

The Central and Eastern European Proteomic Conference (CEEPC)

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The Central and Eastern European Proteomic Conference has progressed to its present day status and stature with an expansive network of proteomics in Central and Eastern Europe with links to international institutions worldwide to facilitate expert scientific interaction and collaborations. An informative website at <http://ceepc.eu/> not only distinguishes CEEPC from other proteomic organizations but also underlines the uniqueness and individuality of its ethos and ideology. The birthplace of CEEPC together with advancing proteomics is captured by the CEEPC logo showing the ascending spires of the city of Prague outlined by the intensity of protein / peptide peaks of mass spectrometry depicting the pinnacles of excellence and cohesion of the CEEPC community.

The initial vision of a forum for enthusiastic scientists and researchers to meet and discuss their work in a relaxed manner in middle sized meetings remains unchanged to this day. Rotation of the meeting's venue each year to cultural cities of the world such as Prague, Vienna, Budapest, Jena, Poznan, Kosice, Bucharest and now Ustron, Poland, adds to the intertwining of 'cutting edge' research and the excitement that goes with it. CEEPC's success is not only due to different aspects of proteomics but also due to encompassed diverse proteomic and Omics topics as well as appreciation of the hot topics of the advancing science and medicine.

Demands to treat the individual rather than the average human and the advances in artificial intelligence (*AI*) is ushering in *precision medicine* (or *personalized medicine*) where tailoring predictive, preventive and treatment strategies to the individual is a priority. Since protein expression is dynamic and changes in relation to disease onset, severity or response to therapy are difficult to understand, proteomics stands to play a pivotal role in characterizing a disease at protein level.

Proteomic technologies have progressed over the last decade allowing in principle the comprehensive analysis of expressed proteins in time and space. Until now, quantitative proteomics has been pin-pointing minor differences in the protein levels between normal and pathological samples. There is now an urgent need for sophisticated '*enabling technologies*' to identify structural differences in proteins introduced by mutations or structural variations induced by post-translational modifications or protein truncation that are associated with a disease. Additionally, comprehensive characterization of the small molecule metabolites in the biological

systems and biological applications of the *Metabolome* together with the *Proteome* in *Precision Medicine* of the patient, stands to revolutionize global health.

The complexity of the data generated has also been a stumbling block in understanding diseases because proteome analysis does not provide a simple ‘yes/no’ answer but rather requires deep interpretation. To this end, utilization of data and information from various ‘multi-omics’ studies including proteomics, metabolomics, together with AI in the hands of skilled researchers, can have significant societal impact.

CEEPC's careful balance between excellence and focus on *societal needs* holds the key to its success. It is evident from CEEPC’s progress that it is ready for the next decade of excitement and expectations of multifaceted proteomics in Central and Eastern Europe. Additionally, in the era of emerging personalized medicine where treatment selection for each patient is becoming more individualized, CEEPC and ‘proteomics’ together with other ‘omics’ is expected to play a significant role moving forward for the benefit of mankind

CEEPC is the only Conference which raises concerns about humanitarian issues whilst addressing the above mentioned needs, may it be mental health issues affecting the generation of today, malnutrition in poor countries or need for clean water, sanitation and impact of pollution on our future generations to come!

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Key Words:

CEEPC, Proteome, Genome, Metabolome, Precision Medicine, Humanity, Diseases, Societal challenges and current advances.



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