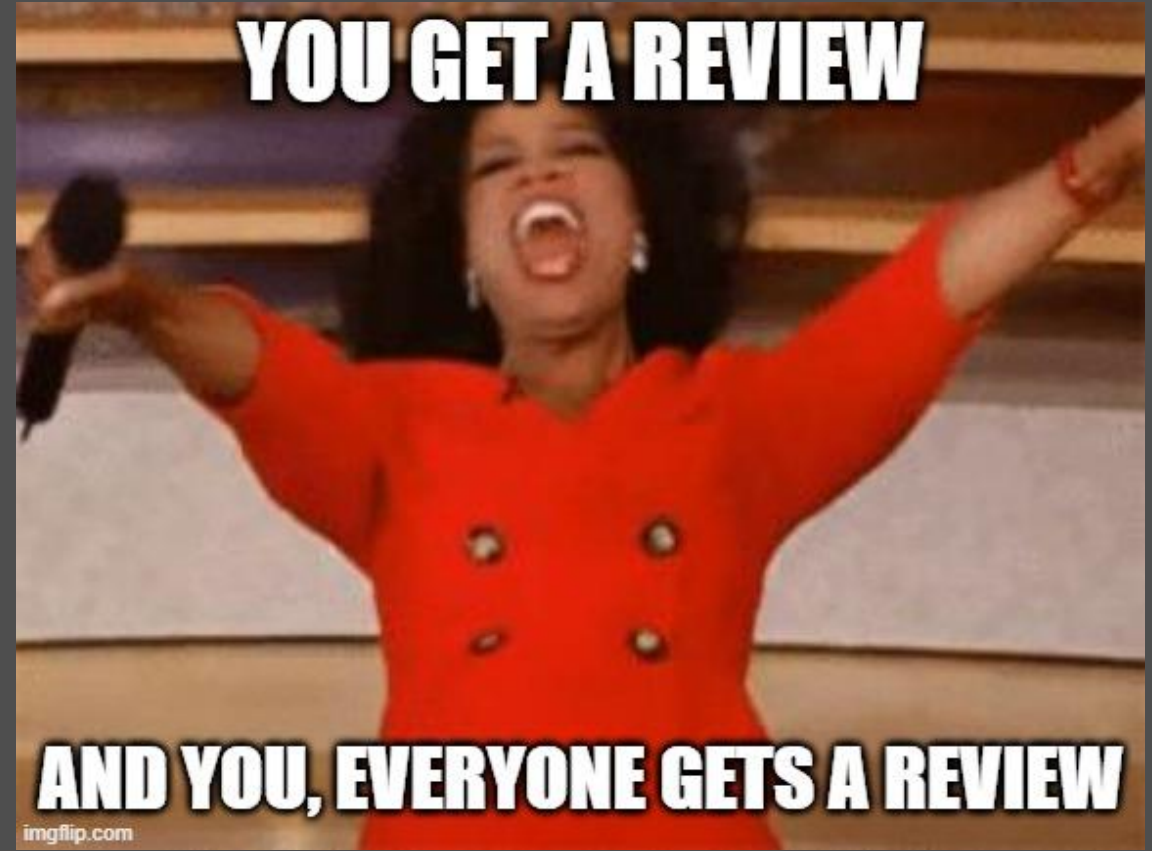
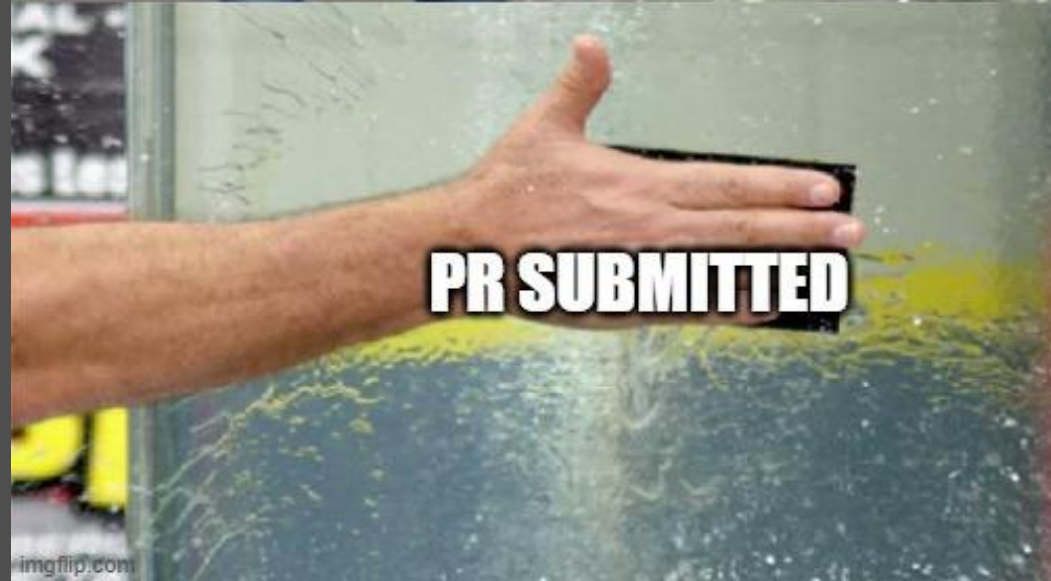
- Contributed 25 recipes, 65 updated recipes, and 1,750+ PR reviews
- Addition to the Bioconda core-team



Tools must be free and open-source

- Many tools originally written for Bactopia made available as stand-alone
- PRs submitted with fixes from User/CI identified bugs
  - Ariba, Bowtie2, Kleborate, Seroba, Shovill, Shigatyper



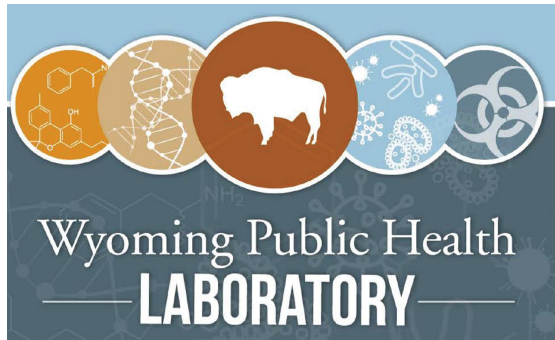


# Final Remarks

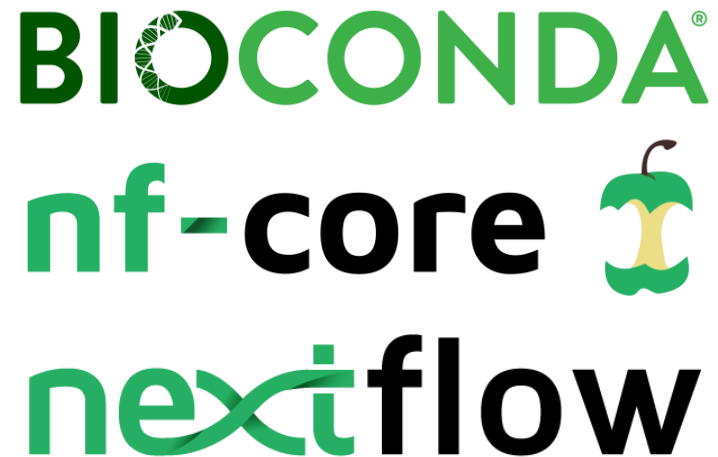
- Becoming more important for pipeline developers to work closely with tool developers
- Join inclusive bioinformatic communities, ask questions, make contributions
- Starting a new Nextflow pipeline? Start with nf-core
  - Check out *#new-pipelines, you're probably not alone!*
  - Don't have to be "nf-core" to use nf-core practices

# Acknowledgements

The developers of open-source tools that make their tools freely available to the community



- Taylor Fearing
- Jim Mildenberger
- Chayse Rowley
- Ashley Norberg



- Tim Read, PhD





# Questions? *(with some scenes from Wyoming, USA)*

