

ESN-ISN Advanced School

2021 BRFAA Athens Greece

REPORT









First ESN Advanced School

From Neurodegeneration to Neural Carcinogenesis:
Mechanisms and Common Biologies

Biomedical Research Foundation of the Academy of Athens

Athens, Greece

September 19-September 25, 2021

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Committees

Organizing Committee

Dimitra Mangoura, MD, PhD, Chair, Greece Kostas Vekrellis, PhD, co-chair Spiros Georgopoulos, PhD Panos Politis, PhD



Student Selection Committee

Johannes Hirrlinger, ESN President
Illana Gozes, ESN Secretary
Carlos Duarte, ESN Treasurer
Sara Grassi, ESN Council
Angelo Poletti, ESN Council
Dimitra Mangoura, ESN Council, Chair Organizing Comte
Kostas Vekrellis, co-Chair Organizing Committee
Panos Politis, Organizing Committee

Secretariat

Charoula Peta, MSc, PhD (exp)



Biomedical Research Foundation of the Academy of Athens

REPORT

The First of the <u>ESN-ISN</u> Advanced School series took place in Athens, Greece, under the auspices and in the facilities of the Biomedical Research Foundation of the Academy of Athens (BRFAA) on September 19-25, 2021. Entitled "From Neurodegeneration to Neural Carcinogenesis: Mechanisms and Common Biologies", this ESN-ISN School brought together 26 young scientists (19 PhD students, 4 postdocs, and 1 Instructor, competitively chosen for their academic performance) from European countries (Greece, 8; Italy, 7; Portugal, 2; Slovakia, 2; and 1 each from France, Germany, Israel, Latvia, Russia, Serbia, and Spain; page 7) with distinguished faculty (page 8) and the aim to explore the mechanisms of the common functional pathways in neurodegeneration and cancer, which apparently show an intriguing and intricate interrelation with both positive and inverse comorbidities. All but one student and two lecturers were not able to attend in person due to COVID 19 travel restrictions, yet they participated and delivered their lectures through zoom connections.

For this week, attendees, who received full support for travel and all incurred expenses during the School term, took part in Advanced Scientific Lectures and Advanced Technical Lectures (pp. 11-12) with time for discussion, worked in 13 different state-of-the-art, hands-on laboratory modules (pp. 11-12), for which they had in advance stated preference according to their own interests (p. 13), and presented their posters. Due to the novel theme of the School, students were of mixed background with 17 of them stating neurochemistry/ neurosciences and 7 cancer biology as their primary fields of interest, respectively. All attendees (students, lecturers, laboratory supervisors and instructors) had on file their green vaccination certificates; in addition, the school bag that were given at the Welcome Reception on Sunday, September 19, contained also a pack of masks and rapid tests.

More specifically for 5/6 days, attendees were transferred by bus from their Hotel Arethusa at Syntagma Square and had 4 lectures and discussions by 4 pm (2 coffee breaks and a lunch break were also observed) and then from 4-7 pm they worked in their assigned laboratories, under the instruction of the Laboratory Supervisors and their Assistants (pp. 9-10). Afterwards, students were bused to local restaurants and tavernas for dinner. One day, there was one lecture in the morning and a Special Lecture on Acropolis, and then students were bused to Acropolis and the Acropolis Museum, having afterwards the evening free (p. 11). In addition, information on ESN and ISN

societies was presented in special sessions, with emphasis on the benefits of membership, as well as the upcoming meetings.

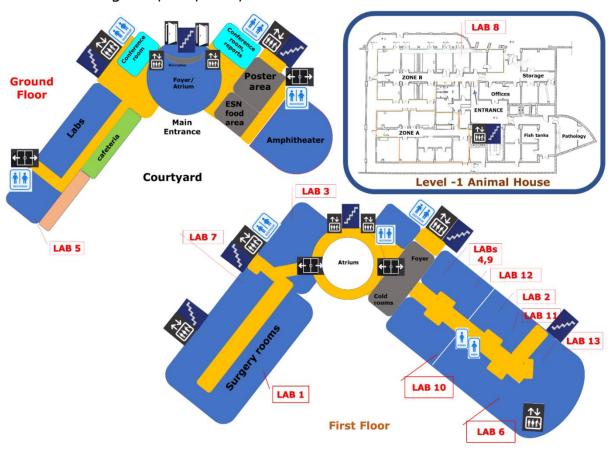
All posters (titles on pp. 16-17) were at display throughout the School time period and all attendees presented their work to their fellow schoolmates, the Organizing Committee, and BRFAA researchers, and vivid discussions followed. All received a Certificate (p. 19) and the Organizing Committee provided letters to students upon request with details on the laboratories.

Finally, despite the fact that the budget was drawn 2 years ago and prices have gone up while the exchange ratio of euros to dollars has fallen, the Organizing Committee managed to stay within the budget, while covering all planned and unforeseen expenses (p. 18).

By all accounts, including the anonymous survey for evaluation of the School by the students, the First ESN-ISN School was a success and attendees state that they enjoyed the whole program, especially the laboratory modules (pp 20-21).

On behalf of the organizing Committee

Dimitra Mangoura, MD, PhD, Chair



ESN-ISN Advanced School Participants

Attendees

Angelis Georgios	Graduate Student	Aristotle University of Thessaloniki	Greece
Bafiti Paraskevi	Graduate Student	University of Patras, NHRF	Greece
Carsana Emma Veronica	Graduate Student	University of Milan	Italy
Chierichetti Marta	Graduate Student	University of Milan	Italy
Christopoulou Magdalini	Graduate Student	University of Patras	Greece
André Filipe Vieira da Conceição	Graduate Student	University of Algarve	Portugal
Damianidou Eleni	Graduate Student	University of Patras	Greece
Fazzari Maria, PhD	Researcher	University of Milan	Italy
Frapporti Giulia	Graduate Student	University of Trento	Italy
Gondáš Eduard	Graduate Student	Comenius University in Bratislava	Slovakia
Gutierrez Irene Lopez	Graduate Student	Complutense University of Madrid	Spain
Jeremic Marija	Graduate Student	University of Belgrade	Serbia
Junge Tabea	Graduate Student	University of Leipzig	Germany
Kokkorakis Nikolaos	Graduate Student	Hellenic Pasteur Institute	Greece
Rebekah C. Koppenol	Graduate Student	University of Algarve	Portugal
Koutsougianni Fani	Graduate Student	University of Thessaly	Greece

Lunghi Giulia, PhD	Researcher	University of Milan	Italy
Majercikova Zuzana	Graduate Student	Comenius University in Bratislava	Slovakia
Maltabe Violetta, PhD	Researcher	University of Ioannina	Greece
Melfi Valentina	Graduate Student	University of Milan	Italy
Mountaki Christina	Graduate Student	University of Athens, NCSR "Demokritos"	Greece
Papa Martina	Graduate Student	Paris Institut Polytechnique	France
Shcherbitskaia Anastasiia, PhD	Researcher	Russian Academy of Sciences	Russia
Svalbe Baiba, PhD	Leading Researcher	Latvian Institute of Organic Synthesis	Latvia
Turri Marta	Graduate Student	University of Milan	Italy

Lecturers

Dimitris Thanos	Academician, Professor	BRFAA	thanos@bioacademy.gr
Panos Politis	Associate Professor	BRFAA	ppolitis@bioacademy.gr
Spyridon Georgopoulos	Associate Professor	BRFAA	sgeorgopoulos@bioacademy.gr
Kostas Vekrellis	Associate Professor	BRFAA	vekrellis@bioacademy.gr
Stamatis Pagakis	Research Professor, BioImaging Director	BRFAA	spagakis@bioacademy.gr
Nektarios Tavernarakis	Professor, ITE Director	University of Crete, ITE	tavernarakis@imbb.forth.gr
Christos Zervas	Associate Professor	BRFAA	czervas@bioacademy.gr
Manolis Korres	Academician, Professor	Academy of Athens	dr.korres@gmail.com
George Tsangaris	Research Professor	BRFAA	gthtsangaris@bioacademy.gr

Dimitra Mangoura	Professor	BRFAA	mangoura@bioacademy.gr
Illana Gozes	Professor	Tel Aviv University	igozes@tauex.tau.ac.il
George Leondaritis	Assistant Professor	University of Ioannina	gleondar@uoi.gr
Popi Syntichaki	Associate Professor	BRFAA	synticha@bioacademy.gr
Chris Proukakis	Associate Professor	UCL	c.proukakis@ucl.ac.uk
Johannes Hirrlinger	Professor	University of Leipzig	johannes.hirrlinger@medizin.uni- leipzig.de
Laskaro Zagoraiou	Assistant Professor	BRFAA	lzagoraiou@bioacademy.gr
Apostolos Klinakis	Professor	BRFAA	klinakis@bioacademy.gr
Sarantis Gagos	Associate Professor	BRFAA	sgagos@bioacademy.gr
Marios Agelopoulos	Assistant Professor	BRFAA	magelo@bioacademy.gr
Evangelia Emmanouilidou	Assistant Professor	University of Athens	eemman@chem.uoa.gr
Antonia Vlachou	Research Professor	BRFAA	vlahoua@bioacademy.gr

Laboratory Supervisors

Kostas Vekrellis	Associate Professor	BRFAA	vekrellis@bioacademy.gr
Panos Politis	Associate Professor	BRFAA	ppolitis@bioacademy.gr
Stamatis Pagakis	Research Professor, BioImaging Director	BRFAA	spagakis@bioacademy.gr
Dimitra Mangoura	Professor	BRFAA	mangoura@bioacademy.gr
Spyridon Georgopoulos	Associate Professor	BRFAA	sgeorgopoulos@bioacademy.gr
Popi Syntichaki	Associate Professor	BRFAA	synticha@bioacademy.gr
Anastasios Gaitanis	Research Professor	BRFAA	agaitanis@bioacademy.gr

Evangelia Emmanouilidou	Assistant Professor	University of Athens	eemman@chem.uoa.gr
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Christos Zervas	Associate Professor	BRFAA	czervas@bioacademy.gr
Theodoros Rampias	Assistant Professor	BRFAA	trampias@bioacademy.gr

Laboratory Instructors

Katerina Melachroinou, PhD	Fellow	BRFAA	kmelachr@bioacademy.gr
Mantia Karabetsou, PhD	Fellow	BRFAA	akarampetsou@bioacademy.gr
Emmanouella Leandrou	Graduate Student	BRFAA	eleandrou@bioacademy.gr
Emmanouella Tsirimonaki	Staff Scientist	BRFAA	etsirimon@bioacademy.gr
Matina Tsampoula	Graduate Student	BRFAA	ttsampoula@bioacademy.gr
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Anastasios Delis, PhD	Fellow	BRFAA	tdelis@bioacademy.gr
Katerina Vakaloglou	Staff Scientist	BRFAA	kvakaloglou@bioacademy.gr
Athina Keramidioti	Graduate Student	BRFAA	akeram@bioacademy.gr
Fivos Borbolis, PhD	Fellow	BRFAA	fborbolis@bioacademy.gr
Alexander Vrahliotis	Graduate Student	BRFAA	avrachliotis@bioacademy.gr
Stavros Proikakis	Graduate Student	BRFAA	spro@bioacademy.gr
Efterpi Bouroutzika	Graduate Student	BRFAA	ebouroutz@bioacademy.gr

	ESN-ISN Advanced School PROGRAM AT A GLANCE, BRFAA, September 19-25, 2021								
	"From Neurodegeneration to Neural Carcinogenesis: Mechanisms and Common Biologies"								
	S	un 19	Mon 20	Tues 21	Wed 22	Thu 23	Fri 24	Sat 25	Sun 26
9:00- 10:00	Aı	rrivals	AL1 Dimitis Thanos	AL3 Nektarios Tavernarakis	AL6 Kostas Vekrellis	AL7 Mimika Mangoura	AL11 Chris Proukakis	AL15 Apostolis Klinakis	breakfast
10:00- 10:30			Discussion	Discussion	Discussion	Discussion	Discussion	Discussion	departures
10:30- 11:00			coffee break	coffee break	coffee break -	coffee break	coffee break	coffee break	
11:00- 12:00			AL2 Panos Politis	AL4 Spiros Georgopoulos	poster viewing SPECIAL	AL8 Illana Gozes	AL12 Johan Hirrlinger	AL16 Sarantis Gagos	
12:00- 12:30			Discussion	Discussion	LECTURE Manolis Korres	Discussion	Discussion	Discussion	
12:30- 13:30			lunch	lunch		lunch	lunch	lunch	
13:30- 14:30			ATL1 Vekrellis/ Georgopoulos	AL5 Christos Zervas		AL9 George Leondaritis	AL13 Laskaro Zagoraiou	AL17 Marios Agelopoulos	
14:30- 15:30			ATL2 Stamatis Pagakis	ALT3 George Tsangaris	Acropolis and Acropolis	AL10 Popi Syntichaki	Poster Presentations	AL18 Eva Emmanouilidou ATL4 Tonia Vlahou	
15:30- 16:00			coffee break	coffee break	Museum Visits	coffee break	coffee break	coffee break	
16:00- 17:00 17:00- 18:00- 19:00	Stra	SN/ISN Remarks, Reception	Labs	Labs		Labs	Labs	Poster Presentations and Discussion	
19:30-			Dinner	Dinner	Free evening	Dinner	Dinner	Farewell dinner	

AL, Advanced Lecture; ATL, Advanced Technical Lecture

Lectures

	Lecture Title	Faculty
AL1	COVID 19: genomic analysis of current strains	Thanos, Dimitris
AL2	Gene regulation networks in neural stem cells: long non coding RNAs	role of Politis, Panos
ATL1	Mouse models of Alzheimer's and Parkinson's d	sease Georgopoulos, Spyridon & Vekrellis, Kostas
ATL2	Not just a pretty picture: How to extract correct information from fluorescence microscopy imag	
AL3	Mitophagic and Autophagic pathways in ageing neurodegeneration	and Tavernarakis, Nektarios
AL4	The role of peripheral inflammation in AD	Georgopoulos, Spyridon
AL5	Drosophila Disease Models	Zervas, Christos
ATL3	Proteomics: technologies and applications	Tsangaris, George
AL6	Hitching a ride to the next cell: exosomes	Vekrellis, Kostas
AL7	Microtubules and tumor suppressors: an affair t remember in neurons and gliomas	o Mangoura, Dimitra
AL8	Somatic mutations in Alzheimer's and cancer: m ADNP cytoskeletal impairments and repair	utated Gozes, Illana
AL9	Taming the tumor suppressor PTEN in ND and C	ancer Leondaritis, George
AL10	mRNA metabolism in regulating protein homeos ageing and diseases	tasis, Syntichaki Popi
AL11	Mosaicism in the brain	Proukakis, Christos
AL12	Brain Energy Metabolism and neurological disea	ses Hirrlinger, Johannes
AL13	Transcription factors in the move	Zagoraiou, Laskaro
AL14	Notch at the crossroad of cancer and ND	Klinakis, Apostolos
AL15	Focusing on chromosome extremities: telomere	biology Gagos, Sarantis
AL16	Decoding the molecular mechanisms of human or responses by combined genomics analyses	cellular Agelopoulos, Marios
AL17		s Emmanouilidou Eva
ATL4	Integrative use of proteomics for the identificat biomarkers and drug targets	ion of Vlahou, Antonia
Specia Lectur	al Refinements of Visual Perceptions of t	ne Manolis Korres

Laboratories per Student

	MON	TUE	THU	FRI
Angelis Georgios	Н	0	W	AA
Bafiti Paraskevi	E	Р	U	Y
Carsana Emma Veronica	A/D	J/M	U	Z
Chierichetti Marta	Н	N	R	X
Christopoulou Magdalini	Е	Q	S	Y
André Filipe Vieira da Conceição	G	N	U	AC
Damianidou Eleni	B/C	K/L	S	Z
Fazzari Maria, PhD	B/C	K/L	Т	AB
Frapporti Giulia	B/C	K/L	Т	AA
Gondáš Eduard	Е	Q	W	AA
Gutierrez Irene Lopez	G	0	V	Y
Jeremic Marija	A/D	J/M	V	Z
Junge Tabea	B/C	K/L	Т	AB
Kokkorakis Nikolaos	I	N	V	AC
Koppenol Rebekah Cavaco	G	N	U	AB
Koutsougianni Fani	F	Q	S	Y
Lunghi Giulia, PhD	A/D	J/M	W	X
Majercikova Zuzana	E	Q	W	X
Maltabe Violetta, PhD	Н	Р	R	X
Melfi Valentina	I	Р	V	AC
Mountaki Christina	F	0	Т	AC
Papa Martina	I	N	W	AC
Shcherbitskaia Anastasiia. , PhD	F	0	S	AA
Svalbe Baiba, PhD	I	Р	R	AB
Turri Marta	A/D	J/M	R	Z

Laboratory Time Schedule

	Monday, Sept 20	Tuesday, Sept 21
16:00 - 17:30	Supervisor: Dr. Vekrellis Instructors: Drs. Melachroinou, Karabetsou Group A [4] In vivo Stereotactic Brain Injection	Supervisor: Dr. Emmanouilidou Instructor: Leandrou Group J (same as Group A) In vivo Brain Microdialysis
17:30 - 19:00	Supervisor: Dr. Vekrellis Instructors: Drs. Melachroinou, Karabetsou Group B [4] In vivo Stereotactic Brain Injection	Supervisor: Dr. Emmanouilidou Instructor: Leandrou Group K (same as Group B) In vivo Brain Microdialysis
16:00 - 17:30	Supervisor: Dr. Politis Instructors: Tsampoula and Dr. Kaltezioti Group C (same as Group B) [4] Embryo Electroporation	Supervisor: Dr.Mangoura Instructor: Peta Group L (same as Group B) Chick Embryo Neuronal Cultures
17:30 - 19:00	Supervisor: Dr. Politis Instructors: Tsampoula and Dr. Kaltezioti Group D (same as Group A) [4] Embryo Electroporation	Supervisor: Dr.Mangoura Instructor: Peta Group M (same as Group A) Chick Embryo Neuronal Cultures
16:00 - 17:30	Supervisor: Dr. Pagakis Instructor: Dr. Rigana Group E [4] Confocal Microscopy	Supervisor: Dr. Pagakis Instructor: Dr. Rigana Group N [5] Confocal Microscopy
17:30 - 19:00	Supervisor: Dr. Pagakis Instructor: Dr. Delis Group E [4] Confocal Image Analysis	Supervisor: Dr. Pagakis Instructor: Dr. Delis Group N [5] Confocal Image Analysis
16:00- 19:00	Supervisor: Dr. Mangoura Instructor: Tsirimonaki Group F [3] Lipid Rafts Preparation and Analysis	Supervisor: Dr. Tsangaris Instructors: Proikakis, Bouroutzika Group O [4] Proteomics
16:00- 19:00	Supervisor: Dr. Georgopoulos Instructor: Kalovyrna Group G [3] Mice Oocyte Isolation and Microinjection	Supervisor: Dr. Rampias Group P [4] Xenograft Cancer Models in Drug Research
16:00- 19:00	Supervisor: Dr. Syntichaki Instructor: Dr. Borbolis Group H [3] Alternative Animal Disease Models-C.Elegans	Supervisor: Dr. Syntichaki Instructor: Dr. Borbolis Group H [3] Alternative Animal Disease -C.Elegans
16:00- 19:00	Supervisor: Dr. Gaitanis Instructor: Vrahliotis Group I [4] Micro PET/CT Imaging of Cancer	

at-a-glance

Thursday, Sept 23	Friday, Sept 24
Supervisor: Dr. Mangoura Instructor: Tsirimonaki Group R [4] Lipid Rafts Preparation and Analysis	Supervisor: Dr. Zervas Instructors: Vakaloglou and Keramidioti Group X [4] Alternative Animal Disease Models-Drosophila
Supervisor: Dr. Rampias Group S [4] Xenograft Cancer Models in Drug Research	Supervisor: Dr. Gaitanis Instructor: Vrahliotis Group Y [4] Micro PET/CT Imaging of Cancer
Supervisor: Dr. Pagakis Instructor: Dr. Rigana Group T [4] Confocal Microscopy	Supervisor: Dr. Pagakis Instructor: Dr. Rigana Group Z [4] Confocal Microscopy
Supervisor: Dr. Pagakis Instructor: Dr. Delis Group T [4] Confocal Image Analysis Supervisor: Dr. Vekrellis	Supervisor: Dr. Pagakis Instructor: Dr. Delis Group Z [4] Confocal Image Analysis Supervisor: Dr. Vekrellis
Group U [4] Exosomes Preparations (mouse brains)	Group AA [4] Exosomes Preparations (mouse brains)
Supervisor: Dr. Zervas Instructors: Vakaloglou and Keramidioti Group V [4] Alternative Animal Disease Models-Drosophila	Supervisor: Dr. Tsangaris Instructors: Proikakis, Bouroutzika Group AB [4] Proteomics
Supervisor: Dr. Georgopoulos Instructor: Kalovyrna Group W [5] Mice Oocyte Isolation and Microinjection	Supervisor: Dr. Politis Instructors: Tsampoula and Dr. Kaltezioti Group AC [5] Embryo Electroporation

Table 4. Titles of Posters

- 1. Role of KLK6 mediated proteolysis in SOD1-Amyotrophic Lateral Sclerosis (ALS) <u>Georgios</u>
 <u>Angelis</u>, Georgia Sotiropoulou, Kostas Vekrellis, Georgios Pampalakis
- Deciphering oncometabolism and tumor-derived exosomes toward in silico, in vitro and in vivo drug repurposing in glioblastoma multiforme <u>Vivi Bafiti</u>, Minos Timotheos Matsoukas, Vasiliki Zolota, Dimitrios Kardamakis, Theodora Katsila
- 3. New insight into the involvement of PM and metabolic alterations in the onset of neuronal degeneration in GCase related pathologies <u>Emma Veronica Carsana</u>, Giulia Lunghi, Matteo Audano, Laura Cioccarelli, Maura Samarani, Emanuele Frattini, Nicoletta Loberto, Alessio Di Fonzo, Nico Mitro Massimo Aureli
- **4.** Alternative Translation Initiation as a novel strategy to block toxicity of the mutant Androgen Receptor in SBMA <u>Chierichetti</u> M., Cristofani R., Rusmini P., Crippa V., Tedesco B., Ferrari V., Cozzi M. Casarotto E., Mina F., Galbiati M., Piccolella M., Poletti A.
- 5. The role of PTN and its receptors in lung adenocarcinoma in vitro <u>Maqdalini</u> <u>Christopoulou</u>, Despoina Ntenekou, Eleni Mourkogianni, Papadimitriou Evangelia
- **6.** The effects of aging in spinocerebellar ataxia type 2 pathology <u>André Conceição</u>, Rebekah Koppenol, Joana Silva, Adriana Marcelo, Inês Afonso, Ricardo Reis, José Codesso, Sandra Tomé, Sara Carmo-Silva, Marco Ferreira, Carlos A. Matos, Luís Pereira de Almeida, Clévio Nóbrega
- 7. Investigation of the role of the centriolar satellite protein, OFD1, in the generation of primary cilia, in the development of the human cerebral cortex, as well as in its malformations, using animal models and in vitro models of the human brain <u>Eleni</u>

 Damianidou, Stavros Taraviras, Silvia Cappello, Christina Kyrousi
- 8. GM1-oligosaccharide protective effect in a glutamate-induced toxicity experimental model of Amyotrophic Lateral Sclerosis <u>Fazzari Maria</u>, Henriques Alexandre, Lunghi Giulia, Di Biase Erika, Mauri Laura, Ciampa Maria Grazia, Tedeschi Gabriella, Mitro Nico, Sonnino Sandro, Spedding Michael, and Chiricozzi Elena
- The Actin-autophagy connection: new insight from Sephin1 <u>Giulia Frapporti</u>¹, Eleonora Colombo², Giulia Assoni¹, 2, Caterina Montani³, Maria Dolores Perez Carrion⁴, Christian Johannes Gloeckner^{5,6}, Diego L Medina⁷, Pierfausto Seneci², Giovanni Piccoli¹
- 10. Autism-related activity-dependent neuroprotective protein (ADNP) syndrome mutations and cellular function <u>M Ganaiem</u>, Ivashko-Pachima, G. Karmon, and I Gozes
- 11. The expression of pyruvate carboxylase in human brain tumors and cancer cell lines <u>Eduard Gondáš</u>, Alžbeta Kráľová Trančíková, Dušan Dobrota, Radovan Murín
- **12.** Role of Noradrenaline and CX3CL1/CX3CR1 pathway in Alzheimer's Disease <u>Irene L.</u> <u>Gutiérrez</u>, Marta González-Prieto, Juan C Leza and José LM Madrigal
- 13. The role of mTORC2 signaling in neurotoxicity induced by 1-methyl 4-phenyl 1,2,3,6-tetrahydropiridium and 6-hydroxydopamine <u>Marija Jeremic</u>, Maja Jovanovic-Tucovic, Danijela Stevanovic, Vladimir Trajkovic, Ivanka Markovic

- 14. Microcephaly causing mutations in the asparagine synthetase gene: pathophysiological mechanisms and physiological consequences <u>Tabea Junge</u>, Dorit John, Ulrike Winkler, Johannes Hirrlinger
- 15. Mirk/Dyrk1B minibrain kinase alters the lateral motor column of motor neurons in the embryonic chick spinal cord <u>Kokkorakis N.</u>, Politis PK., Stathourou M., Matsas R., Gaitanou M.
- 16. Mapping the domains of G3BP1 towards mitigation of the pathological phenotype in different mice models of polyglutamine diseases <u>Rebekah Koppenol</u>, André Conceição, Diogo Teixeira, Adriana Marcelo, Ricardo Reis, Sandra Tomé, Sara Carmo-Silva, Carlos A. Matos, Luís Pereira de Almeida, Clévio Nóbrega
- 17. Non-opioid sigma receptor agonists as potential agents for the development of novel targeted treatments for pancreatic cancer. E. Sereti, <u>F. Koutsouqianni</u>, C. Tsimplouli, M. Pešić, J. Dinić, A. Divac Rankov, E. Armutak, A. Uvez, K. Papaparaskeva, C. Dervenis, N. Sakellaridis, K. Dimas
- **18. GM1 oligosaccharide role in preventing** α**-synuclein aggregation** *Lunqhi Giulia*, *Di Biase Erika, Fazzari Maria, Ciampa Maria Grazia, Fato Pamela, Mauri Laura, Zaccagnini Ludovica, Bartels Tim, Sonnino Sandro and Chiricozzi Elena*
- **19.** Synergistic effect of inhibitors on Temozolomide-treated brain tumor cell lines <u>Zuzana</u> Majerčíková, Katarína Dibdiaková, Dušan Dobrota and Jozef Hatok
- **20.** Isolation of partially reprogrammed somatic cells with neuronal progenitors characteristics. *Violetta Maltabe*, *Nikos Thomopoulos*, *Panos Kouklis*
- **21.** Characterization of CD271+ Schwann Cell as in vitro model of schwannomatosis.

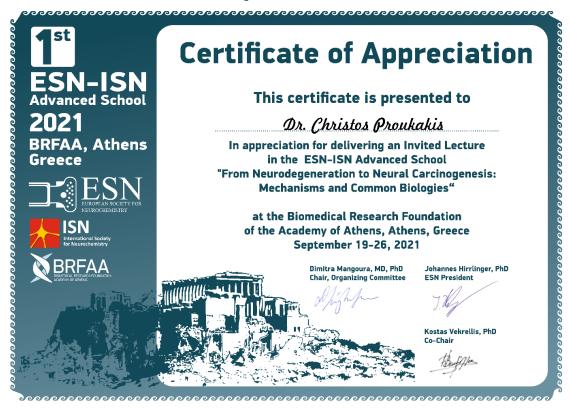
 <u>Valentina Melfi</u>, Veronica Bonalume, Tasnim Mohamed, Marco Montini, Elisabetta Basso, Stefano Ferraresi, Eva Trevission, Laura Papi, Valerio Magnaghi, Alessandra Colciago
- 22. Mechanistic insight into the capacity of natural polar phenolic compounds to abolish Izheimer's disease-associated pathogenic effects of apoE4 forms *Christina Mountaki*, Ioannis Dafnis, Eirini A. Panagopoulou, Paraskevi B. Vasilakopoulou, Michalis Karvelas, Antonia Chiou, Vaios T. Karathanos, Angeliki Chroni
- **23.** A multimodal nanopipette-based imaging platform for exploring brain communication Martina Papa, François Treussart, Jean-Pierre Mothet, Aleix Güell
- **24.** Maternal hyperhomocysteinemia causes region-specific changes in the offspring brain <u>Shcherbitskaia A.D.</u>, Vasilev D.S., Milyutina Yu.P., Tumanova N.L., Arutjunyan A.V.
- 25. Metabolic changes and reduced depression-like behaviour in Sigma-1 receptor knockout mice <u>Svalbe Baiba</u>, Vavers, Edijs, Gundega Stelfa, Zvejniece Liga, Dambrova Maija
- 26. Lipoprotein's characterization in Alzheimer's Disease Marta Turri, Elisa Conti, Lucio Tremolizz, Chiara Pavanello, Laura Calabresi

Budget and Budget Justification

Expense type	Euro
Travel	
Travelling expenses for European students	4659.49
Local students (Greece)	255.01
Travelling expenses for faculty (Europe)	494.00
Local faculty (Greece)	311.00
Accommodation, students & faculty	
Double rooms, 13	5705.00
School pack: bag, documents, pen, notebook, name tag, certificate, photos	789.38
Lab expenses, (consumables)	7428.49
Secretariat, web site	2578.95
Staff	1350.00
Unforeseen	799.84
Meals, breaks, and social events	
Coffee and tea break	1019.39
Lunch	1536.39
Dinner	3847.44
Reception	543.32
Akropolis tour	715.00
Transportation	1168.30
Grand Total (euro)	33201.00

At the time of the approval of the School in March 2020 for 40,000.00 USD the exchange rate for euros allowed for almost 36,000.00 euros. The one year delay, however, due to the COVID-19 pandemic resulted in further loss due to the lower exchange rate of USD, therefore we received only 33.201,00 euros. In addition, the cost of several items was also higher, in particular of consumables. Nevertheless, we managed to provide all needed and cover all extra unforeseen expenses, like the additional cost for masks, self-tests for COVID, sanitizing material and procedures, or the higher rates in transportation, as buses could only have a 60% seat occupancy rate. As promised, BRFAA provided all necessary conference/auditorium and cafeteria spaces, laboratories, facilities (animal house surgery rooms, audiovisual, electricity, air conditioning, bathrooms and all other amenities), financial administration, security, reception, research personnel and required no salary compensation for BRFAA lecturers and lab supervisors.

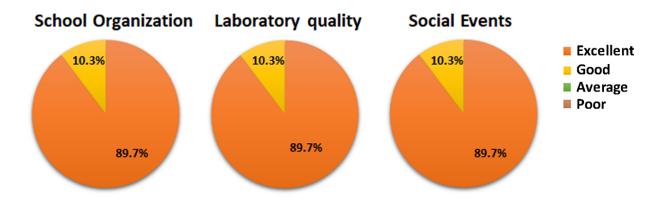
Examples of Certificates





Student comments (anonymous survey)

This Survey was conducted the week after the School and 24 students participated; samples of the answers either as ratings or as written answer are below:



What did you think about the overall organization of the Advanced School?

Date	Answers
Sep 29	Everything was organized at a very high level
Sep 28	Every was really good organized!
Sep 28	Have a roommate from a different country it's a great idea. The problem was that in the hotel there were two single beds that are attached, and in the room there was not enough space to divide them
Sep 27	I really enjoyed both scientific and social moments. Thank you for your kindness!
Sep 27	Everything was perfectly organized. Lectures and labs were very useful and inspirational. I am very grateful for allowing me to gain new skills and do labs on my hands. Also, visiting Acropolis and all of the dinners were enjoyable. Thank you for everything!
Sep 26	Best of the best!!! Thank you!
Sep 26	Thanks to Mimika and Charula for organizing everything so perfectly! It couldn't have been eny better, thanks for all you effort, time, power and love you put into this!
Sep 25	No comment, everybody from organising comitee was just nice and helpful ready to help us whenever we needed, if needed.
Sep 24	The organization was very well planned. The transport to BRFAA was well thought, and also the places to have dinner and the transport from BRFAA to dinner. It was good also to have programed lunches. The idea to visit acropolis and have a free evening was also good. I learned things about athens and its culture and I felt enriched in many ways.

What did you think about your opportunities to network with other scientists, speakers, students and instructors?

Date	Answers
Sep 25	I really enjoyed lunches and dinners, firstly it was kind of awkward, that we were forced to interact, but then I really did enjoy.
Sep 24	It was realy good to have the opportunity to talk with experts in my science field over dinner or coffee breaks or even in the labs in such an informal way. The availability and hospitality of the teachers was amazing, very kind in a friendly manner. Also, the exchange of knowledge with the other students was a great way to learn and think about the common and different things that we do among different countries, and also to know different cultures.

How would you rate the laboratory modules for overall quality of content, format, instruction, facility set up and format?

Date	Answers
Sep 29	I liked that I could do the procedures myself.
Sep 28	The Instructors provided a lot of useful information and the laboratory was interesting
Sep 27	Some laboratories gave us the protocols but other ones not. I preferred to to have all materials.
Sep 26	Maybe 1 or 2 full days for practice will be better. Because we had no time to do all proceeds of experimental work
Sep 24	The lab practices were excellent. Really above expectations. The experiments chosen to teach us are really useful and state-of-the-art. The proximity of the research groups leaders with us was fantastic to discuss science and methodology. Really enlightning.

What did you like best at the School?

Date	Answers
Sep 29	The laboratory sessions were really usefull. Not only they gave the opportunity to learn new techniques, but also to see different ways of working.
Sep 29	There is not one specific thing, and lectures, laboratory work and social events were excellent.
Sep 28	The laboratory modules, in fact I suggests for the 2nd advanced school, more hours of laboratory modules.
Sep 27	The laboratory modules.
Sep 27	I really liked laboratory modules. In addition to that, I think the organizers have been able to create a very nice atmosphere that helped to confront with other students and scientists
Sep 27	Labs
Sep 27	I would like the hands-on sessions, and of course, the socializing part.
Sep 26	The organizer committee! Lecture about mitophagy, lab module lipid rafts, all dinners
Sep 26	I really enjoyed the lab modules, especially the one about stereotactic brain injection and the embryo chick beuronal cell culture. It was an amazing experience to get in touch with all the other young scientists!
Sep 25	Meeting new people, seeing lectures from researchers in field, having possibility to communicate in english, and of course visiting Acropoli and museum.
Sep 25	That i met new people from same area of interest. Also i saw perfect prezentations of amazing scientists and found some new aspects of minterest. And in the end of course Acropolis and the museum.
Sep 25	Lab Modules and social networking
Sep 24	The best for me were the lab practices. I was really surprised by the high quality of it, by the usefulness, by the way that it was carry out, excellent! The advanced lectures were also very enlightening and helped me to open my horizons regarding my research project. It was really an excellent quality program. If I may make a comment, I would just change the afternoon advanced lectures to the morning (all ALs i the morning) and in the afternoon I would divide the group in the various lab groups were they could have a ATL and the LM. I say this just because after lunch it is very difficult to stay focused while listening to a lecture, and a more practical discussion would be good in the afternoon. Another small comment would be to ask (in the excel that we filled) if we would mind to share a room with another student. But, overall, excellent work, congrats.
Sep 24	Laboratories
Sep 24	Laboratories and dinners