



23-25 November 2023

Chemical Biology Workshop: Drug & Biomarker Discovery *in memory of Dr Michael Alexis*



International hybrid meeting

Institute of Chemical Biology (ICB) | National Hellenic Research Foundation (NHRF)

Topics

TARGET IDENTIFICATION & VALIDATION ; DRUG DISCOVERY & DEVELOPMENT

OMICS-GUIDED BIOMARKERS IN CHEMICAL BIOLOGY ; THERAPEUTIC-CLINICAL APPROACHES

Confirmed Speakers

Prof. R. Aebersold

Dr V. Aidinis

Prof M.-L. Bolognesi

Dr T. Calogeropoulou

Dr C. Chochos

Dr N. Chondrogianni

Dr P. Georgiadis

Prof. M. Grenegård

Prof. H. Haick

Prof. E. Kastritis

Jr Prof. Dr. P. Kastritis

Dr T. Katsila

Prof E. Mikros

Dr D. Mitsiou

Dr V. Papadimitriou

Dr O. Papadodima

Assoc. Prof. G. Rassias

Prof. D. Sarigiannis

Assoc. Prof. F. Sonvico

Dr V.L. Souliotis

Prof. E. Tate

Prof. S. Wiemann

Dr D. Yannoukakos

Dr S.E. Zographos

Information: chembiol2023@eie.gr



■ pantone 294c
■ pantone 279c





Chemical Biology Workshop: Drug & Biomarker Discovery in memory of Dr Michael Alexis

23-25 November 2023

National Hellenic Research
Foundation, Athens

PROGRAM

Thursday, 23 November 2023

09:00 – 09:15	Chair: Dr D. Mitsiou – Dr I. Kostas Welcome Prof. D. Sarigiannis, NHRF Director & Chairman of the Board ICB/NHRF short intro Dr. A. Pintzas, ICB Director
09:15 – 10:55	TARGET IDENTIFICATION & VALIDATION DRUG DISCOVERY & DEVELOPMENT
09:15 – 10:05	Advances in Drug Discovery for Dengue Antivirals <u>Assoc. Prof. G. Rassias</u>
10:05 – 10:55	Exploring cellular organization in native cell extracts with high-resolution cryo-electron microscopy <u>Jr Prof. Dr. Panagiotis Kastritis</u>
10:55 – 11:25	Coffee Break
11:25 – 13:40	Session dedicated to Dr. M.N. Alexis
11:25 – 11:40	Michael N Alexis at the NHRF <u>Dr. S. Kyrtopoulos</u>
11:40 – 12:10	Steroid hormone receptors in endocrine and inflammatory disorders: lecture in memory of Michael N Alexis, Researcher Emeritus at ICB/NHRF <u>Dr D. Mitsiou</u>
12:10 – 12:55	The genetics behind cancer predisposition <u>Dr K. Yannoukakos</u>
12:55 – 13:40	In silico tools for the discovery of bioactive compounds <u>Prof. E. Mikros</u>
13:40 – 14:40	Lunch Break – Poster Session Chair: Prof G. Rassias –Dr M. Zervou
14:40 – 15:10	Fluorescence and Bioluminescence in vivo imaging: a high throughput tool to speed up drug research. <u>BioEmission Technology Solutions</u>
15:10 – 15:40	The journey towards small molecule neurotrophin mimetics against neurodegeneration and neuroinflammation <u>Dr. T. Calogeropoulou</u>
15:40 – 15:55	A novel fluorescent gemcitabine prodrug that follows a nucleoside transporter-independent route and bears enhanced therapeutic efficacy with respect to gemcitabine <u>Prof A. Tzakos</u>
15:55 – 16:10	Development of a mass-organelle proteomic analysis assay with CyTOF technology to assess mitochondrial dysfunction <u>Dr N. Paschalidis</u>

16:10 – 16:25	Novel Benzothiazole and Indole Derivatives as Potential BRAF/MEK Pathway Inhibitors – Design, Synthesis and Evaluation of their Antiproliferative Activity <u>Dr I Kostas</u>
16:25 -16:50	Coffee Break
16:50 – 17:40	Towards the sustainable discovery of new drugs for neglected tropical diseases <u>Prof. M. L. Bolognesi</u>
17:40 – 18:10	Reverse Chemical Ecology: Targeting insect olfaction for control of insect disease vectors by chemical means <u>Dr. S.E. Zographos</u>
18:10-19:00	Pharmacological characterization of nitrate ester bearing 6-piperazinyl-purine analogues <u>Prof. M. Grenegård</u>
19:00	WELCOME RECEPTION

Friday, 24 November 2023

09:00 – 10:40	OMICS-GUIDED BIOMARKERS AND BIOTECHNOLOGY IN CHEMICAL BIOLOGY Chair: Dr V. Pletsa- Prof E. Tate
09:00 – 09:50	A biological systems connectivity framework for identification of effect biomarkers for endocrine disruptors using multi-omics data and systems biology modelling <u>Prof. D. Sarigiannis</u>
09:50 – 10:40	From multi-OMICS data towards predicting function, mechanism and causality <u>Prof. R. Aebersold</u>
10:40 – 11:10	Coffee Break
11:10 – 12:00	Targeting post-translational protein modification: from chemical proteomics to drug discovery <u>Prof. E. Tate</u>
12:00 – 12:50	Nanocarriers for nasal delivery <u>Assoc Prof. F. Sonvico</u>
12:50 – 13:20	Dermal and transdermal drug delivery using soft matter nanocarriers <u>Dr V. Papadimitriou</u>
13:20 – 14:20	Lunch Break – Poster Session Chair: Dr M. Zoumpantioti- Prof. J. Zoidakis
14:20 – 14:50	Octet BLI technology: accelerating drug discovery & development <u>Dr Renata Gronczewska, Business Development Manager, SARTORIUS Corporate</u>
14:50 – 15:20	Nutrition-mediated gut microbiome and metabolome alterations. Possible implications in human health- Experience from the Funglucan project <u>Dr. P. Georgiadis</u>
15:20 – 15:35	Modulation of Shelterin Components TRF1 and TRF2 Mitigates Senescence-Associated Telomere attrition and Enhances Genomic Stability <u>Dr M. Kapetanou</u>
15:35 – 15:50	Serum metabolomic profiling unveils distinct sex-related metabolic patterns in NAFLD <u>Dr C. Fotakis</u>
15:50 – 16:05	Biomarker ruin in urine <u>Dr J Zoidakis</u>
16:05- 16: 30	Coffee Break
16:30 – 17:00	Neuron-specific proteasome activation exerts cell non-autonomous protection against amyloid-beta (Aβ) proteotoxicity <u>Dr. N. Chondrogianni</u>
17:00 – 17:50	Volatilomics from Non-Invasive Diagnostics: From Single Cells to Body Fluids <u>Prof. H. Haick</u>

Saturday, 25 November 2023

09:00 –	Chair: Dr V. Aidinis- Dr A. Voutsina THERAPEUTIC-CLINICAL APPROACHES
09:00 – 09:30	New immunotherapies for Multiple Myeloma <u>Prof E. Kastritis</u>
09:30 – 10:20	Communication between tumor cells and fibroblasts triggers drug response in triple negative breast cancer <u>Prof S. Wiemann</u>
10:20 – 10:35	Divergent Genomic and Transcriptomic Landscapes of MSI and MSS Colorectal Cancer: Implications for Diagnosis and Therapy <u>Dr E. Vlachavas</u>
10:35 – 11:10	The DNA damage response (DDR) network in human biology and disease <u>Dr. V.L. Souliotis</u>
11:10 – 11:40	Coffee Break
11:40 – 12:30	Autotaxin: The discovery and establishment of a novel therapeutic target <u>Dr V. Aidinis</u>
12:30 – 13:00	Development of New Conjugated Polymer Nanoparticles with Bioimaging and Therapeutic Properties <u>Dr C. Chochos</u>
13:00 – 13:30	Rewriting the saga: when drug repurposing meets translational biomarkers <u>Dr T. Katsila</u>
13:30 – 14:00	Generating, analyzing and sharing genomic data: A study of melanoma patients and the UPGCAST project <u>Dr O. Papadodima</u>
14:00	“Dr Michael N. Alexis” best poster award- Closing remarks

Poster presentations

1	Actinium-225 radiolabeling of gold nanoparticles for therapy of glioblastoma <u>Apostolopoulou</u> , L. Gautier, S. G. Kyrkou G. Alexiou, A. P. Kyritsis, S. Thalasselis, A. G. Tzakos, Stephane Roux and P. Bouziotis
2	Polyhydroxy-and glycodendrons containing an amino focal group as leitmotiv for the synthesis of dendritic species with biological applications <u>C. Arbez-Gindre</u> , T. Fotopoulou, M. Konstantinidou, A. Tenchiu, G. Antonopoulou, B.R. Steele, M. Micha-Screttas, N. Papaevgeniou, N. Chondrogianni, D. Selianitis, S. Pispas, M. Chountoulesi, N. Naziris, C. Demetzos
3	The metabolic cargo of extracellular vesicles informs about glioblastoma multiforme immunomodulation <u>Vivi Bafiti</u> , Minos-Timotheos Matsoukas, Sotiris Ouzounis, Vasiliki Zolota, Dimitrios Kardamakis, Theodora Katsila
4	Natural compounds for preventing post-menopausal osteoporosis: the case of Oleuropein & Kaempferol <u>A. Boulaka</u> , A.K. Meligova, M. Makropoulou, M. Halabalaki, N. Aligiannis, S. Mitakou, L. Skaltsounis, D.J. Mitsiou, M.N. Alexis
5	The structure of a novel Odorant Binding Protein of <i>Anopheles gambiae</i> in complex with ORco effectors <u>E. Christodoulou</u> , E.C.V. Stamati, K.E. Tsitsanou, G. Kontopidis, S.E. Zographos
6	Evaluation of the therapeutic potential of AK057887 lncRNA inhibition in CD133+/CD44+ stem-like pancreatic cancer cells <u>Deligianni Elisavet</u> , Eptaminotaki Giasemi, Stravokefalou Vasiliki, Zaravinos Apostolos, Stamou Panagiota, Chochos Christos, Baritaki Stavroula and Stellas Dimitris.
7	ProteoSeeker-A new Metagenomic Analysis tool for Enzyme Discovery

	-fast, scalable, accurate and informative- Georgios Filis, Konstantinos Rigkos, Pavlos Saridis, Despina Noti, Dimitra Zarafeta and Georgios Skretas
8	NOVEL BENZOXATHIINE-BASED PROTEASOME ACTIVATORS WITH ANTI-AGEING AND NEUROPROTECTIVE ACTIVITY T. Fotopoulou*, E. Chazapi, M. A. Vasilopoulou, A. Gioran, D. Papahatjis, K. C. Prousis, M. Koufaki, N. Chondrogianni, T. Calogeropoulou
9	Phycocyanin's dual role in emulsion preparation. A bioactive molecule and an efficient co-stabilizer. Eleni Galani, Aggelos Harissis, Dimitrios Galatis, Kyriaki Tzoka, Vassiliki Papadimitriou, Theodore G. Sotiroidis, Antonios Bonos, Eleni Kalogianni, Aristotelis Xenakis and Maria D. Chatzidaki
10	Neuron-specific proteasome activation extends the lifespan of nematodes and depends on neuron-muscle communication Anna Gioran, Eleni Panagiotidou ¹ , Niki Chondrogianni
11	Integrated approaches to glycogen phosphorylase function as a molecular target for the treatment of type 2 diabetes P. Karakousi, M. Karayianni, V. Sapsanis, S. Pispas, T. Gimisis, E. D. Chrysinia
12	Structure-based modelling of Gut bacteria-host interactome through statistical analysis of domain-domain associations Despoina P. Kiouri, Georgios Batsis and Christos T. Chasapis
13	In Colorectal tumour cells combination treatments with Cisplatin-BRAF inhibitors show antitumorigenic effects in vitro and in vivo Kassandra Koumaki, Vivian Kosmidou, Salomi Skarmalioraki, Lida Krikoni, Maria Goulielmaki, Vassilis Zoumpourlis, Alexander Pintzas, Vassilis L. Souliotis
14	JANE: EU Joint Action on Networks of Expertise on cancer E.Kouli, V. Pletsa, P.Georgiadis, O.Papadodima, K.Voutetakis, A. Bamias, A. Kattamis, A.Pintzas
15	In Silico Structural Analysis Exploring Conformational Folding of Protein Variants in Alzheimer's Disease A. Krokidis, E. Efraimidis, T. Exarchos, T. Lazar and P. Vlamos
16	Promoting and Strengthening Cryo-Electron Microscopy Resources in Greece Kyrillis F., Angelaki D., Koralli P., Kafetzopoulos G., Zamanos A., Skalidis I., Hamdi F., Tüting C., Träger T., Panagakis Y., Chochos C., Kastritis P.
17	Microwave-assisted development of stable and water-soluble alkaline phosphatase-activated prodrugs of gemcitabine S. G. Kyrkou, E. I. Vrettos, V. Bistas, K. Vadola, Z. Kanaki, S. Katsakos, M. Chatziathanasiadou, S. Farmaki, A. Babic, A. Klinakis, S. Thalasselis, A. G. Tzakos
18	Design, synthesis and biological evaluation of hypoxia-activated theranostic prodrugs of gemcitabine and SN-38 S. G. Kyrkou, E. Vrettos, H. Schueffl, V. Bistas, G. Pappa, P. Heffeter, S. Thalasselis, A. G. Tzakos
19	Investigation of metabolic responses following treatment with a novel synthetic purine analog with antitumor activity in mouse model of breast cancer P. Malamos, M. Matzapetakis, M. Georgiou, N. Lougiakis, V.L. Souliotis, N. Pouli, P. Marakos, D. Stellas, M. Zervou
20	In vitro study of endogenous and induced DNA damage repair in lung cancer Dimitra Mavroeidi, Christina Papanikolaou, Panagiotis Malamos, Konstantinos N. Syrigos, Vassilis L. Souliotis
21	IgYs against snake venom PLA₂ epitopes: potential Viper venom neutralizers V. Moulasioti, E. Fotou, V. Moussis, D. Sgouras and V. Tsikaris
22	Discovery of thermoresponsive amylases for infant-food industrial preparations using high-throughput metagenomic analysis D. Noti, G. Filis, D. Zarafeta and G. Skretas
23	DeepInhibition: IC₅₀ prediction through ligand-receptor pair interactions Sotiris Ouzounis, Vasilis Panagiotopoulos, Minos-Timotheos Matsoukas and Theodora Katsila
24	A Mass Spectrometry based approach for simultaneous quantification of a monoclonal antibody and other antineoplastic agents, applicable for TDM Anastasia Palaologou, Nick Paloumpis, Natalia Kamperi, Constantin Tamvakopoulos
25	The interplay of the immune system and the DNA Damage Response Network in immunotherapy of Head and Neck Squamous Cell Carcinoma Christina Papanikolaou, Panagiota Economopoulou, Aris Spathis, Dimitra Mavroeidi, Panagiotis Malamos, Amanda Psyri, Vassilis L. Souliotis

26	<p>Safe Fair Interoperable Genomic and Biomedical data sharing in the framework of the UPCASt project</p> <p>E. Pilalis, K. Voutetakis, G. Kontogianni, M. Koukovini, E. Papagiannakopoulou, G. Lioudakis and O. Papadodima</p>
27	<p>SPECT imaging via spline-based inversion of the attenuated Radon transform</p> <p>Nicholas E. Protonotarios, Savvas Thalasselis and George A. Kastis</p>
28	<p>CA-KR1: A Novel Ultra-Thermostable and Alkalistable Carbonic Anhydrase for Efficient CO₂ Sequestration discovered through High-Throughput Metagenomic Analysis</p> <p>Konstantinos Rigkos, B. Georgios Filis, C. Pavlos Saridis, D. Dimitra Zarafeta and E. Georgios Skretas</p>
29	<p>^{99m}Tc labeling of a novel Temozolomide-based molecule as a theranostic agent against glioblastoma</p> <p>E.-A. Salvanou, S. G. Kyrkou, G. Alexiou, A. P. Kyritsis, S. Thalasselis, A. G. Tzakos and P. Bouziotis</p>
30	<p>Exploring Gene-Drug Interactions for Personalized Treatment of Post-Traumatic Stress Disorder (PTSD)</p> <p>Konstantina Skolariki and Panagiotis Vlamos</p>
31	<p>Revealing the binding specificity and interaction mode of Bio-inspired Compounds with Odorant Binding Protein 1 of the mosquito <i>Anopheles gambiae</i></p> <p>E.C.V. Stamatj, E. Christodoulou, C.E. Hoffman da Silva, K.E. Tsitsanou, M.S. Lopes, A. De Almeida e Silva, G. Gosmann, G.A. Spyroulias, G. Kontopidis, S. Fernandes de Andrade, S.E Zographos</p>
32	<p>Rational combinations of BRAF inhibitors and antiestrogens to overcome treatment resistance of colon and breast cancer</p> <p>A.-M. Syntichaki, P. Stamou*, V. Kosmidou, V. Ganou, D. Mitsiou, and A. Pintzas</p>
33	<p>Raman Spectroscopy in Biological and Environmental Applications</p> <p>M. Vardaki, A. Schiza, A. Nega V. Gregoriou and C. Chochos</p>
34	<p>HRD STATUS OF PATIENTS WITH EARLY STAGE NON SMALL CELL LUNG CANCER</p> <p>HRD status of patients with early stage Non Small Cell Lung Cancer</p> <p>A. Chalari, A. Voutsina, K. Tsilingiri, I. Vatselas, T. Loupis, K. Potaris, I. Vamvakaris, D. Vrachnos, G. Zachou, G. Christopoulou, P. Constantoulakis, V. Georgoulis, A. Kotsakis, A. Klinakis</p>
35	<p>Harnessing Extremozymes: A Metagenomic Approach to Sustainable Industrial Catalysis</p> <p>Dimitra Zarafeta, Georgios Filis, Konstantinos Rigkos, Pavlos Saridis, Despoina Noti, Georgios Skretas</p>
36	<p>Novel BDNF-mimetics as potential therapeutic agents against neurodegeneration.</p> <p>Ioanna Zota, Konstantina Chanoumidou, George E. Magoulas, Theodora Calogeropoulou, Ioannis Charalampopoulos, Achille Gravanis</p>

ACKNOWLEDGEMENTS

Platinum Sponsors



Gold sponsors



■ pantone 294c
■ pantone 279c



Silver sponsors

