

Daily Schedule for August 2025 BCM Structural Variant Hackathon!

Contact Information

Organizers: Fritz Sedlazeck (fritz.sedlazeck@bcm.edu) from BCM and Ben Busby bbusby@nvidia.com from NVIDIA

If people get lost: text Bens cell phone: (1) 410 868 1073

Slack Workspace

SV slack invite:

https://join.slack.com/t/baylorncbisvc-1jk9469/shared_invite/zt-3aonm4092-OrNyXqunEuxzRGt_jxjzFQ

There will be slack channels for each team!

Please note that this is a dynamic document, and therefore subject to change at the discretion of the organizers and participants.

Italicized text: Optional Items

Sponsors

Baylor College of Medicine, DNAnexus, Rice University

Projects

~~1. Layer team~~

~~Group lead: Jamie Dixon~~

~~Github:~~

~~Slack group: #group1~~

2. SV in metagenomics

Group lead: Todd Treangen

Github:

Slack group: #group2

3. Proteomics analysis

Group lead: Kim Walker

Github:

Slack group: #group3

4. AI based CNV assessment

Group lead: Sina Majidian & Archit Kalra

Github:

Slack group: #group4

5. LR phasing harmonization in a population

Group lead: Ben Busby

Github:

Slack group: #group5

6. LR methylation assessment team

Group lead: Yilei Fu

Github:

Slack group: #group6

7. Mosaic SV detection

Group lead: Luis Paulin

Github:

Slack group: #group7

8. Rapid annotations for insertions

Group lead: Mark Chaisson

Github:

Slack group: #group8

9. RNA seq based SV identification

Group lead: Fritz Sedlazeck

Github:

Slack group: #group9

10. Transposon detection and annotation

Group lead: Michal Izydorczyk

Github:

Slack group: #group10

~~11. Viral Recombination Detection in Metagenomic Samples~~

~~Group lead: Daniel Paiva Agostinho~~

~~Github:~~

~~Slack group: #group11~~

12. Association between multiple graph variation loci and (sub)phenotypes

Group lead: Pankaj Vats

Github:

Slack group: #group12

13. ~~Complex SV visualisation~~

~~Group lead: Keiko~~

~~Github:~~

~~Slack group: #group13~~

Group Assignment/confirmations:

https://docs.google.com/spreadsheets/d/1Ue0o_6XL4RwzvFJS0Kk_FymDtch7g3XWi96Yn2KZnQg/edit?usp=sharing

Draft of manuscript in F1000R format:

2025_SV_Hackathon_Manuscript

Please see the links above!

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GitHub

Sample github documentation!

<https://github.com/NCBI-Hackathons/GoodDoc/blob/master/README.md>

<https://github.com/NCBI-Hackathons/PubRunner>

<https://github.com/NCBI-Hackathons/MetagenomicAntibioticResistance>

https://github.com/NCBI-Hackathons/Staph_aureus_viewer

PLEASE ASSOCIATE KEYWORDS WITH YOUR GITHUB REPOS!

Consider registering them with osf.io or [RRIDs](https://orcid.org)

Markdown cheatsheet: <https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet>

Manuscripts

1. (1) Introductory Paragraph
2. (2) Methods Paragraphs
 - a. One implementation (how I built this)
 - b. One operation (how can others use this)
3. (2) Results Paragraphs or use cases

4. (1) Discussion Paragraph

Please edit your manuscripts!

Sample manuscripts!

PubRunner: <https://f1000research.com/articles/6-612/v1>

DangerTrack: <https://f1000research.com/articles/6-443/v1>

Timeline (all times US - Central Time)

Wednesday, August 27 (in person at BCM: 15th floor conference room Alkek)

Zoom:

<https://riceuniversity.zoom.us/j/94631165123?pwd=IUdga7yda6HuaklaO4ZDHc4N6Ux5Xi.1>

In person folks – please meet at the fountain at 9:30 (1 Baylor Plz)

10:00 am - 10:45 am: Coffee and meet and greet (Alkek building 15th floor conference room)

10:05-10:45 am: Introductions, Administrative Announcements and ***Building Functional Software and Data Indices***

- Discussion of Roles
 - **Lead**
 - Understands the science and assigns roles
 - **Sysadmin**
 - Decides where data and tools go, and implements git for versioning.
 - Deals (in conjunction with technical assistance) with any technical @issues (team tech lead)
 - **Writer**
 - Details both product and process for:
 - Documentation
 - Manuscript
 - Discussion of Output
 - GitHub
 - Live cloning of repos
 - Docker/Singularity
 - Publishing
 - Advertising and social media
- 11:30 am - 12:00: **Highly recommended DNANexus compute training with Nipun**

Kakkar!!!

<https://dnanexus.zoom.us/j/94952502894?pwd=vzznxkBlh1Oo1Vm4X5fEi6dusbPe1y.1&jst=3>

- 12:00 - 13:30: **Team meetings and lunch (on your own) < Rooms: XXX >**
 - Sysadmins and Data Acquisition get data, if necessary
 - Everyone else work on the first sketch of plan (MUST BE ON GITHUB)
- 12:30-1:00 (flexible): Prepare flowchart for group presentation
 - Commit to GitHub README.-
- 3:00-3:40 Present flow chart for group presentations (Main hackathon room!)
- 3:40 - 5:30: *Implement any remaining code/start pipelines*
- 6:00 *In-person social hour at Karbach Beer Garden.*
 - <https://share.google/oq5KS6Zf7SwH47gED>
 - **Partially sponsored by DNAnexus**

Thursday, August 28 (in person at BCM: Rooms: N310/15th floor conference room)

- 8:30 a -1:30 p:
 - Prepare flowchart for group presentation
 - Commit to GitHub README
 - Implement any remaining code/start pipelines
- 11:30 am - 12:00 pm: **Highly recommended DNANexus compute training for both technical and SME groups!**
<https://dnanexus.zoom.us/j/99172481100?pwd=tMxyzvudES3YDiK7pjnQWFIV5N02Jc.1&jst=3>
 - **In case you missed it**
 - **Or more advanced training**
 - Applet generation for SV tools
- 12:00 - 2:00: ***Each section presents a working flowchart from GitHub***; opportunity for exchange of ideas (*and personnel if necessary -- group lead solicitation*). (Room N1517)
<https://riceuniversity.zoom.us/j/94631165123?pwd=IUdga7yda6HuaklaO4ZDHc4N6Ux5Xi.1>
- 2:00 pm: Keynote, Richard Gibbs, Baylor College of Medicine
- 2:30 pm GREGOR overview ... (Ben Heavner)
- 3:00 - 6:00: Pipeline fixing and implementing suggestions from other group; more data runs
 - 3:00 - 3:30 Writer's Group break off 1 (above link)
- ~6:00 *folks in Houston meetup for dinner and beverages (optional) @Valhalla Rice university.*

Friday, August 29 (in person at BCM: Rooms: XXX)

8:30 a -1:00 pm:

- Prepare methods for group presentation
 - Commit to GitHub README
- Implement any remaining code/work on pipelines
- **1:15 -1:45:**
 - Writers break off for writers group
 - Same link as above!
 - Editorial representative may be there or online to assist
- **1:00 - 4:00**
 - Everyone else documents code and writes READMEs
 - Implement any remaining code/work on pipelines
 - Pipeline testing!
 - Bug fixes
- **4:00 - 5:30:** Each section presents the equivalent of three to four methods slides from GitHub; opportunity for exchange of ideas (and personnel if necessary -- group lead solicitation)._ (Room N315 & zoom <https://riceuniversity.zoom.us/j/94631165123?pwd=IUdga7yda6HuaklaO4ZDHc4N6Ux5Xi.1>)