This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

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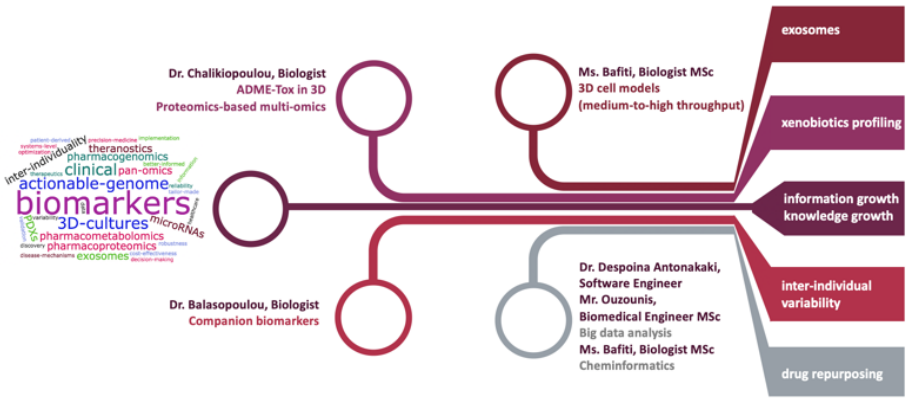
ABOUT US

National Hellenic Research Foundation (NHRF), one of the largest research centres in Greece, was founded in 1958. It is a non-profit Research Foundation supervised by the General Secretariat for Research and Technology (GSRT) of the Ministry of Development and Investments in Greece.
The **Institute of Chemical Biology (ICB)** at NHRF act as a focal point of Excellence, through an interdisciplinary approach in the area of Chemical Biology with the aim of providing solutions for state-of-the-art issues in the areas of health, drug research, and biotechnology. In Greece, no other Institute currently employs an analogous integrated multidisciplinary approach to disease prevention and treatment relying on the exploitation of the synergy between Chemistry and Biology, the expertise of its research staff and its state-of-the-art infrastructure. In this capacity, IBMCB promotes national research priorities on 'Biomedicine and Health', 'Agrobiotechnology and Food', and 'Energy and Environment' as tools for national economic growth (see report McKinsey & Co. "Greece 10 years ahead").
The **Biomarker Discovery & Translational Research Laboratory** at NHRF aims to map inter-individual variability and unmask xenobiotics for ADME-Tox profiling, informed drug repurposing and companion biomarkers. Multi-omics, 3D cell models, and microfluidics serve as a toolbox.

ABOUT US



2019
lab goes live

2020

-> National Strategic Reference Framework 2014-2020. General Secretariat of Research and Technology – Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RESEARCH-CREATE-INNOVATE
-> "CLOUDSCREEN". Total budget: 469,791.88 €. Lab budget: 352,561.98 €. Role: PI
-> "Design & development of a novel food supplement for osteoporosis based on gut microbiome mechanisms. Efficacy and tolerability assessment". Total budget: 952,080.00 €. Lab budget: 62,760.00 €. Role: Partner
-> State Scholarships Foundation (IKY), Operational Programme «Human Resources Development, Education and Lifelong Learning» in the context of the project "Reinforcement of Postdoctoral Researchers - 2nd Cycle" (MIS-5033021). Post-doctoral research fellow: Dr. Angeliki Balasopoulou. Total budget: 26,400.00 €. Lab budget: 26,400.00 €. Role: Coordinator – PI
-> HPC-3 Europa Translational Access Grant.

G2MC Family Health History flagship project co-chair

2021

-> EPIC-XS Grant. "An integrated model to gain mechanistic insights in glioblastoma prognosis". Budget: 20,532.00 €. Role: PI
->

CRAVING FOR BRAIN TEASERS

ΕΘΝΙΚΟ ΙΔΡΥΜΑ ΕΡΕΥΝΩΝ
National Hellenic Research Foundation

Vision

- Translate information growth to knowledge growth
- Map inter-individual variability upon xenobiotics profiling
- (Drug) repurposing exosomes

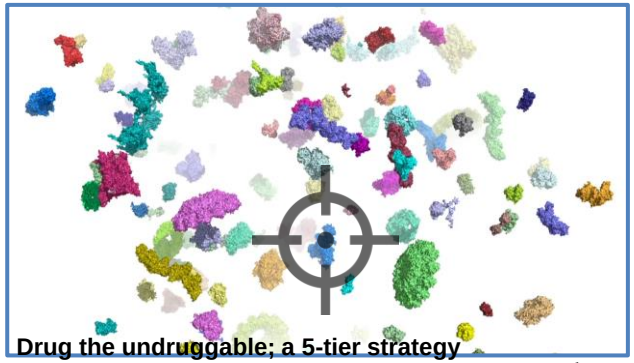
Mission

- Proteomics-based multi-omics
- ADME-Tox in 3D
- Companion biomarkers

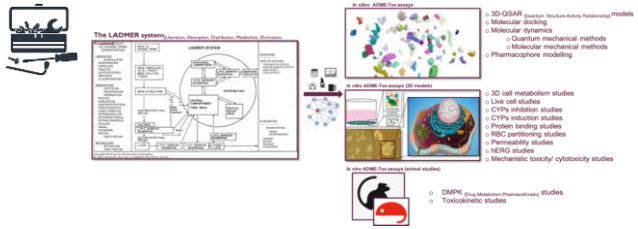
Dr. Katsila, Biochemist BSc (Hons) ARCS MSc PhD

HORIZON-MISS-2021-CANCER-02-01: Develop new methods and technologies for cancer screening and early detection

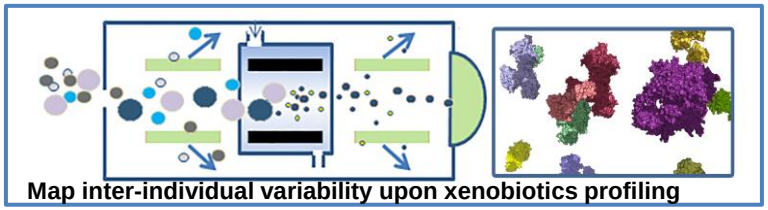
HORIZON-MISS-2021-CANCER-02-03: Better understanding of the impact of risk factors and health determinants on the development and progression of cancer



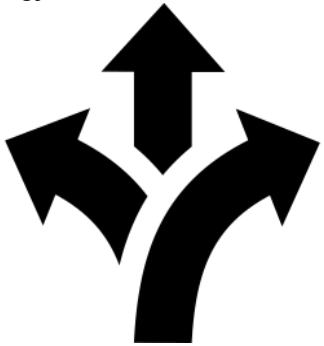
Drug the undruggable; a 5-tier strategy



- define the patient group that will gain benefit
- define the druggable key-players (proteins, proteoforms, protein variants)
- select repurposed drugs based on AI & human synergies
- profile candidates (efficacy, ADMETox)
- identify & validate companion biomarkers



Map inter-individual variability upon xenobiotics profiling



Digital Biomarkers

- proteomics-based multi-omics
- artificial-human intelligence workspace -> data mining and curation -> data reliability & reproducibility
- validation; spatial proteomics, single cell and/or exosomal proteomics, photoacoustic-LC-MSn.

- genotype-to-phenotype associations -> clinical interpretome
- monitoring of immunomodulatory mechanisms
- ADMETox profiling for cell- & gene- therapies

- consumer-generated physiological measures
- consumer-generated behavioral measures
- digital tools

- family health history profiling
- companion biomarkers

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EXPERTISE

ADMETOX, MULTI-OMICS, DRUG REPURPOSING, EXOSOMES

We employ state of the art pipelines (*in silico, in vitro, in vivo*) to get maximum output

PARTNERSHIP

ADMETox (*in silico, in vitro, in vivo*)

The team supports fit for purpose to full compliance. The team advises on study design, analytical methodology and pull through from nonclinical to clinical use plus companion diagnostics regulatory submissions.

Multi-omics strategies

LC-MS based strategies for targeted and/or untargeted analyses Wet- and dry-lab pipelines

Drug repurposing and ADMETOX profiling

State-of-the-art pipeline for drug repurposing and ADMETOX profiling

Exosomes

Multi-modal strategies for exosomal profiling; cargo, synthesis, number

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