

16th International Conference on
**Bioinformatics and Computational
Biology (BICOB 2024)**

PROGRAM

March 18 – 19, 2024

Holiday Inn Downtown-Superdome

New Orleans, Louisiana, USA

Sponsored by



International Society for
Computers and Their Applications

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Winona, MN 55987

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Program at a Glance

Monday 3/18	7:30 am - 8:45 am	Registration and Breakfast (Coffee and Pastry)
	8:45 am – 9:00 am	Opening
	9:00 am – 10:00 am	Keynote I: (Common to both conferences) <i>BICOB'24 Keynote: Application of high-throughput sequencing to answer basic biological questions on RNA polymerase II activity. Keynote Speaker: Sing-Hoi Sze, TAMU. 9:00am Monday March 18 2024 (US Central daylight saving time)</i>
	10:00 am – 10:30 am	Break
	10:30 am -12:00 pm	Session 1: Paper ID: 8 Paper ID: 5 Paper ID: 1 Paper ID: 21
	12:00 pm – 1:30 pm Conference Luncheon (sponsored by the conference)	
	1:30 pm – 3:00 pm	Session 2: Paper ID: 16 Paper ID: 18 Paper ID: 19
	3:00 pm – 3:30 pm	Break
3:30 pm – 5:30 pm	Session 3: Paper ID: 17 Paper ID: 20 Paper ID: 7 Paper ID: 14	

Tuesday 3/19	8:00 am – 9:00 am	Registration and Breakfast (Coffee and Pastry)
	9:00 am – 10:00 am	Keynote II: (Common to both conferences)
	10:00 am – 10:30 am	Break
	10:30 am – 12:30am	Session 4: <i>TBA</i>
	12:30 pm	Conference ends

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SPONSOR

International Society for Computers and Their Applications (ISCA)

General Chair: Hisham Al-Mubaid, University of Houston-Clear Lake, USA

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Ugo Vaccaro, University of Salerno, Italy

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Monday, March 18, 2024

All times are in US Central Daylight Time

7:30 a.m. – 8:45 a.m. Registration and Breakfast (Coffee and Pastry)

8:45 a.m. – 9:00 a.m. WELCOME By BICOB Organizers

Hisham Al-Mubaid, University of Houston-Clear Lake, USA

Oliver Eulenstein, Iowa State University, USA

Tamer Aldwairi, Temple University, USA

9:00 a.m. – 10:00 a.m. KEYNOTE SPEAKER

**Dr. Sing-Hoi Sze
Texas A&M University**

Application of high-throughput sequencing to answer basic biological questions on RNA polymerase II activity

Location: in Bayou Ballroom A

Session Chair: Dr. Hisham Al-Mubaid, Univ. Houston-Clear Lake, USA

10:00 a.m. – 10:30 a.m. 30 MINUTE BREAK

SESSION 1

SESSION TITLE: Genes, Proteins and Disease

Monday March 18, 10:30 a.m. – 12:00 p.m, in Bayou Ballroom B

Session Chair: Bander Almalki (Univ. of Delaware, Delaware, USA)

- 1. TMHC-MSAT: Accurate Prediction of Inter-Helical Residue Contacts in Transmembrane Proteins Using MSA Transformer**
Bander Almalki and Li Liao (University of Delaware, Delaware, USA)
- 2. COVID-19 Epidemic Model Including Unreported Cases and Environmental Fluctuations**
Fathalla Rihan (United Arab Emirates University, UAE)
- 3. SSA: a novel method for Single-cell and Spatial transcriptomics Alignment**
Bang Tran (California State University, USA), Dao Tran (Auburn University, USA), and Tin Nguyen (Auburn University, USA)
- 4. Disease Clustering with Process Annotations from Gene Ontology**
Drew Brady and Hisham Al-Mubaid (University of Houston – Clear Lake, USA)

12:00 pm – 1:30 pm Conference Luncheon (Common to both)

SESSION 2

SESSION TITLE: ML & Deep Learning in Bioinformatics

Monday March 18, 1:30 p.m. – 3:00 p.m., in Bayou Ballroom B

Session Chair: Yanqing Ji (Gonzaga University, USA)

- 1. Machine Learning-Based Automated Detection of ADHD Using Heart Rate Variability Data**
Yanqing Ji (Gonzaga University, USA), Janet Zhang-Lea (Gonzaga University, USA) and John Tran (University of California San Francisco Fresno, USA)
- 2. Generalized Deep Learning Models for COVID-19 Detection with Transfer and Continual Learning**
Richard Annan (University of Tennessee at Chattanooga, USA), Hong Qin (North Carolina A&T State University, USA) and Letu Qingge (University of Tennessee at Chattanooga, USA)
- 3. AI-Driven Diagnostics in Ophthalmology: Tailored Deep Learning Models for Diabetic Retinopathy with XAI Insights**
Krishna Mridha, Ming Wang and Lijun Zhang (Case Western Reserve University, USA)

3:00 p.m. – 3:30 p.m. 30 MINUTE BREAK

SESSION 3

SESSION TITLE: Bioinformatics Applications

Monday March 18, 3:30 p.m. – 5:00 p.m., in Bayou Ballroom B

Session Chair: Kannon Hossain (University of Alabama, USA)

- 1. TRAPS - A Visual Analytics System for Public Health Surveillance**
Sujan Ranjan Reddy Anreddy (Mississippi State University, USA)
- 2. A simulation study on the sustainability of an ecosystem**
Christopher Palazzolo, Wenying Feng and Sayed Mansour Hashemipour (Trent University Durham GTA, Canada)
- 3. Case-Studies of Parameter Estimation in the Stochastic Reaction-Diffusion Master Equation**
Kannon Hossain and Roger B. Sidje (University of Alabama, USA)
- 4. Fast Dual-Regularized Autoencoder for Sparse Biological Data**
Aleksandar Poleksic (University of Northern Iowa, USA)

5:00 p.m. – 5:10 p.m. Best Paper Award Announcement

All times are in US Central Daylight Time (CDT: UTC-05:00)

Tuesday, March 19, 2024

All times are in US Central Daylight Time

8:00 a.m. – 9:00 a.m. Registration and Breakfast (Coffee and Pastry)

9:00 a.m. – 10:00 a.m. KEYNOTE SPEAKER for CATA'24

Keynote speaker

Title of the keynote talk will be provided

**Location: in Bayou Ballroom A
Session Chair: Dr. Ajay Bandi**

10:00 a.m. – 10:30 a.m. 30 MINUTE BREAK

10:30-12:30 Session 4 and 5: CATA-2024 continue

12:30 Conference ends