Best Practices: Experimental Design, Sample Preparation, NGS Technologies

Monday, January 23, 2017

About BTEP

- **What is BTEP?**

  - NCI → CCR → Office of Science and Technology Resources (OSTR) → Bioinformatics Training and Education Program (BTEP)

- **Mission**

  - Centralized resource for education on all aspects of bioinformatics

  - **B**ioinformatics **T**rained and **E**mpowered **P**rofessionals

- **How do we do achieve this?**

  - Seminars

  - Workshops (NGS Series from Feb-June)

  - Webinars

  - Collaboration with experts at other NIH ICs

- **Contact us – ncibtep@mail.nih.gov**

Agenda for Today

Bldg. 37 Room 6041

- 9:30 - 11:00 am
  - Overview of Next-Gen Sequencing Techniques (Kevin Shianna, Illumina)
- 11:00 - 11:15 am
  - Bldg 37 Sequencing Core (Core Staff)
- 11:15 - 12:15 pm
  - CCR Sequencing Facility (Core Staff)
- 12:15 - 12:30 pm
  - Questions (Panel)

Bldg 10, FAES Classroom 4 (B1C205)

- 1:30 - 3:00 pm
  - Introduction to CCBR (Maggie Cam, CCR)
  - Next-Gen Data Analysis (CCBR staff)
- 3:00 - 3:45 pm
  - NCI Cloud Pilots (Sean Davis, CCR)
- 3:45 - 4:00 pm
  - CCR/OSTR Supported Software (Anand S. Merchant, CCR)

Upcoming Events

FEBRUARY 2017

- Feb 14th (2-5 pm): Seminar on Nanostring Applications (OSTR)

- Feb 15th (12-3 pm): Workshop on Nanostring Data Analysis

- Feb 16th (1:30-2:30 pm): Webinar on CLC Biomedical Workbench

- Feb 21-22: Hands-on 2-day Workshop on Exome-Seq Data Analysis

Details will be posted on: https://bioinformatics.cancer.gov/btep/agenda

- **January 31st - Single Cell RNA-Seq Analysis**
  - Co-sponsored by OSTR, NIH Single Cell & Bioinformatics SIGs
  - **Speaker: Rahul Satija (New York Genome Center)**
  - **Seminar at 12 pm - Lipsett Auditorium (Bldg 10, Bethesda)**
  - Present **Seurat** - analysis package that has been used extensively for recent high-throughput single cell RNA-Seq platform datasets, such as Drop-Seq, 10X Genomics, etc., and seems to be the go-to analysis platform.
  - More at the following link: http://satijalab.org/seurat/

Scientific Software for CCR Researchers

https://ostr.cancer.gov/btep/software

List of Scientific Software

- Partek Genomics Suite

- iPathwayGuide

- Ingenuity Pathway Analysis

- GeneGo MetaCore and MetaRodent

- Genomatix Suite (Online, GGA, GeneGrid)

- Biodiscovery Nexus Software

- GeneSpring Expression

- Geneious Pro

- ChemNavigator

Accessing Scientific Software

https://service.cancer.gov/selfservice/

Important Websites to Bookmark

- https://ostr.cancer.gov/bioinformatics - OSTR

- https://bioinformatics.cancer.gov/btep - BTEP

- https://service.cancer.gov/selfservice/ - NCI CBIIT

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Acknowledgements and Thanks

- Kevin Shianna, Ph.D., Illumina

- CCR Sequencing Facility (ATRF)
  - Bao Tran & Jyoti Shetty
  - Yongmei Zhao, PhD
  - SF Staff
- Bldg 37 Sequencing Core
  - Elizabeth A Conner, PhD
  - Valery Val Bliskovsky, PhD
- CCBR (Bioinformatics Core)
  - Maggie Cam, PhD
  - Parthav Jailwala, MS
  - Core Staff
- Sean Davis, MD, PhD, CCR

- GAU
  - Peter C. Fitzgerald, PhD
  - Carl McIntosh, MS
- OSTR
  - David Goldstein, PhD
  - Mariam Malik, PhD