

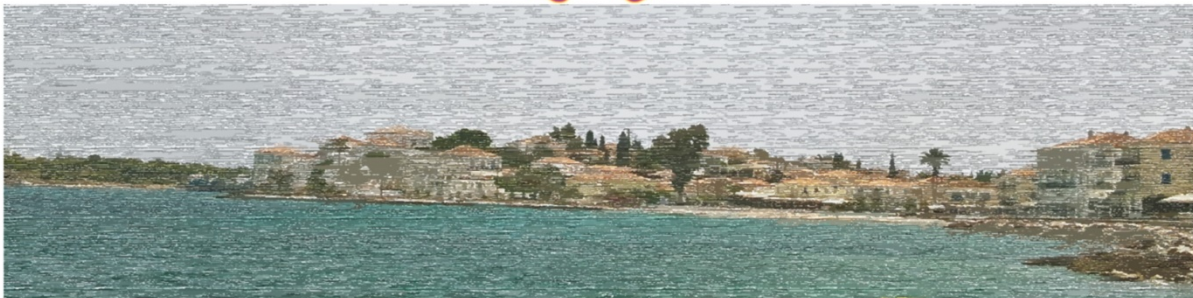
Book of Abstracts



Joint IUBMB/FEBS Advanced Lecture Course



Molecular targets for anti-aging interventions
26 Sept. – 01 Oct. 2022. Spetses Island, Greece



SPONSORS:

1. Federation of European Biochemical Societies (**FEBS**), <https://www.febs.org/>
2. International Union of Biochemistry and Molecular Biology (**IUBMB**), <https://iubmb.org/>
3. Institute for Biological Research "Siniša Stanković", National Institute of Republic of Serbia, University of Belgrade (**IBISS**), <https://www.ibiss.bg.ac.rs/index.php/en/>
4. Mechanisms of Ageing and Development (**MAD**), <https://www.journals.elsevier.com/mechanisms-of-ageing-and-development>
5. The FEBS Open Bio, <https://febs.onlinelibrary.wiley.com/journal/22115463>
6. Hellenic Society for Biochemistry and Molecular Biology (**HSBMB**), <https://www.eebmb.gr/index.php/en>



SCIENTIFIC COMMITTEE:

Dr Aleksandra Mladenovic

Dr Efstathios Gonos

Dr Silva Katusic

Dr Alexandra Newton (IUBMB)

Dr Beata Vertessy

Dr Selma Kanazir

Dr Smilja Todorovic

Dr Marianna Kapetanou

SCIENTIFIC COMMITTEE:

Dr Aleksandra Mladenovic

Dr Efstathios Gonos

Dr Silva Katusic

Dr Alexandra Newton (IUBMB)

Dr Beata Vertessy

Dr Smilja Todorovic

Dr Marianna Kapetanou

SECRETARIES:

Dr Smilja Todorovic

Dr Marianna Kapetanou

Frailty: a way to measure aging

Mladenovic A., Prvulovic M., Jovic M., Simeunovic V., Sokanovic S., Vukojevic A., **S.Todorovic**
Institute for Biological Research "Sinisa Stankovic"-National Institute of Republic of Serbia, University of Belgrade, Belgrade, Serbia

Frailty is a multidimensional syndrome in aging, allowing us the identification of the most vulnerable subset of older adults. In the past few decades, medium life expectancy is increased without an appropriate increase of healthspan. This phenomenon refers to an increased life expectancy without a proper increase of healthspan, the period of life during which the organism is healthy and free of serious disease. Since healthspan is declining, there are more individuals with morbidities and consequently an increasing number of frail individuals. When an individual is frail, even a minor complication can create a chain of events that can give a rise to a disability or even death. Nevertheless, there are old individuals who are not frail, so being old does not necessarily mean being frail. That is why the concept of frailty was created, to explain the heterogeneity in clinical outcomes between older patients, so it can be determined who is more likely to fall into the longevity trap.

The origin of frailty is based on the combination of genetic, biological, physical, psychological, social and environmental factors³. It is important to keep in mind that frailty is a dynamic condition, and it is potentially reversible so the treatments, such as calorie restriction, can increase lifespan and concomitantly reduce age-related disease⁵. Optimal aging would then depend on conditions that both promote long life and compress morbidity to achieve greater healthspan. Model organisms have been at the forefront in the aging research, giving us a wealth of information regarding different pathways to regulate aging. That is the reason why in the past decade, an effort was made to link the biology of aging with frailty in aging animal models. To achieve that, two major frailty models, "Fried frailty phenotype" and "Rockwood frailty index" have been adapted and validated in animals.