

Invited talk

EUROPEAN PROTEOMICS INFRASTRUCTURE CONSORTIUM - PROVIDING ACCESS (EPIC-XS): A COMMON EUROPEAN PROTEOMICS INITIATIVE

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Protein analysis is essential for understanding the complexity of the communication process that takes place within every living organism. If we are ever going to make significant advancements not only within medical science but also across the life science arena as a whole, we need to fully understand the proteome, to unravel its secrets, to understand how the proteome is controlled, expressed and regulated [1]. Recent successes illustrate the role of mass spectrometry-based proteomics as an indispensable tool for molecular and cellular biology. MS based proteomics has also become an integral part of cancer research, in monitoring the drug response of tumors, understanding mechanisms that lead to cancer pathogenesis, and the design of novel therapeutics. This technology is by no means limited to the medical and diagnostic sectors: the agricultural sector can also attribute advancements in the evolution of novel designer crops to mass spectrometry technology. Furthermore, developments within the proteomics arena has led to the discovery of proteins hidden away not only within flora and fauna but also within other life forms such as tiny microalgae. The research team led by professor Albert Heck at Utrecht University have discovered a highly efficient light harvesting system within this tiny life form which actually hold the secret for the next generation of solar panels [2]. Pioneering research in high-throughput mass spectrometry based proteomics requires state of the art technology, in-house technical know-how, sustainable and robust workflow practices, successful and correct data interpretation and management. The EPIC-XS [3] partnership brings together eighteen European member states spanning fourteen countries, unified in their objective of providing proteomics expertise and mass spectrometry technology to all researchers within the life science arena. The development, expansion and sustainability of proteomics through this initiative will be achieved by providing over 2,400 days of access to state of the art proteomics technologies across eleven access sites and will also provide access to various workshops and training courses. The initiative is funded as part of the European Union's Horizon 2020 work program and is coordinated by professor Albert Heck.

References

[1] R. Aebersold, M. Mann, Nature, 2003, 422, 198–207

[2] S.Tamara, M. Hoek, R. Scheltema, A. Leney, A.Heck, Chem, 2019, 5, 1302-1317

[3] <https://epic-xs.eu/>