IWBBIO-2023

PROGRAM

11th-14th JULY, 2023
Gran Canaria (SPAIN)

IWBBIO-2023 Program

Tuesday, July 11th, 2023	
18:30-20:00	**REGISTRATION DESK** *(start at 18:30h but it is open during all the conference)*
18:30-20:00	**Upload the presentations to the room's computer (in case you haven't sent them by email).**

NOTES:

- All **Sessions A** will be held in Hotel Lopesan Villa del Conde Resort. They are **face-to-face sessions**, and they will also be shared on-line by Zoom. The **plenary lectures** are in **Session A.**
- All **Sessions B** will be held on-line (virtual) using Zoom.
- Oral Presentation: **17 minutes** (including the questions). Depending on whether there are absent speakers, times may be adjusted.
- **Poster** authors are requested to place their posters on the panels before the start of the poster session (e.g. morning posters can be placed before 10 o'clock, before the coffee break, and afternoon posters before 16:00. They can be placed on any of the panels). The morning posters should be removed at 14:30 and the afternoon posters at 19:45. It is recommended to use **A0 size** and large fonts.

Session A: Located in the last floor of the main building.

	Wednesday, July 12, 2023	
8:30	**REGISTRATION DESK** *(start at 8:30h but it is open during all the conference)*	
	All **Sessions A: Oral** <u>face-to-face sessions</u>. All **Sessions B:** Oral (will be held on-line by Zoom)	
9:00-10:10	**Session A.1: E-Health and Computational Support for Clinical Decisions**	**Session B.1: Biomedical Engineering**
10:10- 11:00	**Session A.2: Biomarker Identification**	**Session B.2: Analysis of Molecular Dynamics Data in Proteomics**
11:00-11:40	**COFFEE BREAK**	
11:45-12:45	**Session A.P1: Opening & Plenary Lecture.** **Prof. Sotirios Kiokias** **European Research Executive Agency. Research Programme Manager. Chemistry Panel leader, Marie Sklodowska Curie Actions (MSCA)**	
12:45-14:00	**Session A.3: Biomedical Engineering (Part I)**	**Session B.3: Computational Support for Clinical Decisions**
14:00-16:00	**REST BREAK**	
16:00-16:55	**Session A.4: Recent Advances in COVID 19**	**Session B.4: Image Visualization and Signal Analysis**
17:00-18:30	**Session A.5: Analysis of Molecular Dynamics Data in Proteomics**	**Session B.5: Machine Learning in Bioinformatics**

	Thursday, July 13th, 2023	
8:30	**REGISTRATION DESK** *(start at 8:30h but it is open during all the conference)*	
	All **Sessions A: Oral** <u>face-to-face sessions</u>. All **Sessions B:** Oral (will be held on-line by Zoom)	
9:00-9:50	**Session A.6: Biomedical Engineering (Part II)**	**Session B.6: Biomarker Identification**
9:55- 10:45	**Session A.7: High-throughput genomics: bioinformatic tools and medical applications**	**Session B.7: New Computational Approaches in Biomedicine**
10:45-11:15	**COFFEE BREAK**	
11:15-12:15	**Session A.P2: Plenary Lecture.** **Prof. Ashok Mulchandani** **Professor at University of California. Pioneer Faculty of Bourns College of Engineering. Distinguished Professor. Bionanotechnology and Biosensors Group**	
12:15-14:00	**Session A.8: Image Visualization and Signal Analysis**	**Session B.8: New Advances in Bioinformatics and Biomedicine (Part I)**
14:00-16:00	**REST BREAK**	
16:00-16:55	**Session A.9: Sensor-Based Ambient Assisted Living Systems and Medical Applications**	**Session B.9: New Advances in Bioinformatics and Biomedicine (Part II)**
17:00-18:20	**Session A.10: Biomedical Computing**	
18:20 - 19:30	**Session A.11: POSTER SESSION (A)**	
20:30	**GALA DINNER** **Hotel Lopesan Baobab 5*** **(15 minutes walking from Hotel Lopesan Villa del Conde Resort)**	

	Friday, July 14th, 2023	
8:30	**REGISTRATION DESK** *(start at 8:30h but it is open during all the conference)*	
	All **Sessions A: Oral <u>face-to-face sessions</u>**. All **Sessions B:** Oral (will be held on-line by Zoom)	
9:00-10:10	**Session A.12: Machine learning in Bioinformatics and NGS**	**Session B.10: New Advances in Bioinformatics and Biomedicine (Part III)**
10:10- 11:00	**Session A.13: Feature Selection, Extraction, and Data Mining in Bioinformatics: Approaches, Methods and Adaptations**	
10:00 -14:30	**Session A.14: POSTER SESSION (B)**	
11:00-11:45	**COFFEE BREAK**	
11:45-12:45	**Session A.P3: Plenary Lecture.** **Prof. Alfredo Vellido** **Universitat Politècnica de Catalunya.** **Full Professor. Department of Computer Science (CS).**	
12:45-14:00	**Session A.15: Advanced in Bioinformatics**	

IWBBIO 2023 PROGRAM

Wednesday, July 12, 2023

(9:00-10:10) Session A.1: E-Health and Computational Support for Clinical Decisions

Predicting and detecting coronary heart disease in patients using machine learning method (**Ref: *1758***)

   Michal Wos, Bartłomiej Kiczek and Bartłomiej Drop

Deep Learning for Parkinson's Disease Severity Stage Prediction using a New Dataset (**Ref: *7587***)

   Zainab Maalej, Fahmi Ben Rejab and Kaouther Nouira

Improved Long-term Forecasting of Emergency Department Arrivals with LSTM-based Networks (**Ref: *9307***)

   Carolina Miranda-Garcia, Alberto Garces-Jimenez, Jose Manuel Gomez-Pulido and Helena Hernandez-Martinez

Measurement Of Acute Pain In The Pediatric Emergency Department Through Automatic Detection Of Behavioral Parameters: A Pilot Study (**Ref: *9753***)

   Letizia Bergamasco, Marco Gavelli, Carla Fadda, Emilia Parodi, Claudia Bondone and Emanuele Castagno

(9:00-10:10) Session B.1: Biomedical Engineering

Motion control of a robotic lumbar spine model (**Ref: *1997***)

   Thuanne Paixão, Ana Beatriz Alvarez, Ruben Florez and Facundo Palomino-Quispe

Improving Foetal Health Monitoring: A Review of the Latest Developments and Future Directions (**Ref: *4049***)

   Restuning Widiasih, Hasballah Zakaria and Siti Saidah Nasution

Transparent Machine Learning Algrithms for Explainable AI on Motor fMRI Data (**Ref: *6449***)

   Jose Diogo Marques dos Santos, David Machado and Manuel Fortunato

Analyzing dose parameters of Radiation Therapy Treatment Planning and Estimation of Second Cancer Risks (**Ref:** *8632*)

> *Irine Khomeriki, Lily Petriashvili, Maia Topeshashvili and Tamar Lominadze*

(10:10- 11:00) Session A.2: Biomarker Identification

Predicting Cancer Stage from Circulating microRNA: A Comparative Analysis of Machine Learning Algorithms (**Ref:** *5616*)

> *Sören Richard Stahlschmidt, Benjamin Ulfenborg and Jane Synnergren*

Osteopontin overexpression synergistically interacts with Aurora kinases overexpression, and is associated with tumor progression, early tumor recurrence, and poor prognosis in hepatocellular carcinoma (**Ref:** *7684*)

> *Zhong-Zhe Lin, I-Lun Tsai and Kuan-Yu Chen*

Gait Asymmetry Evaluation using FMCW Radar in Daily Life Environments (**Ref:** *9807*)

> *Shahzad Ahmed, Yudam Seo and Sung Ho Cho*

(10:10- 11:00) Session B.2: Analysis of Molecular Dynamics Data in Proteomics

Recognition of conformational states of a G Protein-Coupled Receptor from molecular dynamic simulations using sampling techniques (**Ref:** *2884*)

> *Mario Alberto Gutiérrez Mondragón, Caroline König and Alfredo Vellido Alcacena*

Inter-helical residue contact prediction in -helical Transmembrane proteins using structural features (**Ref:** *6505*)

> *Aman Sawhney, Jiefu Li and Li Liao*

Structural Analysis of RNA-Binding Protein EWSR1 Involved in Ewing's Sarcoma through Domain Assembly and Conformational Molecular Dynamics Studies (**Ref:** *8336*)

> *Saba Shahzadi, Mubashir Hassan and Andrzej Kloczkowski*

(11:45-12:45) Opening Ceremony. Plenary Talk:

(12:45-14:00) Session A.3: Biomedical Engineering (Part I)

Evolutionary games in modeling cancer metastases (**Ref:** *2735*)

   Andrzej Swierniak, Katarzyna Hajdowska and Damian Borys

Clinical text classification in Cancer Real-World Data in Spanish (**Ref:** *3696*)

   *Francisco J. Moreno-Barea, Héctor Mesa, Nuria Ribelles, Emilio Alba
and Jose M. Jerez*

Investigation of inclusion for localised characteristics from medical
imaging datasets genotype-phenotype associations (**Ref:** *6568*)

   Gabrielle Dagasso, Matthias Wilms and Nils Forkert

Data Augmentation Techniques for Improving Biomedical Name Entity
Recognition in Low-Resource Settings (**Ref:** *6833*)

   Yiling Cao, Zhongguang Zheng and Lu Fang

Portable MRI System Based on the Gradient-Free Imaging Technique (**Ref:** *7317*)

   *Boguslaw Tomanek, Aaron Purchase, Christoper Sedlock and Jonathan
Sharp*

(12:45-14:00) Session B.3: Computational Support for Clinical Decisions

Validation of Height-for-Age and BMI-for-Age Z-scores Assessment using
Android-based Mobile Apps (**Ref:** *1742*)

   *Valerii Erkudov, Sergey Lytaev, Kenjabek Rozumbetov, Andrey
Pugovkin, Azat Matchanov and Sergey Rogozin*

Systematic comparison of advanced network analysis and visualization of
lipidomics data (**Ref:** *3767*)

   *Jana Schwarzerová, Dominika Olešová, Aleš Kvasnička, David
Friedecký, Margaret Varga, Valentine Provazník and Wolfram Weckwerth*

Comparison of image processing and classification methods for a better
diet decision-making (**Ref:** *4206*)

   Maryam Abbasi, Pedro Martins and Filipe Cardoso

A Machine Learning approach to predict brain abnormalities in preterm
infants using clinical data (**Ref:** *5481*)

   *Arantxa Ortega Leon, Roa'A Khaled, María Inmaculada Rodríguez
García, Daniel Urda and Ignacio Turias*

Ethical dilemmas, mental health, artificial intelligence and LLM based chatbots (**Ref:** *5739*)

Johana Cabrera, Soledad Loyola, Irene Magaña and Rodrigo Rojas

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(16:00-16:55) Session A.4: Recent Advances in COVID 19

Application of custom approaches for target enrichment of SARS-CoV-2 in nasopharyngeal swab for whole genome sequencing (**Ref:** *3517*)

Anna Gladkikh, Ekaterina Klyuchnikova, Valerya Sbarzaglia, Dmitrii Polev and Vladimir Dedkov

Physiological polyphosphate: a new molecular paradigm in biomedical applications for human therapy (**Ref:** *7038*)

Prof. Dr. Werner E. G. Müller and Prof. Dr. Xiaohong Wang

Quantitative EEG Findings in Outpatients with Psychosomatic Manifestations after COVID-19 (**Ref:** *8024*)

Sergey Lytaev, Nikita Kipaytkov and Tatayna Navoenko

(16:00-16:55) Session B.4: Image Visualization and Signal Analysis

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Digital Breast Tomosynthesis reconstruction techniques in healthcare systems: A review (**Ref:** *5473*)

Imane Samiry, Ilhame Ait Lbachir, Imane Daoudi, Saida Tallal and Sayouti Adil

BCAnalyzer: A semi-automated tool for the rapid quantification of cell monolayer from microscopic images in scratch assay (**Ref:** *7437*)

Aleksandr Sinitca, Airat Kayumov, Pavel Zelenikhin, Andrey Porfiriev, Dmitrii Kaplun and Mikhail Bogachev

Breast Cancer Histologic Grade Identification by Graph Neural Network Embeddings (**Ref:** *8322*)

Salvatore Calderaro, Giosuè Lo Bosco, Filippo Vella and Riccardo Rizzo

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(17:00-18:30) Session A.5: Analysis of Molecular Dynamics Data in Proteomics

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The Coherent Multi-Representation Problem with Applications in Structural Biology (**Ref:** *1151*)

Antonio Mucherino

Conserved Water Networks Identification in Proteins Using Density
Clustering Approaches on Positional and Orientational Data (**Ref:** *1884*)

  Urban Bren, Marko Jukic, Jelena Tosovic and Domagoj Fijan

Prediction of Functional Effects of Protein Amino Acid Mutations (**Ref:** *4683*)

  *Óscar Álvarez-Machancoses, Eshel Faraggi, Enrique Deandrés-Galiana,
  Juan Fernández-Martínez and Andrzej Kloczkowski*

Computational study of conformational changes in intrinsically disordered
regions during protein-protein complex formation (**Ref:** *4804*)

  Amita Barik, Madhabendra Mohon Kar and Prachi Bhargava

Degree-normalization improves random-walk-based embedding accuracy in
PPI graphs (**Ref:** *6924*)

  *Luca Cappelletti, Stefano Taverni, Tommaso Fontana, Marcin P.
  Joachimiak, Justin Reese, Peter Robinson, Elena Casiraghi and Giorgio
  Valentini*

(17:00-18:30) Session B.5: Machine Learning in Bioinformatics

Stochastic model of infection with the SARS–COV–2 virus in a small
group of individuals indoors (**Ref:** *1100*)

  Igor Derevich and Anastasiia Panova

An efficient algorithm for detecting mutually exclusive patterns across
multiple sets of genomic mutations (**Ref:** *2555*)

  Siyu He, Jiayin Wang, Zhongmeng Zhao and Xuanping Zhang

Exploring machine learning algorithms and protein language models
strategies to develop enzyme classification systems (**Ref:** *3798*)

  *Diego Fernández, Álvaro Olivera-Nappa, Roberto Uribe-Paredes and
  David Medina*

Relation Predictions in Comorbid Disease Centric Knowledge Graph
Using Heterogeneous GNN Models (**Ref:** *4664*)

  *Saikat Biswas, Koushiki Dasgupta Chaudhuri, Pabitra Mitra and
  Krothapalli Sreenivasa Rao*

GPU Cloud architectures for bioinformatic applications (**Ref:** *8985*)

  *Antonio Maciá-Lillo, Tamai Rodríguez, Higinio Mora, Antonio
  Jimeno-Morenilla and Jose-Luís Sánchez-Romero*

Cyclical learning rates (CLR's) for improving training accuracies and lowering computational cost (**Ref:** *9523*)

Shrikant Pawar, Aditya Stanam, Anand Narayanan and Rushikesh Chopade

Thursday, July 13th, 2023

(9:00-9:50) Session A.6: Biomedical Engineering (Part II)

Annotation-free Identification of Potential Synteny Anchors (**Ref: *7451***)

Karl-Kristian Kaether, Steffen Lemke and Peter F. Stadler

Antimicrobial ceramic materials for biomedical implants (**Ref: *8536***)

Julietta V. Rau

Neutrons and boron nanoparticles: a powerful weapon for fighting disseminated cancers (**Ref: *9615***)

Ignacio Porras

(9:00-9:50) Session B.6: Biomarker Identification

The pathogenetic significance of miR-143 in atherosclerosis development as a biomarker of atherosclerotic diseases (**Ref: *491***)

Mikhail Lopatin, Maria Vulf, Maria Bograya, Anastasia Tynterova and Larisa Litvinova

Significance of using of Liquid Biopsy for Guiding Therapy Decision in Cancer (**Ref: *770***)

Omayma Mazouji, Hicham Mansour and Abdelhak Ouhajjou

Complex Network and Artificial Intelligence combined approach to investigate Autism spectrum disorder through gene expression data (**Ref: *6114***)

Antonio Lacalamita, Alfonso Monaco, Nicola Amoroso, Loredana Bellantuono, Alessandro Fania, Ester Pantaleo, Sabina Tangaro and Roberto Bellotti

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(9:55- 10:45) Session A.7: High-throughput Genomics: Bioinformatic Tools and Medical Applications

A 20-year journey of tracing the development of web catalogues for rare diseases (**Ref: *4883***)

João Almeida and José Luis Oliveira

Unsupervised investigation of information captured in pathway activity score in scRNA-Seq analysis (**Ref:** *5952*)

   Kamila Szumala, Joanna Polanska and Joanna Zyla

Meta-analysis of gene activity (MAGA) contributions and correlation with gene expression, through GAGAM. (**Ref:** *6258*)

   Lorenzo Martini, Roberta Bardini, Alessandro Savino and Stefano Di Carlo

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(9:55- 10:45) Session B.7: New Computational Approaches in Biomedicine

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Deep Learning for automatic electroencephalographic signals classification (**Ref:** *3046*)

   Nadia N. Sánchez-Pozo, Samuel Lascano-Rivera, Francisco J. Montalvo-Marquez and Dalia Y. Ortiz-Reinoso

Pharmacoinformatics Analysis of Drug Leads for Alzheimer's Disease from FDA-Approved Dataset through Drug Repos itioning Studies (**Ref:** *4285*)

   Mubashir Hassan, Saba Shahzadi and Andrzej Kloczkowski

MetaLLM: Residue-wise Metal ion Prediction Using Deep Transformer Model (**Ref:** *6035*)

   Fairuz Shadmani Shishir, Bishnu Sarker, Farzana Rahman and Sumaiya Shomaji

Predicting Papillary Renal Cell Carcinoma Prognosis Using Integrative Analysis of Histopathological Images and Genomic Data (**Ref:** *7286*)

   Shaira Kee, Michael Aaron Sy, Samuel Border, Nicholas Lucarelli, Akshita Gupta, Pinaki Sarder, Marvin Masalunga and Myles Joshua Tan

Assessing Temporal Stability of Heart Rate Variability Features for Predicting Adverse Cardiovascular Events in Hypertensive Patients (**Ref:** *9515*)

   José María López Belinchón, Miguel Á. López and Raúl Alcaraz

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(11:15-12:15) Plenary Talk:

(12:15-14:00) Session A.8: Image Visualization and Signal Analysis

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Correlation of tumor density and computed tomography response criteria to time to tumor progression of patients with advanced hepatocellular carcinoma receiving anti-angiogenic therapy in clinical trials (**Ref:** *527*)

Zhong-Zhe Lin and Po-Chin Liang

The promise of deep learning-assisted multimodality medical image analysis (**Ref:** *5233*)

Habib Zaidi

Color Hippocampus Image Segmentation using Quantum Inspired Firefly Algorithm and Merging of Channel-wise Optimums (**Ref:** *8290*)

Alokeparna Choudhury, Sourav Samanta, Sanjoy Pratihar and Oishila Bandyopadhyay

A pilot study of neuroaesthetics based on the analysis of electroencephalographic connectivity networks in the visualization of different dance choreography styles (**Ref:** *8602*)

Almudena González, Jose Melendez and Julian J González

(12:15-14:00) Session B.8: New Advances in Bioinformatics and Biomedicine (Part I)

Genomic characterization and phylogenomic analyses of the Beta variant of SARS-CoV-2 circulated in Pakistan (**Ref:** *272*)

Nazia Fiaz, Imran Zahoor, Saima Mahad, Tahir Yaqub and Atia Basheer

Whole tumor area estimation in incremental brain MRI using dilation- and erosion-based binary morphing (**Ref:** *573*)

Orcan Alpar and Ondrej Krejcar

Trimeric receptor-binding domain of SARS-CoV-2 acts as a potent inhibitor of ACE2 receptormediated viral entry (**Ref:** *691*)

Parameswaran Ramakrishnan

AI(Aritificial Intelligence) Determination of Functional Ambulatory Category of Stroke Patients (**Ref:** *788*)

Shi-Uk Lee, Seong-Ho Jang, Youngkook Kim, Jeong-Hyun Kim and Chang Han Lee

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(16:00-16:55) Session A.9: Sensor-Based Ambient Assisted Living Systems and Medical Applications

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Smart Wearables Data Collection and Analysis for Medical Applications: A Preliminary Approach for Functional Reach Test (**Ref:** *5477*)

   João Duarte, Luis Francisco, Ivan Miguel Pires and Paulo Coelho

Using Digital Biomarkers for Objective Assessment of Perfusionists' Workload and Acute Stress during Cardiac Surgery (**Ref:** *8802*)

   Roger Daglius Dias, Lauren Kennedy-Metz, Rithy Srey, Geoffrey Rance, Mahdi Ebnali, David Arney, Matthew Gombolay and Marco Zenati

Towards ASSURED Diagnostics Using Paper-Microfluidic Integrated Chemiresistor Biosensor Arrays (**Ref:** *9612*)

   Ashok Mulchandani

(16:00-18:30) Session B.9: New Advances in Bioinformatics and Biomedicine (Part II)

Novel gene signature for Bladder Cancer Stage identifcation (**Ref:** *1027*)

   Iñaki Hulsman, Luis Javier Herrera, Francisco Ortuño and Ignacio Rojas

Three-dimensional representation and visualization of high-grade and low-grade glioma by Nakagami imaging (**Ref:** *1799*)

   Orcan Alpar and Ondrej Krejcar

Role of parallel processing in brain magnetic resonance imaging (**Ref:** *2503*)

   Ayca Kirimtat and Ondrej Krejcar

Identification of Novel Anti-inflammatory Agents by Molecular Docking Studies (**Ref:** *2557*)

   Sadaf Naeem, Atia Shaheen and Sadaf Naeem

Hybradization of Emperical Mode Decomposition and Machine Learning for Categorization of Cardiac Diseases (**Ref:** *2666*)

   Saeed Mian Qaisar

Quality of Life Analysis of Patients with Dermatological Problems: Teledermatology Versus Face-to-Face Dermatology (**Ref:** *2785*)

   Antonio López-Villegas, Remedios López Liria and Maria Angeles Valverde-Martinez

Photodynamic therapy (PDT) of breast cancer cells with an infrared laser and second-harmonic PDT nanoconjugates (**Ref:** *3554*)

   Refael Minnes and Ayan Barbora

A System Biology and Bioinformatics approach to determine the molecular signature, core ontologies, functional pathways, drug compounds in between Stress and Type 2 Diabetes (**Ref:** *4092*)

> Md. Abul Basar, Md. Rakibul Hasan, Bikash Kumar Paul, Khairul Alam Shadhin and Md. Sarwar Mollah

EMCNN: Fine-Grained Emotion Recognition based on PPG using Multi-scale Convolutional Neural Network (**Ref:** *4218*)

> Jiyang Han and Hui Yang

MODULATION OF CYP1A1 AND CYP1B1 GENE EXPRESSION IN 3-METHYLCHOLANTHRENE-INDUCED PROSTATE CANCER BY AFRICAN PEAR FRUIT (DACRYODES EDULIS) IN WISTAR RATS. (**Ref:** *4885*)

> David Omisore

(17:00-18:20) Session A.10: Biomedical Computing

Speeding up simulations for radiotherapy research by means of machine learning (**Ref:** *2323*)

> Luis Javier Herrera, Ignacio Rojas, Francisco Carrillo Pérez, Alberto Guillen, Isabel Fernández and Carmen Ovejero

Preliminary Results of Using the Tangram Meta-Heuristic for Virtual Screening in Drug Discovery (**Ref:** *6563*)

> N.C. Cruz, S. Puertas-Martin, J.L. Redondo and P.M. Ortigosa

A Meta-Graph for the Construction of an RNA-centered Knowledge Graph (**Ref:** *7008*)

> Emanuele Cavalleri, Sara Bonfitto, Alberto Cabri, Jessica Gliozzo, Paolo Perlasca, Mauricio Soto-Gomez, Gabriella Trucco, Elena Casiraghi, Giorgio Valentini and Marco Mesiti

Modelling of Anti-Amyloid-Beta Therapy for Alzheimer's Disease (**Ref:** *8476*)
> Swadesh Pal and Roderick Melnik

(18:20-19:30) Session A.11: POSTER SESSION (A)

Comparison of VCFs generated from different software in the evaluation of variants in genes responsible for rare thrombophilic conditions (**Ref:** *1236*)

> Radek Vrtel, Petr Vrtel and Radek Vodicka

Developing a workflow to gain insights from scRNA-seq data for drug development : a case-study with human pancreatic adenocarcinoma (**Ref:** *1267*)

Octavio Morante-Palacios, Ester Gil Vazquez, Oleg Deryagin and Cecilia Klein

Predictive model for Age-Related Macular Degeneration Response to Anti-VEGF treatment (**Ref:** *1279*)

Álvaro Pérez Sala, Rafael Pelaez, Ana Isabel Oca Lázaro, Ángela Villanueva Martinez and Ignacio M. Larráyoz Roldán

Targeted Next Generation Sequencing of a custom capture panel to target sequence 112 cancer related genes in breast cancer tumours ERBB2 positive from Lleida (Spain) (**Ref:** *2083*)

Ana Velasco, Izaskun Urdanibia and Serafín Morales

Oral e-Health Monitoring Platform - a platform for sharing oral health data (**Ref:** *2784*)

Mónica Fernandes, Eduardo Esteves, Diogo Duarte, Marlene Barros, Nuno Rosa and André Correia

Putative quadruplex forming sequences in plants: role, occurrence and possible interaction partners (**Ref:** *2789*)

Adriana Volná, Martin Bartas and Jiří Červeň

Training Strategies for Covid-19 Severity Classification using Machine Learning and Heart Rate Variability Metrics (**Ref:** *3356*)

Daniel Pordeus Menezes, Pedro Ribeiro, Laíla Zacarias, João Madeiro, João Marques, Pedro Rodrigues, Camila Leite, Manoel Neto, Arnaldo Peixoto Jr and Adriel de Oliveira

Medical X-ray Image Classification Method Based on Convolutional Neural Networks (**Ref:** *4486*)

Veska Gancheva and Tsviatko Jongov

WATER DYNAMICS IN CHEESE BY MEANS OF NUCLEAR MAGNETIC RESONANCE RELAXOMETRY (**Ref:** *4821*)

Monika Małkowska-Kowalczyk, Justyna Żulewska, Adriana Lobacz, Maciej Maciejczyk and Danuta Kruk

Bioinformatics for Transcription Factor Discovery at a Primarily Undergraduate Institution (**Ref:** *5108*)

Michael Van Dyke and John Barrows

Deep learning systems for the classification of cardiac pathologies using ECG signals (**Ref: *5307***)

Olga Valenzuela, Ignacio Rojas-Valenzuela, Fernando Rojas, Juan Carlos De la Cruz and Peter Gloesekoetter

The effectiveness of quarantine in viral and bacterial epidemics: new evidence provided by the Covid-19 pandemic (**Ref: *5421***)

Andreu Martínez-Hernández and Vicente Martínez

The dark side of NCBI: Annotation artifacts across the RefSeq database (**Ref: *5608***)

Martin Bartas, Jiří Červeň, Adriana Volná and Petr Pečinka

Recent Advances in Discovery of New Tyrosine Ki-nase Inhibitors Using Computational Methods (**Ref: *6932***)

Vesna Rastija and Maja Molnar

Preliminary Study on the Identification of Diseases by Electrocardiography Sensors' Data (**Ref: *7246***)

Rui João Pinto, Pedro Miguel Silva, Rui Pedro Duarte, Francisco Alexandre Marinho, António Jorge Gouveia, Norberto Jorge Gonçalves, Paulo Jorge Coelho, Eftim Zdravevski, Petre Lameski, Nuno Garcia and Ivan Miguel Pires

Assessing bioinformatic tools for de novo assembly of nanopore sequencing data from human whole-genomes (**Ref: *7881***)

Adrián Muñoz-Barrera, Víctor García-Olivares, Luis A. Rubio-Rodríguez, David Jáspez, José M. Lorenzo-Salazar, Rafaela González-Montelongo and Carlos Flores

Modelling the survival kinetics of Salmonella spp. on the surface of ripened raw milk cheese during storage at different temperatures (**Ref: *8515***)

Adriana Łobacz and Justyna Zulewska

Eukaryotic topoisomerases of type IIA: cytoplasmic proteins? (**Ref: *9048***)

Jiří Červeň, Martin Bartas and Petr Pečinka

Investigating the Dynamics of Cancer Evolution: Variant Allele Frequency Patterns and Model Limitations (**Ref: *9284***)

Paweł Kuś and Marek Kimmel

Target NGS data analysis identifies the haplotype in LRRK2 gene as a potential risk factor for endemic parkinsonism (**Ref: *9396***)

Radek Vodicka, Kristyna Kolarikova, Petr Kanovsky and Radek Vrtel

The use of H-Scan ultrasound imaging to assess the re-sponse of breast cancer patients to neoadjuvant chemo-therapy (**Ref:** *9863*)

Hanna Piotrzkowska Wróblewska, Katarzyna Dobruch Sobczak, Ziemowit Klimonda, Piotr Karwat and Jerzy Litniewski

Friday, July 14th, 2023

(9:00-10:10) Session A.12: Machine learning in Bioinformatics and NGS

Machine learning combining multi-omics data and network algorithms identifies Adrenocortical carcinoma prognostic biomarkers (**Ref: *247***)

  Roberto Martin-Hernandez

Competitive Analysis of 5 S AND 16 S bacterial RNA in the Phylogeny of bacteria (**Ref: *2158***)

  Michael Sadovsky and Yulia Ovchinnikova

A Platform for the Study of Drug Interactions and Adverse Effects Prediction (**Ref: *5387***)

  Diogo Mendes and Rui Camacho

Enabling real-time analysis of nanopore 16S rRNA sequencing data with NanoRTax (**Ref: *9662***)

  Héctor Rodríguez Pérez, Laura Ciuffreda and Carlos Flores

(9:00-11:00) Session B.10: New Advances in Bioinformatics and Biomedicine (Part III)

Effect of the primary macroelements in the susceptibility to diseases: A Review (**Ref: *4962***)

  Grethel Lázara Sieiro Miranda, Alberto Nicolás González Marrero, Eida Luisa Rodríguez Lema and Mérida Rodríguez Regal

Analysis of the organization of the structure of human genes depending on their tissue specificity (**Ref: *5581***)

  Sergey Slyusarev and Olga Lyangasova

Uterine Cervix and Corpus Cancers Characterization through Gene Expression Analysis Using the KnowSeq Tool (**Ref: *5863***)

  Lucía Almorox, Luis Javier Herrera, Francisco Ortuño and Ignacio Rojas

Predicting the Risk of Recurrence and Prognosis in Patients with Hepatocellular Carcinoma (**Ref: *6459***)

  Chi-Chang Chang

A guide and mini-review on the performance evaluation metrics in binary segmentation of magnetic resonance images (**Ref:** *6799*)

   Ayca Kirimtat and Ondrej Krejcar

ITRAQ-based proteomic analysis reveals potential osteogenesis-promoted role of ATM in strontium-incorporated titanium implant (**Ref:** *7436*)

   Yuzi Xu, Yangbo Xu and Fuming He

Selection Process of Phytochemicals and Efficacy of Thymol, Eugenol and Calcium Ferulate on Heterotrophic Plate Count Bacteria in Water (**Ref:** *7653*)

   Humayun Wali and Muhammad Zafar

Principaux facteurs de prise de poids pendant le confinement COVID-19 dans une population Marocaine : une étude transversale (**Ref:** *8452*)

   Nourelyakine Lakhdar, Driss Lamri and Moulay Ouahidi

(10:10- 11:00) Session A.13: Feature Selection, Extraction, and Data Mining in Bioinformatics: Approaches, Methods and Adaptations

Leveraging latent representation in metabolomics (**Ref:** *331*)

   Evariste Njomgue-Fotso, Justine Labory, Youssef Boulaimen and Silvia Bottini

Entropy approach of processing for fish acoustic telemetry data to detect atypical behavior during welfare evaluation (**Ref:** *2926*)

   Jan Urban

Determining HPV Status in Patients with Oropharyngeal Cancer from 3D CT Images Using Radiomics: Effect of Sampling Methods (**Ref:** *4314*)

   Kubra Sarac and Albert Guvenis

(10:00- 14:30) Session A.14: POSTER SESSION (B)

Bayesian Molecular Dating Analyses Combined with Mutational Profiling Suggest an Independent Origin and Evolution of SARS-CoV-2 Omicron BA.1 and BA.2 Sub-Lineages (**Ref:** *734*)

   Naveen Kumar, Rahul Kaushik, Ashutosh Singh, Vladimir N. Uversky, Kam Y. J. Zhang, Upasana Sahu, Sandeep Bhatia and Aniket Sanyal

HEALTH CARE AND DISEASES (**Ref:** *2379*)

   Aditi Katake

The Utilization of Click Reactions in Understanding the Structure and Function of IgE in Allergic Reactions (**Ref:** *3365*)

Parth Shinde, Yash Saini, Veeky Baths, Manas Mandal and Shounak Bhattacharya

BodyFlow: A library for human pose estimation and activity recognition (**Ref:** *3869*)

Irene López-Bosque, Carlos Marañes-Nueno, Ana Caren Hernández-Ruiz, Rocío Aznar-Gimeno, Pilar Salvo-Ibañez, María de La Vega Rodrigálvarez-Chamarro, David Abadía-Gallego and Rafael del-Hoyo-Alonso

GFAP-Abs coexpression in autoimmune encephalitis and atypical demyelinating diseases (**Ref:** *4341*)

Ekaterina Chekanova, Alla Shabalina, Taras Simaniv and Mariya Zakharova

Neutron radiobiology measurements for improving and expanding boron neutron capture therapy of cancer (**Ref:** *5547*)

Patricia Álvarez-Rodríguez, Cristina Méndez-Malagón, Maria Isabel Porras-Quesada, Maria José Ruiz-Magaña, Carmen Ruiz-Ruiz, Rosario Núñez, María Pedrosa-Rivera, Ignacio Porras, Javier Praena and Manuel P. Sabariego

Radar Sensing in Healthcare: Challenges and Achievements in Human Activity Classification Vital Signs Monitoring (**Ref:** *5617*)

Francesco Fioranelli, Ronny Guendel, Nicolas Kruse and Alexander Yarovoy

The effect of biofeedback on learning the wheelie position on manual wheelchair (**Ref:** *5730*)

Antonio Pinti

Bioinformatics approaches to characterize the Monkeypox virus genomes from cases of the mid-2022 outbreak (**Ref:** *7471*)

Adrián Muñoz-Barrera, Laura Ciuffreda, Julia Alcoba-Florez, Luis A. Rubio-Rodríguez, Héctor Rodríguez-Pérez, Helena Gil-Campesino, Diego García-Martínez de Artola, Josmar Salas-Hernández, Julia Rodríguez-Núñez, Antonio Íñigo-Campos, Víctor García-Olivares, Oscar Díez-Gil, Rafaela González-Montelongo, Agustín Valenzuela-Fernández, José M. Lorenzo-Salazar and Carlos Flores

Constructing a Stroke Diagnosis and Prognosis System Based on the BPN Algorithm Using Tc-99m-ECD SPECT images (**Ref:** *7485*)

Jui-Jen Chen, Hung-Nien Chang Chien and Yen-Hsiang Chang

A Platform for the Radiomic Analysis of Brain FDG PET Images: Detecting Alzheimer's disease (**Ref:** *9490*)

> *Ramin Rasi and Albert Guvenis*

Detecting Intra Ventricular Haemorrhage in Preterm Neonates using LSTM Autoencoders (**Ref:** *9647*)

> *Idris Muniru, Jacomine Grobler and Lizelle Van Wyk*

Insulin sensitivity and Insulin Resistance and Diabetes prediction by applying artificial intelligence techniques on genes obtained from expression analysis differential (**Ref:** *1590*)

> *Jesús María González-Martín, Francisco Rodríguez-Esparragón, Bernardino Clavo, Laura Beatriz Torres-Mata, Sara Estefania Cazorla-Rivero and Estrella Gómez-Bentolila*

Agent based modeling of fish shoal behavior (**Ref:** *2829*)

> *Pavla Urbanova, Ievgen Koliada, Petr Cisar and Milos Zelezny*

Evaluation of homogeneity of effervescent tablets containing quercetin and calcium using X-ray microtomography and hyperspectral analysis (**Ref:** *4874*)

> *Michał Meisner, Piotr Duda, Beata Szulc-Musioł and Beata Sarecka-Hujar*

Modeling and Simulation of Multiphase Flow in Integrated Multitrophic Aquaculture Systems with Macroalgae: Application of CFD-DEM (**Ref:** *5017*)

> *Radomir Filip, Pavla Urbanova, Ingrid Masalo and Stepan Papacek*

The dilemma of choosing the best prediction model and feature engineering approach for heterogenous datasets. (**Ref:** *5192*)

> *Lukasz Piorecki and Joanna Polanska*

Identification of InhA-inhibitors interaction fingerprints that affect residence time (**Ref:** *6973*)

> *Magdalena Ługowska and Marcin Pacholczyk*

Optimizing Variant Calling for Human Genome Analysis: A Comprehensive Pipeline Approach (**Ref:** *8458*)

> *Miguel Pinheiro, Jorge Miguel Silva and José Luis Oliveira*

(12:45-14:00) Session A.15: Advanced in Bioinformatics

Revealing the RBP regulome in hepatocellular carcinoma via consensus
GRN inference (**Ref:** *1853*)

*Mateusz Garbulowski, Riccardo Mosca, Carlos J. Gallardo-Dodd,
Claudia Kutter and Erik L. L. Sonnhammer*

GeneCaRNA: A new world of non-coding RNAs for disease decipherment (**Ref:** *2118*)

Doron Lancet

An Algorithm for Pairwise DNA Sequences Alignment (**Ref:** *2271*)

Veska Gancheva and Hristo Stoev

Multiallelic Maximal Perfect Haplotype Blocks with Wildcards via PBWT (**Ref:** *4398*)

*Paola Bonizzoni, Gianluca Della Vedova, Yuri Pirola, Raffaella Rizzi
and Mattia Sgrò*