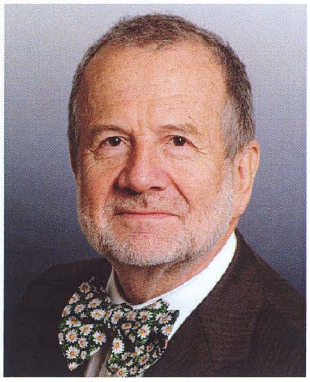
Curriculum Vitae:
Prof Marian C. Horzinek

Marian C. Horzinek is Professor Emeritus of Virology and Viral Diseases of the Faculty of Veterinary Medicine, Utrecht University and former Director of the Graduate School of Animal Health, Utrecht University.



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Professor Horzinek studied veterinary medicine in Germany at Giessen and Hannover Universities, from 1956 to 1961. A year later he obtained his Doctor of Veterinary Medicine and in 1970 he gained his 'Habilitation' (a PhD equivalent) in Virology. He began his career in virology at the Public Health Laboratory in Hannover, where he worked as a research fellow of the Deutsche Forschungsgemeinschaft. He later helped to establish the Chair of Virology at Hannover Veterinary School, and then spent a year as a research fellow at the Instituto Venezolano de Investigaciones Cientificas in Caracas, Venezuela.

Upon his return, he became Head of the Exotic Diseases Division at the Federal Research Institute for Animal Virus Diseases in Tübingen, Germany. In 1971, he moved to The Netherlands where he was appointed Head of Department and Professor of Virology and Virus Diseases at the Faculty of Veterinary Medicine, Utrecht University. Since 1992, Professor Horzinek was director of Utrecht University's Institute of Veterinary Research, and from 1996 until his retirement in 2001, he directed the Graduate School of Animal Health.

Professor Horzinek has been associate professor at the Veterinary School in Hannover, Germany, courtesy professor at the College of Veterinary Medicine, Cornell University, USA, and clinical professor of virology at the School of Veterinary Medicine, University of California, Davis, USA. During the last ten years, he has established and chaired scientific advisory boards at the universities of Vienna (Austria) and Barcelona (Spain).

During his career, Professor Horzinek has gained prizes and awards from research organizations in Europe, Australia and Asia, and honorary doctorates from the Universities of Ghent (Belgium), Hannover (Germany), Uppsala (Sweden), Vienna (Austria) and Guelph (Canada).

His publications include in excess of 300 scientific papers and more than 30 books and monographs, handbooks in several languages and CD-ROM articles. He has been an editor or editorial board member for scientific journals published in the Netherlands, Belgium, Great Britain, Germany, Austria, France and Italy. He is the founding president of the European (now: International) Society of Feline Medicine, of the German Gesellschaft für Kynologische Forschung, the Prevention of Equine Diseases (PrEquId) Board, and recently became ambassador of the Black Jaguar Foundation, a non-profit organization with the objective to save the rainforest. One of his most ambitious projects was the establishment of the online veterinary research journal, Veterinary Sciences Tomorrow.

Sir Arnold Theiler Memorial Lecture

A personal journey through coronavirus evolution

Marian C. Horzinek

For companion animal medicine, Feline Infectious Peritonitis (FIP) is an important disease – it is fatal, and prevention is a challenge. FIP is a sporadic viral condition – a contradiction in terms. The explanation: mutants of a coronavirus (CoV) that is endemic in most feline populations, arise in individual cats, change their tropism from enterocyte to macrophage and cause a polyserositis with pyogranulomas. The FIP-causing variants are usually not transmitted, and there is no epidemic spread.

Coronavirology in Utrecht started in the 1970s in a scientific domain that drew little attention; this changed suddenly, and dramatically, when the cause of the Severe Acute Respiratory Syndrome (SARS) was identified: a member of this family had crossed the host species border, from the civet to man. Other conditions followed, like the Middle East Respiratory Syndrome, its causative coronavirus (MERS-CoV) was found related to viruses in bats. Anecdotal exposure histories indicated patients had been in contact with dromedary camels, and neutralising antibodies in camel sera from different locations in Oman suggest widespread infection of camelids. There are more examples to show the complex natural history of these viruses.

Coronaviruses are the ideal objects to study evolution: they possess the largest viral RNA genome known to science, and due to their stochastic nature, genetic mistakes are highly probable. Mutations are due to the poor fidelity of the replicases and to the lack of a proof-reading mechanism to correct them. The consequences of point mutations, deletions, recombinations – and the quasi-species concept – will be discussed to illustrate changes in the occupation of ecological niches by coronaviruses – be it in an organism or in a population.

A short historical note, for a good reason: Sir Arnold Theiler had described acute liver atrophy and parenchymatous hepatitis in horses (1919), referred to as Theiler's Disease ever since. A few months ago, a Flaviviridae relative was identified as its cause (Chandriania et al., 2013). Sir Arnold's son Max was awarded the Nobel Prize for the development of a Yellow Fever vaccine (1951) – flavivirology obviously runs in the family...