2025 Women in Bioinformatics Workshop (WIBI 2025)

New Haven, Connecticut, USA
6-7 February 2025

IEEE

IEEE Catalog Number: CFP255B5-POD
ISBN: 979-8-3315-2376-3

Copyright © 2025 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP255B5-POD
ISBN (Print-On-Demand):	979-8-3315-2376-3
ISBN (Online):	979-8-3315-2375-6

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

Optimizing COS protocols: A precision medicine approach for IVF treatment 1
Yasemin Atilgan Sengul, Zeynep Pacci, Oya Alagoz and Rukset Attar

A Gradient Boosting Machine Learning Model for Neo-epitopes Classification 6
Romi Barde, Mohammad Tariqul Islam and Sahar Al Seesi

Designing a Protein-Protein Interface Scoring Function Using Graph Neural Networks 7
Naomi Brandt, Jake Sumner, Devon Finlay and Corey S. O'Hern

Cross-Species Comparative Transcriptomic Analysis of Embryonic Stem Cells (ESCs) 8
Yifei Fang and Ellie Duan

Overcoming barriers to cross-disciplinary education: A productive failure framework 9
Nic Fisk

Single Nuclei Isolation Protocols for snRNA-Seq Analysis 10
Marjan Ghanbariabdolmaleki and Marmar Moussa

Potentially heritable biomarkers of neurodegeneration in a marmoset model of Alzheimer's disease 11
Sonal Kumar, Catrina Spruce, Annat Haber, Laura Schultz, Hasi Huhe, Takeshi Murai, Sang-Ho Choi, Stephanie Hachem, Yongshan Mou, Seung-Kwon Ha, Jung Eun Park, Lauren Bailey, Lauren Mongeau, Andrew DeSana, Brianne Stein, Lauren K. Hayrynen Schaeffer, Gregg Homanics, Afonso C. Silva, Stacey J. Sukoff Rizzo and Gregory W. Carter

The Oncogenic Potential and Selective Epistatic Interactions of Somatic Mutations Can Be Obtained from Human Tumor Sequence Data Alone 13
Meng Liu, Krishna Dasari, Jorge Alfaro-Murillo and Jeffrey Townsend

Joint DNA Methylation and Transcriptomic Analysis of Colorectal Cancer Samples for Biomarker Identification 14
Olajumoke Oladapo and Marmar Moussa

Inference of Cell-Cell Communication to Understand the Molecular Mechanisms of Alzheimer's Disease 15
Adrita Samanta, Na Sun and Manolis Kellis

ANN-MFO: Optimization of Neural Networks for Lipase Activity Modeling in Biotech Applications 23
Alaa Sheta and Walaa H. Elashmawi

Structural variants at the anchors of intron-intron CTCF loops drive transcriptional change 31
Sabriya Syed, Nicholas Moskwa and Charles Lee

Engaging Students and Teachers with Big Data: Adapting the All of Us Research Hub for Use in High School Computer Science, Data Science, and Statistics 32
Alexa Wnorowski, Sarah Wojiski and Charlie Wray

Studying Factors Affecting Human β Defensin Type 3 Crossing Model Bacterial Lipid Membranes 33
Liqun Zhang