



## Biography of John J.P. Kastelein

*The EAS is delighted to announce that the recipient of the Society's prestigious Anitschkow Prize 2014 is Professor John J.P. Kastelein, Professor of Medicine at the Department of Vascular Medicine at the Academic Medical Center (AMC) of the University of Amsterdam and Strategic Chair of Genetics of Cardiovascular Disease.*

### Early Career

Prof. Kastelein received his medical degree in Amsterdam in 1980 where he subsequently received specialty training in internal medicine. Then, between 1986 and 1988, he was trained in medical genetics, lipidology and molecular biology at the University of British Columbia, Vancouver under the guidance of Prof. Dr. M.R. Hayden. In 1997 and 1998 he served a visiting Professorship at the Center for Molecular Medicine and Therapeutics at the University of British Columbia, Vancouver, Canada. Upon his return to the Netherlands, he was awarded a doctorate (Cum Laude) and in 1989 he founded the Lipid Research Clinic at the Academic Medical Centre in Amsterdam.

### “Extreme Genetics” concept

The most important concept in Prof. Kastelein’s research career, developed initially by his mentor Dr. Hayden at the University of British Columbia and subsequently transformed into practice in Amsterdam at the University of Amsterdam, is the “extreme genetics” approach. This approach teaches that the study of rare human disorders that are associated with premature coronary disease have broader relevance for the understanding of the etiology of heart disease in general and will yield therapeutic targets that are valid for all patients.

This approach has been very successful, Familial Hypercholesterolemia is now internationally recognized as the paradigm for the relationship between LDL-C and heart disease, a relationship substantiated by at least 50 peer reviewed manuscripts and 10 postdoctoral theses in his curriculum vitae. The same “extreme genetics” concept was applied to disorders of HDL-C and elevated triglycerides, and led to the discovery of the cholesterol efflux protein ABCA1 and later to gene



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therapy for lipoprotein lipase deficiency, both in close collaboration with Dr. Hayden. These two contributions have led to important breakthroughs in the field of drug development for the prevention of cardiovascular disease (development of ABCA1 agonists) and in the area of gene therapy for hereditary disorders such as haemophilia, LCAT deficiency and others.

### StoeH Foundation

In 1995, Prof. Kastelein set up a foundation for the active identification of patients with classical familial hypercholesterolaemia (FH) in the Netherlands (StoeH), for which he currently holds a position in the board of directors. This program has now been fully institutionalized and has been operational under supervision of the RijksInstituut voor Volksgezondheid en Milieu (RIVM) and financially supported by the Ministry of Health. Since its inception, the StoeH has found over 18.000 individuals for whom a molecular diagnosis of FH could be made. The subsequent improvement of the treatment of these FH carriers has saved many lives.

### Leadership & Board membership at National and International level

Prof. Kastelein was president of the Dutch Atherosclerosis Society (DAS) and he chaired the National Scientific Committee on Familial Hypercholesterolemia (EHC). He also is a member of the Royal Dutch Society for Medicine & Physics, the Council for Basic Science of the American Heart Association and the European Atherosclerosis Society. He also is a board member of the International Task Force for CHD Prevention and was recently appointed to the Executive Board of the International Atherosclerosis Society (IAS). Prof. Kastelein was also one of the founders of Amsterdam Molecular Therapeutics Inc. (AMT), a gene therapy company based on the concept of gene replacement in hereditary lipoprotein disorders, now converted into UniQure, a Nasdaq listed gene therapy company. Prof. Kastelein also founded Dezima Inc, a company that develops assets for the treatment of dyslipidemia and is currently developing TA-8995, a CETP inhibitor.

Prof. Kastelein is a principal investigator of the Bloodomics and CardioGenics consortia, two large European Union supported endeavours under the Framework Programme 7, which aim to elucidate the molecular basis of atherosclerosis and premature coronary disease. Besides the scientific programmes aimed at the etiology of atherogenesis, Prof. Kastelein also serves on a number of executive and steering committees of large cardiovascular intervention studies, including the IDEAL, TNT, CAPTIVATE,



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ENHANCE, ILLUMINATE, JUPITER, RADIANCE and numerous others of which TNT (2005), RADIANCE 1 (2007), ENHANCE (2008) and JUPITER (2008) are published in the New England Journal of Medicine, IDEAL (2006) in JAMA and RADIANCE 2 (2007) in Lancet.

## Current research & publications

Prof. Kastelein's current research interests focus on the etiology, diagnosis, prevention and treatment of hypertriglyceridemia, hypercholesterolaemia and low HDL cholesterol, all conditions associated with atherosclerosis and cardiovascular disease. He has published over 740 research papers in peer reviewed journals, including Nature Genetics, Lancet, New England Journal of Medicine, JAMA and Circulation, and his Hirsch index is 82 and his total citations are more than 23.000. Professor Kastelein is a recognized world leader in the studies focusing on the significance of lipoprotein metabolism in the development of atherosclerotic vascular disease.

## Teaching & mentoring

Prof. Kastelein's position in the AMC and the department of Vascular Medicine allows him to devote the majority of his time to science and in particular to scientific guidance of his large number of PhD students. Most of these young scientists are destined to become medical specialists in an academic environment and carry the torch of scientific research with a focus on human clinical relevance.