The LncRNA Function Prediction Challenge at the BIBM 2019 LncRNA Workshop

Description:

The LncRNA Function Prediction Challenge aims to stimulate solutions to a major outstanding problem: how to predict the function of the thousands of uncharacterized long noncoding RNAs in the human genome. We provide a training set of annotated human LncRNAs (with their GENCODE identifiers) that are known to have functional relevance. We also include information on their known functions and other attributes. The challenge is to develop a method that can successfully predict the function of possibly novel LncRNAs that are not in the training dataset. Participants are allowed to use any publicly available data, or in-house information about the LncRNAs for purposes of prediction.

Evaluation:

Evaluation of challenge entries will be in two ways:

- (1) Based on the provided list of about 300 LncRNAs with known functions, participants will provide their prediction accuracy, using k-fold cross validation, for k=5, and k=10. This will be for training.
- (2) For testing, participants will be provided another smaller test set of about 100 unlabeled LncRNAs that will not be seen in the training stage. Participants will apply their programs/methods to this test set, and then record the predicted functions. The Workshop Organizers will evaluate the performance of the submitted program(s) based on the predicted annotations.

Final ranking of the submissions will then be based on their performance on the two evaluations above.

Data Availability:

Data on general LncRNAs (with GENCODE IDs) are available for download at: <u>ftp://ftp.ebi.ac.uk/pub/databases/gencode/Gencode human/release 31/gencode.v31.long nonc</u> <u>oding RNAs.gtf.gz</u>

Some attribute descriptions for the LncRNAs can be found at: http://www.rnanut.net/Incompare//

Participants can use these attributes if they wish, but are they are also free to use any other information they can find about the LncRNAs.

The curated dataset with functional annotations will be made available only to parties that are interested in participating in the Challenge. Please email the Workshop Chair (Don Adjeroh <<u>donald.adjeroh@mail.wvu.edu</u>>) if you wish to participate in the Challenge.

Submission:

What to submit: Brief description of approach and results. How to submit: Send submission to the Workshop Chair (see above) as email attachment. Deadline: October, 20, 2019

Participants with best performing entries will be invited to submit a 2-page description for the Workshop proceedings. Final winners will be announced at the workshop.