

SepsISensoR

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What is your project about and why is it important for the advancement of science?

SepsISensoR is a device about diagnosis of sepsis *via* real-time detection of biomarkers in exhaled breath. The current diagnosis protocol in ICUs relies on clinical symptoms identification from nurses and doctors before chemical analyses are initialised. SepsISensoR will give clinicians a new medical instrument in their arsenal, that will allow non-invasive diagnostics in hospitals. It will also deliver new knowledge on the sepsis development stages and exhaled gases, and infection source and load.

Why is your project important for society? Have you planned any public engagement activities for those interested to learn more?

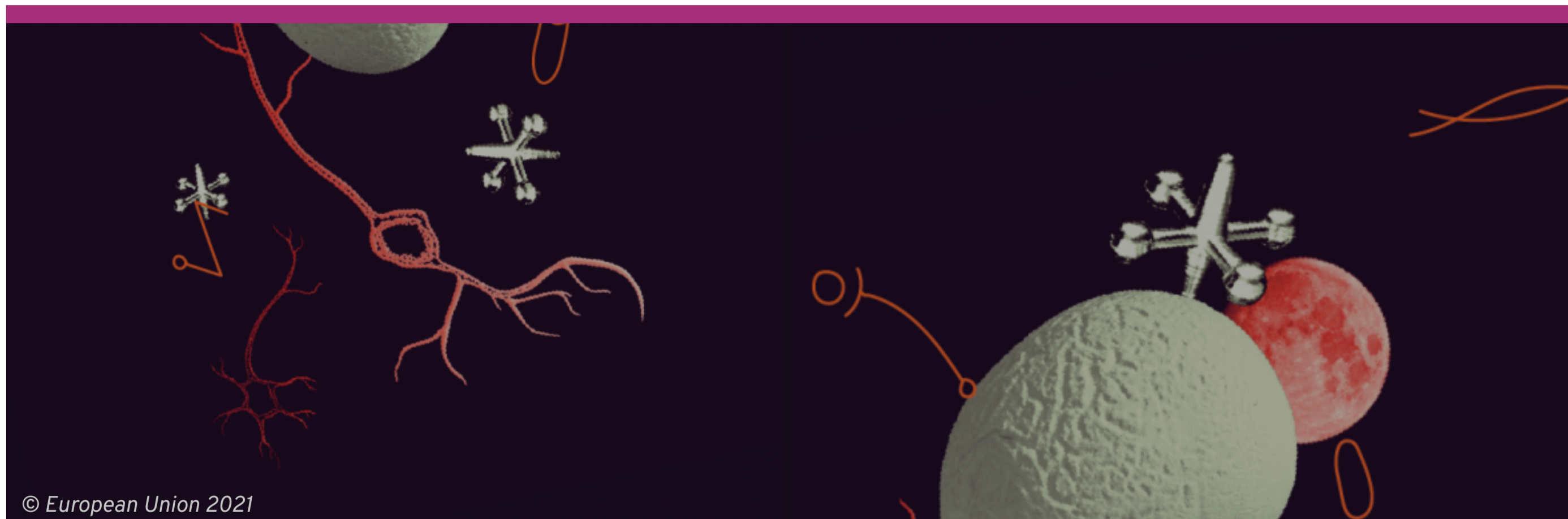
Sepsis kills 11 million people every year, out of which 2.9 million children under 5 years old – 1 death every 2.9 seconds. Half of sepsis cases occur in ICUs and 46% of those are fatal. Additionally, one sepsis case costs \$70000 and annual costs sum to \$24 billion. SepsISensoR aims to decrease the avoidable morality by increasing the efficiency and accuracy of sepsis diagnosis. By real-time breath monitoring and chemical detection of biomarkers, a more precise diagnosis can be achieved and thus administer specific antibiotics. Hence, this project will contribute to the antibiotic resistance, save lives and cost.



To communicate and engage with the public, a Twitter account is already active, and we are also participating in the European Researcher's Night.

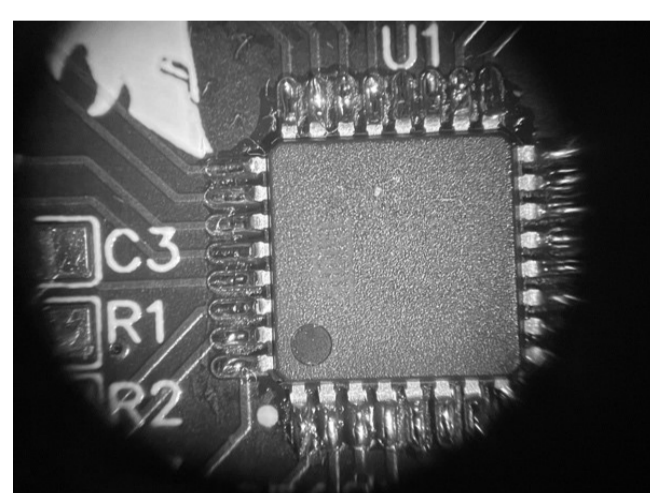
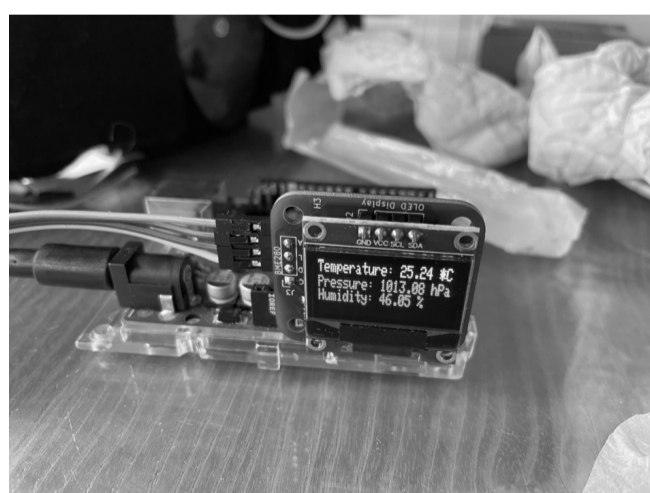
What kind of support did you get, and what materials did you use during the application process?

The preparation process for an MSCA fellowship took about 5 months. Initially, the supervisor in the host organization was my main support. We had lots of discussions to find common ground, formulate an idea and transfer of knowledge. I received lots of advice and guidance while writing the application. Additionally, the NCPs was the second source of support. They organised seminars on the specific call but also other European Horizon programs that were very beneficial for understanding the expectations and focusing on the details. The NCPs gave me feedback on my application, and this was a huge help to finally succeed.



Why did you choose Cyprus as a host country?

The reason behind choosing Cyprus as a Host Country was not only that it is my home country, but also because there is a lot of scientific development in the recent years on the island. This suggests growth and innovation. Being able to return to my home country and contribute to this innovation was a big motivational factor. Additionally, the growth of the Cypriot economy and scientific community, implied that there are going to be new job opportunities in the near future.



How did you find your host organisation?

Being originally from Cyprus I was already aware of the academic institutes on the island. Thus, I researched the output and quality of research in those institutions. Given my interests in biomedical research and breath analysis, I found common aspects in the University of Cyprus, and specifically the Nanotechnology Imaging and Detection Laboratory.

What tips can you give other researchers who would like to apply for MSCA?

The tips I would like to give to future MSCA applicants are: (a) find a supervisor in the host organization with whom you communicate well. It is important to agree on the topic, while giving you constructive feedback and guidance; (b) have a good reason why you want this fellowship. The competition across EU is large and so the quality of your application must be among the best. To achieve this hard work is required. Therefore, you need to be highly motivated and stay focused on your goal; (c) be organised in your application and pay attention to detail.

Project: Sepsis Diagnosis via Integrated Breath Sensing System with Change-Point Detection for Real-Time Point-of-Care

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