

## Birds of a Feather Session Report

### Impacting Cancer with HPC : Opportunities and Challenges

November 16, 2016

5:15-7:00 PM

Organizers: Sean Hanlon, Patricia Kovatch, Eric Stahlberg

Approximately 80 attendees participated in the discussion. Based on informal survey, participation was international and included individuals from academia, industry and government laboratories.

A brief overview of the NCI-DOE exascale co-design collaboration provided context. The three pilot domains were discussed ranging from the molecular level (with the study of RAS proteins), pre-clinical applications, and pilot efforts focused on population and clinical applications.

Another initiative overview was provided by Sean Hanlon from the NCI Center for Strategic Scientific Initiatives.

Questions were raised in how to get involved in government initiatives and how to fund infrastructure development.

Challenges in collecting sufficient volumes of consistent data for deep learning were discussed. General agreement that machine learning has tremendous potential.

It would be of value if there were a public repository of base information that could be used and shared by many organizations. This was particularly true for graph data as may be represented with the openbel.org framework.

Collaborations were another area of discussion. All were open to collaboration – within the US, within Europe and across the continent.

Cloud solutions are not necessarily the solution as there is nervousness to use cloud solutions where are not in the same continent. European users are nervous using US clouds and vice versa.

There was discussion on sharing model information and the value of sharing models. Data can be more difficult to share, models may be easier to share.

All agreed that the BOF should be held again next year. A few suggestions were offered for improvement:

- Smaller room and more microphones
- Involve more cancer people – oncologists and pathologists

- Consider inviting local oncologists to the BoF
- Discussion on funding mechanisms
- Continue discussion through working groups between SC BoF events
- Discussion on NCI strategy would be of interest next year.