

Nomination letter for the 2017 EACPT Lifetime Achievement Award in Clinical Pharmacology

Nominee: Pertti J. Neuvonen

Highlights:

- Highly cited researcher in Pharmacology and Toxicology (ISIHighlyCited.com) since 2005
- Hirsch-index 74
- About 515 original articles (almost 100 published in Clinical Pharmacology & Therapeutics)
- Known worldwide for his groundbreaking studies on use of activated charcoal to treat poisonings and for his systematic studies concerning drug-drug interactions (probably the most important area of expertise in the daily clinical pharmacology routine)
- Supervised more than 40 clinical pharmacologists and PhD theses, including five, who have already reached professorship

To Members of the EACPT Council,

We are nominating Professor emeritus Pertti J. Neuvonen (born August 25, 1943) for the 2017 EACPT Lifetime Achievement Award in Clinical Pharmacology. Pertti J. Neuvonen has dedicated his working life for the benefit of the science and specialty of clinical pharmacology. He is still active, although he retired in August 2011 from his position as the Professor and Chairman of Clinical Pharmacology at the University of Helsinki, Finland.

Professor Neuvonen is widely recognized for his outstanding contributions in the field of drug interactions, one of the fundamental areas of clinical pharmacology practise and individualized drug therapy. Already in the 1970s, he identified the clinically significant interactions of tetracyclines with iron and other two valent cations, and already by the 1980s, he had identified numerous interactions affecting the absorption of drugs. Thereafter, since the late 1980s, his research group has identified and characterized exceptionally many clinically important drug-drug interactions based on inhibition or induction of drug metabolizing enzymes or transporter proteins. These include interactions of many commonly used drugs, e.g., lipid-lowering drugs, cardiovascular drugs, glucocorticoids, antimicrobial agents, antidiabetic drugs, antiasthmatic drugs, analgesics, anticancer agents and psychotropic drugs. Often his work has included well-targeted in vitro studies, pharmacogenetic approaches or time- and dose-dependency studies, aiming to clarify the mechanisms of the interactions, whether occurring via drug metabolism or transport.

Overall, Neuvonen's findings have paved the way to understanding the mechanisms of drug interactions related to the absorption, biotransformation and transport of drugs and to predict these interactions on the basis of experimental in vitro studies. In addition to directly improving patient care, and being commonly cited in textbooks, drug interaction databases and treatment guidelines, the findings of his systematic research efforts have profoundly affected the principles and

guidelines applied in drug development. In drug-drug interaction guidelines, many of the recommended cytochrome P450 enzyme probe substrates and inhibitors, such as midazolam and itraconazole for CYP3A4 and repaglinide and gemfibrozil for CYP2C8, are based largely on his pioneering studies. As a result, drug interactions can now be predicted and identified already at an early stage of drug development.

During his career, Professor Neuvonen has made ground-breaking research also in the area of acute poisonings, antidotes and adverse drug reactions. His studies on oral activated charcoal have been of pivotal importance for the implementation of the routine use of activated charcoal in the treatment of oral poisonings during the 1990's. For his studies on drug interactions and activated charcoal, he was selected as Drug Absorption Foundation Lecturer in 1993 (Edinburgh, UK).

Professor Neuvonen has published about 515 original articles (of these, about 20% have been published in *Clinical Pharmacology & Therapeutics*), and 180 review articles or textbook chapters. The outstanding scientific quality of his work is reflected by the high number of citations to his articles in the scientific literature. His Hirsch-index is 74, the total number of citations to his publications is more than 20 000 (October 2016), and he is one of the most highly cited pharmacologists in the world (ISI HighlyCited.com, since 2005). The first BCPT Nordic Prize in Basic & Clinical Pharmacology & Toxicology was awarded in 2011 to Professor Neuvonen as a recognition of his outstanding scientific merits.

On a national level, Professor Neuvonen is distinguished for his unwavering pioneering work to improve possibilities for clinical drug research, to educate clinical pharmacologists and to develop the specialty of clinical pharmacology. He was one of the founders and the first chairman of the Finnish Society of Clinical Pharmacology (founded in 1994). He was the founder and director of the national Clinical Drug Research Graduate School, which was active in 1995-2015 and is one of the main foundations of the national doctoral education network FinPharmaNet, which was launched in 2016.

Neuvonen has supervised more than 40 PhD doctoral theses and is still now supervising or co-supervising several doctoral students. For his exceptionally meritorious work in educating medical researchers in Finland, he has received the national Lauri Saxén prize in 1997 and the Maud Kuistila prize in 2003. Apart from these prizes, five of his students have themselves achieved professorships (Oikkola, Kivistö, Niemi, Backman, Xiang), which is perhaps the best evidence for the strength of his "shoulders" and high quality of his mentorship. Moreover, he has been the chief editor of the Finnish textbook in clinical pharmacology and therapeutics, which has been published in 1994, 2002 and 2011. Since 1998, he has been a member of the Finnish Academy of Science and Letters.

Regardless of his remarkable scientific contributions, Professor Neuvonen is a modest, down-to-earth person, who has dedicated his life to science, mentorship and clinical responsibilities. He is characterized by logical, crystal clear scientific thinking, perseverance, and a continuous enthusiasm for new knowledge of clinical importance. In addition to these characteristics, his success is based on thoughtful leadership and the ability to promote a creative research environment, which allows young scientists to fully engage in a productive scientific work. Distinctive of his clinical research, his studies have been systematic and often very elegant and mechanistic, providing insights into enzymes and transporters that are involved in clinically important drug-drug interactions.

We the undersigned propose that **the 2017 EACPT Lifetime Achievement Award in Clinical Pharmacology** will be awarded to Professor emeritus **Pertti J. Neuvonen** for his life-long, outstanding and widely recognized merits in clinical pharmacology, which have had a tremendous scientific and clinical impact. The accompanying curriculum vitae and list of publications will

demonstrate the highest esteem that Pertti J. Neuvonen holds among the world's leading clinical pharmacologists.

Please contact us if you need additional information.

Respectively submitted,

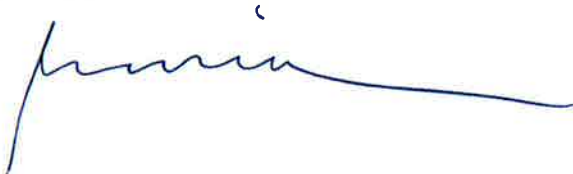


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