4th Annual LA Conference on Computational Biology & Bioinformatics
April 1-2, 2016

Center for Computation and Technology

LSU-ORED

Genomics
Infectious Diseases
Drug Discovery
Molecular Modeling
NGS Sequencing

Cancer Informatics
Medical Diagnostics
Metagenomics
Proteomics
Bioinformatics

LBRN-INBRE

CEIDR-COBRE

Keynote Speakers

Richard LeDuc, PhD (Northwestern)　　　Thomas Knudsen, PhD (NCCT, EPA)

Frank Lee, PhD (IBM Austin)

Jens Meiler, PhD (Vanderbilt)　　　James Cimino, MD (UAB)

Venue: Xavier Convocation Center Annex Building, XULA, New Orleans, LA

NO REGISTRATION FEE !!

4th Annual Louisiana Conference on Computational Biology and Bioinformatics

April 1-2, 2016

Xavier University Convocation Center Annex Building, New Orleans, LA.

Friday April 1, 2016

1:00 - 1:10 pm ....**Welcome and Opening Remarks**
Dr. Gus Kousoulas
Associate Vice President (LSU ORED) / PI LBRN

Session I: Proteomics   **Chair: Dr. Kermit Murray**
Dept. of Chemistry, LSU

1:10 – 2:10 pm.. **Dr Richard LeDuc**
Northwestern University, IL
"Recent advances in the bioinformatics of top down proteomics"

2:10 – 2:30 pm   Talk I ....**Dr. Erik Flemington**
Global transcript structure resolution of Epstein-Barr virus lytic transcriptome through multi-platform data integration

2:30 – 2:50 pm   Talk II .... **Dr. Alan Tackett**
Reading the Histone Epigenetic Code of Melanoma with High Resolution Proteomics

2:50 – 3:10 pm   Talk III ....**Ms. Sumaiya Iqbal**
Accurate Identification of disordered protein residues using deep neural network

3:10 – 3:30 pm   Talk IV **.. Mr. Brent A Stanfield**
Host Gene Expression after HSV2 Challenge in Cavia porcellus Model

3:20 – 3:30 pm...**Break**

Session II: Computational Modelling   **Chair: Dr. Michael Salbaum**
Genomics Core, PBRC

3:30 – 4:30 pm...**Dr. Thomas Knudsen**
EPA's Center for Computational Toxicology, TN

"Computer simulation of embryonic systems"

4:30 – 4:50 pm   Talk V ....**Mr. Avdesh Mishra**
An Eclectic Energy Function to Discriminate Native from Decoys

4:50 – 5:10 pm   Talk VI ....**Dr. Kun Zhang**
The Modularity and Dynamicity of miRNA-mRNA Interactions in High-Grade Serous Ovarian Carcinomas and the Prognostic Implication

5:10 – 5:30 pm   Talk VII ....**Mr. Denson G Smith**
A Hybrid Evolutionary Feature Selection Method for Microarray Data

5:30 – 5:50 pm   Talk VIII ....**Dr. Monica Embers**
The Functional and Molecular Effects of Doxycycline Treatment on B. burgdorferi Phenotype

5:50 – 6:00 pm.. **Break**

6:00 – 7:00 pm..**Dr. Frank Lee**
IBM, Austin
"Next-Gen HPA Infrastructure for Genomic Medicine"

7:15 – 9:15 pm Poster Session and Dinner

End of Day 1

Agenda

Saturday April 2, 2016

9:00 – 10:15 am   **Workshop on use LSU-Delta Cluster**
                                                    Chair: Dr. Nayong Kim
                                                    LSUCCT

The Delta Power8 Cluster is a new High Performance Computing (HPC) Supercomputing Cluster at the Center for Computation and Technology (CCT) at LSU. It is capable of several different workflows for computation, and features an easy to use graphical interface, as well as the typical command line interface for running commands and management. This segment will showcase some of the early benchmarks and analyses that have been run on the Delta Cluster, and will feature an interactive portion that will guide participants on the use of submitting jobs to the Delta Cluster.

Introduction: ……………………………………………………..**Dr. J Ram Ramanujam**
                                                    Director CCT

I. *DELTA system* …………………………………………………....**Dr. Seung-Jong Park**
                                                    LSU Div of Computer Sci. and Engg and LSUCCT
a.   Historical background
b.   System overview
c.   Broad impact

II. *Translational Research Infrastructure with tranSMART* …………… **Dr. Joohyun Kim**
                                                    LSUCCT
a.   tranSMART installation on DELTA
b.   Use case for multi-omics data integration and analysis
c.   Future direction for supporting scalable translational research

III. *Training/Demo/Interaction* …………………………………………**Dr. John Caskey**
                                                    LSU School of Vet. Medicine and LSUCCT

10:15 – 10:30 am …………………………………………………………………**Break**

Session III: Structural and Computational Informatics

Chair: Michal Brylinski
Dept. of Biol. Sci. LSU and LSUCCT

10:30 – 11:30 am.. **Dr. Jens Meiler**
Vanderbilt, NashvilleTN
"Modeling Membrane Proteins from Limited Experimental Data"

11:30 – 11:50 am   Talk X.. **Dr. Urska Cvek**
Biomedical Data Visualization: Free Tools and Solutions

11:50 – 12:10 pm   Talk XI ....**Dr. Seetharama D Jois**
Miniproteins from plants: As inspiration for drug design

12:10 – 12:30 pm Talk XII ....**Dr. Michelle R Lacey**
Identification Of Disease Biomarkers Via Integrated Analysis Of Longitudinal Clinical And Genomic Data

12:30 – 12:50   Talk XIII .... **Dr. Diana L. Williams**
Milk Microbiome produced by women living in a leprosy-endemic region of the Central African Republic

12:50 – 1:30 pm *"Enhancing bioinformatics analysis with social communities and expertise profiles"* **Lunch Break & Intro to IBM Communities.**   **Mr. Jason Moore**

Session IV: Genomics of Cancer and Infectious diseases

Chair: Dr. Lucio Miele
LSU School of Med. Dept of Genetics

1:30 – 2:30 pm..**Dr. James Cimino**
Informatics Institute, School of Medicine, UAB, AL

"The Use of Electronic Health Records in Translational Research: Don't Forget about the Phenome or Forget about the Phenome?"

2:30 – 2:50 pm   Talk XIV .... **Dr. Thomas W Carton**
REACHnet: An Integrated Clinical Data and Patient Engagement Infrastructure to Support Collaborative Research

3:50 – 3:10 pm   Talk XV ....**Dr. Chindo Hicks**
Integrative Bioinformatics Strategies for Mapping the Genomic Landscape of Triple Negative Breast Cancer

3:30 – 3:50 pm   Talk XVI .... **Dr. Pushpendra Singh**
RNA-Seq based transcriptional profiling of leprosy -susceptible and -resistant armadillos for early detection of leprosy

3:50 – 4:10 pm   Talk XVII .... **Dr. Xiu-Feng (Henry) Wan**
Determining an influenza vaccine strain using genomic sequence

4:15 pm .... **Closing Remarks and Acknowledgements**