

Professor Henrik Enghusen Poulsen, Denmark, is the BCPT Nordic Prize winner in Basic & Clinical Pharmacology & Toxicology for 2021



Professor Henrik Enghusen Poulsen (HEP) has been awarded the BCPT Nordic Prize 2021 in Basic & Clinical Pharmacology & Toxicology.

HEP is internationally recognized as an innovative, pioneering, and leading researcher within the field of clinical pharmacology and toxicology. He has been an active publishing scientist since he obtained his medical degree in 1976 at the University of Copenhagen. He did clinical training in Sweden and Denmark and continued scientific work at the University of Copenhagen and at the Department of Hepatology, Rigshospitalet. He obtained the doctoral degree (dr.med.) at the University of Copenhagen in 1986, and that year he also became associate professor at the Department of Pharmacology. In 1994, he became full Professor in Human Toxicology at Copenhagen University and in 1996, he became full Professor in Clinical Pharmacology at Department of Clinical Pharmacology, University Hospital Rigshospitalet, Copenhagen, Denmark.

HEP has been the main driving force to establish the curriculum in clinical pharmacology at the University of Copenhagen, he has trained a two-digit number of PhD students and many Master students in medicine and pharmacy, he is on the editorial board of several international journals, he has been president of the European Society of Free Radical Research and chairman of the Danish Society for Clinical Pharmacology. For 3 terms, he has been Chairman of the Local Ethics Committee of the Capital Region of Copenhagen, and he has been the organizer and co-organizer of several international conferences.

HEP has made significant scientific contributions to our understanding of pharmacokinetics, toxicokinetics and adverse drug reactions, and has performed many studies on CYP-metabolized drugs. In the 1980s, he pioneered the treatment of paracetamol poisoning and centralized the treatment at Rigshospitalet. In the 1990s, he carried out studies on nitrate tolerance and in the 2000s, he initiated pharmacoepidemiological studies on drug-induced malformations and completed a number of pharmacoepidemiological studies on adverse drug effects.

Some of HEP's most important findings come from the studies of oxidative stress. HEP and co-workers were the first to publish a method that could be used to investigate oxidative stress in humans *in vivo*, and over the years HEP has made many epidemiological studies identifying important diseases and factors that relate to oxidation of nucleic acids. HEP and co-workers have demonstrated that oxidative stress, measured as formation of the oxidized ribonucleotide of guanine, 8-oxoGuo) is increased in patients with type 2 diabetes, and that high formation is associated with increased mortality and in particular increased mortality from cardiovascular disease. Oxidative stress has long been a major theory for the ageing process, so these data suggest that oxidation of RNA is a quantitative important contribution to the ageing process, and that this ageing process is accelerated in diabetes. He and co-workers have demonstrated that severe psychiatric diseases such as schizophrenia and bipolar disease are also characterized by increased formation of 8-oxoGuo, and furthermore increased formation of 8-oxoGuo is also seen in thyroid diseases. Taken together, this suggests that oxidative stress is a quantitative important pathogenic process in several metabolic diseases.

Over the years, HEP has participated in/initiated almost 40 clinical controlled trials mainly to identify pharmacological and other means to reduce oxidative stress and has also carried out several pharmacoepidemiological studies to identify drugs with an effect on oxidative stress.

In conclusion, we believe that HEP has been one of the most influential researchers within the field of clinical pharmacology and toxicology over the last 45 years. Furthermore, he has been an inspiring teacher and mentor to several students and physicians and leaves a significant footprint on how we teach and practice clinical pharmacology.

Thomas Kongstad Petersen, DVM, PhD

Chairman of the Board of Directors of the Nordic Association for the Publication of BCPT

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