IEEE CIBCB 2021
Program - in local Melbourne time (AEDT)

Wednesday 13th October		
8.30 am	Inauguration	
10:00 am	Keynote	Prof. Pierre Baldi Deep Learning in the Biomedical Sciences
Session 1	**Biomedical Data Analysis and Visualization**	
11:30 am	Guangyao Chen, James Sargant, Sheridan Houghten and Tyler Collins	
	Identification of Genes Associated with Alzheimer's Disease using Evolutionary Computation	
11:50 pm	Tamasha Malepathirana, Damith Senanayake, Vini Gautam and Saman Halgamuge	
	Robustness of Visualization Methods in Preserving the Continuous and Discrete Latent Structures of High-Dimensional Single-Cell Data	
12:10 pm	Jennifer Hallinan, Anil Wipat, Goksel Misirli and Bill Yang	
	Modelling The Fitness Landscapes of a SCRaMbLEd Yeast Genome	
12:30 pm	Mohimenul Karim and Rashid Abid	
	Accuracy responses in species identification after varying DNA barcode lengths using a naïve bayes classifier: efficacy of mini-barcodes under a supervised machine learning approach	
12:50 pm	Qi Tian, Jianxiao Zou, Jianxiong Tang and Shicai Fan	
	Multi-distance based spectral embedding fusion for clustering single-cell methylation data	
1:10 pm	Veena Mayya, Sowmya Kamath S. and Vijayan Sugumaran	
	LATA- Label Attention Transformer Architectures for ICD-10 Coding of Unstructured Clinical Notes	
1:30 pm	Lunch	
Session 2	**Biomedical Data Modelling I**	
2:30 pm	Siva Ramakrishna J, Neelam Sinha and Hariharan Ramasangu	
	Classification of Human Emotions using EEG-based Causal Connectivity Patterns	
2:50 pm	Alberto Zancanaro, Giulia Cisotto, Joao Ruivo Paulo, Gabriel Pires and Urbano J Nunes	
	CNN-based Approaches For Cross-Subject Classification in Motor Imagery: From The State-of-The-Art to DynamicNet	

3.10 pm	Sheriff Abouchekeir and Yifeng Li
	Adversarial Deep Evolutionary Learning for Drug Design
3:30 pm	Takatsugu Kosugi and Masahito Ohue
	Quantitative Estimate of Protein-Protein Interaction Targeting Drug-likeness
3:50 pm	Shunya Sugita and Masahito Ohue
	Drug-target affinity prediction using applicability domain based on data density
4:10 pm	Benan Bardak and Mehmet Tan
	DeepGREP: A deep convolutional neural network for predicting gene-regulating effects of small molecules
4.30 pm	Farhan Tanvir, Muhammad Ifte Khairul Islam and Esra Akbas
	Predicting Drug-Drug Interactions Using Meta-path Based Similarities
4.50 pm	Gulustan Dogan, Sinem Sena Ertas and Iremnaz Cay
	Human Activity Recognition Using Convolutional Neural Networks
5:10pm	Tutorial 1
7:10 pm	FINISH

Thursday 14th October

9:00 am	Keynote	Prof. Saman Halgamuge Bioinformatics with Automated and Interpretable Deep Learning
Session 3	**Biomedical Data Modelling II**	
10:00 am	Batuhan Bardak and Mehmet Tan	
	Using Clinical Drug Representations for Improving Mortality and Length of Stay Predictions	
10:20 am	Yanhua Xu and Dominik Wojtczak	
	Predicting Influenza A Viral Host Using PSSM and Word Embeddings	
10:40 am	Dacosta Yeboah, Hung Nguyen, Daniel Hier, Gayla Olbricht and Tayo Obafemi-Ajayi	
	A deep learning model to predict traumatic brain injury severity and outcome from MR images	
11:00 am	Taki Hasan Rafi and Raed M. Shubair	
	A Scaled-3D CNN for Skin Cancer Diagnosis	
11:20 am	Anik Das, Sumaiya Amin and James Hughes	
	Automatic Detection of Necrotizing Fasciitis: A Dataset and Early Results	
11:40 am	Jongwoo Kim and Loc Tran	

	Retinal Disease Classification from OCT Images Using Deep Learning Algorithms
12.00 pm	Nabila Sekar Ramadhanti, Wisnu Ananta Kusuma, Irmanida Batubara and Rudi Heryanto
	Random Forest to Predict Eucalyptus as a Potential Herb in Preventing Covid19
12:20 pm	Lunch
Session 4	**Modelling and Simulation I**	
1:00 pm	Jaskaran Gill, Madhu Chetty, Adrian Shatte and Jennifer Hallinan
	Dynamically Regulated Initialization for S-system Modelling of Genetic Networks
1:20 pm	Hasini Nakulugamuwa Gamage, Madhu Chetty, Adrian Shatte and Jennifer Hallinan
	An Efficient Boolean Modelling Approach for Genetic Network Inference
1:40 pm	Daniel Ashlock, Joseph Brown, Wendy Ashlock and Michael Dube
	Ring Optimization of Epidemic Contact Networks
2:00 pm	Michael Dubé and Daniel Ashlock
	A Comparison of Novel Representations for Evolving Epidemic
2:20 pm	Daniel Ashlock, Joseph Alexander Brown, Sheridan Houghten and Munir Makhmutov
	One Moose, Two Moose, Three Fields, More?
2:40 pm	Simone Spolaor, Daniele M. Papetti, Paolo Cazzaniga, Daniela Besozzi and Marco S. Nobile
	Identification of Pareto-optimal drug target combinations in cancer cell models
Session 5	**Short Papers**	**Chair: Jennifer Hallinan**
3:10 pm	Andreea Avramescu, Richard Allmendinger, Manuel López-Ibáñez and Adriana Lopes
	Towards a Holistic Supply Chain Model for Personalised Medicine
3:20 pm	Dinah Maria Brandner and Bernhard Zagar
	Estimation of Tissue Absorption by the Method of Moments
3:30 pm	Kirsten C.J. van Abeelen, Daniele M. Papetti, Daniela Besozzi, Roberto Menè, Jessica Artico, Luigi P. Badano, James C. Moon, Gianfranco Parati, Rhodri H. Davies, Hui Xue, Peter Kellman, Marco S. Nobile and Camilla Torlasco
	Deep Learning for Segmentation and Assessment of Ischaemic Heart Disease
3:40 pm	Hasini Nakulugamuwa Gamage, Madhu Chetty, Adrian Shatte and Jennifer Hallinan
	Efficient Ensemble Feature Selection Based Boolean Modelling For Genetic Network Inference
3:50 pm	Shih-Hsuan Lin, Pau-Choo Chung, Hung-Wen Tsai, Tseng-Lung Yang, Jung-Chia Lin, Kuo-Sheng Cheng, Yan-Yun Liu and Qiong-Wen Zhang

	Liver Pathological HCC Tumor and Necrosis Detection with Adaptive Active Learning
4:00 pm	Lochana Menikarachchi and Lahiru Rathnayake ChemID – A RESTful API for Chemical Structure Identification in Metabolomics
4:10 pm	Udayangani Mawalagedera, Cécile Gueidan, Juanita Rodriguez, Vidushi Patel and Andrew Warden A preliminary study to identify potential bioactive metabolites from preserved lichens
4:20 pm	Jaskaran Kaur Gill, Madhu Chetty, Adrian Shatte and Jennifer Hallinan Use of known gene-gene interactions in S-system based GRN inference
4:30 pm	Mohammad Ahad, Shahriar Kabir and Hasnain Jalal Female Breast Tumor Location Prediction Using Electrical Impedance Myography (EIM) Parameters
4:40 pm	Omid Mohamad Beigi, Michael Dubé and Sheridan Houghten Simulating Partial Immunity in an Epidemic
4:50 pm	Heru Cahya Rustamaji, Yustina Sri Suharini, Angga Aditya Permana, Wisnu Ananta Kusuma, Sri Nurdiati and Irmanida Batubara Network Clustering for Identification of Significant Lung Cancer Comorbid Diseases
5:00 pm	Ivan Shpurov and Tom Froese Artificial evolution of self-optimization in a Hopfield neural network
5:10 pm	Tutorial 2
Social Session	**Interactive First Nations Cultural Activities**	
7:15 pm	OPENING
7:20 pm	*Cultural Art Therapy with Ms Kathrine Clark (limit 15 participants). The Australian visual arts are not only visually striking and attractive, but they also "tell stories";* **OR**
	Cultural Musical Hip Hop Workshop with Mr Philip Egan (limit 15 participants). Participants help to make a song and keep the song; **OR**
	Victorian Aboriginal languages with Ms Katrina Beer (limit 25 participants). Katrina is the Manager of Federation University's Aboriginal Education Centre.
8:20 pm	Regroup for Q and A
8:40 pm	CLOSING

Friday 15th October

9:00 am	Keynote	Prof. Nikola Kasabov Neuromorphic integration of bio- and neuroinformatics methods and data
Session 6	**Modelling and Simulation II**	
10:00 am	Chen Lam Loh and Tom Froese *An Oscillator Model for Interbrain Synchrony: Slow Interactional Rhythms Entrain Fast Neural Activity*	
10:20 am	Van-Giang Trinh and Kunihiko Hiraishi *An Improved Method for Finding Attractors of Large-Scale Asynchronous Boolean Networks*	
10:40 am	Joseph Livesey and Dominik Wojtczak *Leveraging Neural Networks in Malaria Control*	
11:00 am	Miria Bernardino and Robert Beiko *Genome-scale prediction of bacterial promoters*	
11:20 am	Enoch S. Liu, Gary Fogel, David Nolan, Susanna Lamers and Michael S. McGrath *Using Evolved Neural Networks to Elucidate Nef Features Associated with HIV-1 Subtype Differentiation*	
11:40	Lunch	
Session 7	**Biomedical Image Analysis**	
1:00 pm	Sumaiya Amin, Sheridan Houghten and James Hughes *Vaccinating a Population is a Changing Programming Problem*	
1:20 pm	Surbhi Gupta and Manoj Kumar Gupta *Deep Learning for Brain Tumor Segmentation using Magnetic Resonance Images*	
1:40 pm	Fatemeh Zaremehrjardi, Athar Omidi, Cristina Sciortino, Ryan Reid, Ryan Lukeman, James Hughes and Othman Soufan *Discovering Missing Edges in Drug-Protein Networks: Repurposing Drugs for SARS-CoV-2*	
2:00 pm	Ravindra Kumar, Anjali Garg, Bandana Kumari, Aakriti Jain and Manish Kumar *Identification of chloroplast and sub-chloroplast proteins from sequence-attributed features using support vector machine*	
2:20 pm	Jaspreet Singh, Jaswinder Singh, Kuldip Paliwal, Andrew Busch and Yaoqi Zhou *SPOT-1D2: Improving Protein Secondary Structure Prediction using High Sequence Identity Training Set and an Ensemble of Recurrent and Residual-convolutional Neural Networks*	

3:00 pm	Tutorial 3		
5:00 pm	Panel Session	Target Technologies for Computational Intelligence	Chair: Jennifer Hallinan
7:30 pm	Closing Session		