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## Curriculum Vitae Professor Dr Hannu Juhani Korkeala

**Name:** Hannu Juhani Korkeala

**Date of birth:** 6 March 1949

**Research Priorities:** Food hygiene, psychrotrophy (cold tolerance), veterinary epidemiology, stress tolerance psychrotrophic pathogens

The Finnish veterinarian, Hannu Juhani Korkeala, has achieved eminence as a result of numerous groundbreaking findings in epidemiology and the prevention of diseases caused by bacterial pathogens in animal foodstuffs, such as meat and dairy products, fish and poultry. He has made a significant contribution to developing the field of food hygiene and public health at an international level.

### Academic and Professional Career

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| 2013        | Visiting Scholar, Department of Veterinary Disease Biology, University of Copenhagen, Copenhagen, Denmark |
| 2010 - 2013 | Head, Department of Food Hygiene and Environmental Health, University of Helsinki, Helsinki, Finland      |
| 1998 - 2009 | Head, Department of Food and Environmental Hygiene, University of Helsinki, Helsinki, Finland             |
| 2009 - 2014 | Head, Postgraduate School of Applied Biosciences, University of Helsinki, Helsinki, Finland               |

### Functions in Scientific Societies and Committees

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| 2018 | Member, Scientific Committee, Food Micro 2018 – 26th International Committee on Food Microbiology and Hygiene (ICFMH) Conference |
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- 2015 Co-organiser, Specialist Congress, “The Annual Finnish Veterinary Congress 2015”, Helsinki, Finland
- 2010 - 2011 Member, Expert Group, Finnish Food Safety Authority (Evira), Finland
- 2009 Evaluation, Faculty of Veterinary Medicine, University of Zurich, Zurich, Switzerland
- 2009 Evaluation of the quality and influence of food science and food safety, Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden
- 2003 Member, Scientific Expert Panel “Listeria Monocytogenes in Foodstuffs, Risk Science and Toxicology”, International Life Sciences Institute (ILSI)
- 2002 Member, Expert Group, European System of Evaluating Veterinary Training, Faculty of Veterinary Medicine, Lithuanian University of Health Sciences, Kaunas, Lithuania
- 2001 - 2003 Vice Dean, Faculty of Veterinary Medicine, University of Helsinki, Helsinki, Finland

**Project Coordination, Membership in Collaborative Research Projects**

- 2014 - 2016 Principal Investigator, Project “Risk factors and prevention of Listeria monocytogenes in the fish industry”, Ministry of Agriculture and Forestry, Finland
- 2010 - 2015 Principal Investigator, Joint project, “Neutralizing antibodies against botulinum toxins A, B, E”, Field of Security Research, 7th Framework Programme for Research (FP), European Union (EU)

**Honours and Awarded Memberships**

- since 2017 Honorary Member, Finnish Veterinary Association, Finland
- since 2017 Honorary Doctorate, University of Liège (ULiège), Liège, Belgium
- since 2010 Member, German National Academy of Sciences Leopoldina, Germany
- 2010 Walter Frei Prize, University of Zurich, Zurich, Switzerland
- 2009 Silver Medal, Walter Ehrström Foundation, Helsinki, Finland
- since 2007 Honorary Member, Finnish Society of Food Science and Technology, Finland
- 2007 Topi Salmi Prize, Finnish Veterinary Association and the Finnish Veterinary Foundation, Finland
- since 2007 Member, Royal Swedish Agricultural Academy, Finland
- 2006 The Veterinarian of the Year, Departments of Faculty of Veterinary Medicine, University of Helsinki, Helsinki, Finland
- 2004 Knight First Class, Order of the White Rose of Finland, Finland

Honorary Member, Society of the Finnish Veterinary Food Hygienists, Finland

1992

Gold Medal, Finnish Veterinary Association, Finland

### Research Priorities

The Finnish veterinarian, Hannu Juhani Korkeala, has achieved eminence as a result of numerous groundbreaking findings in epidemiology and the prevention of diseases caused by bacterial pathogens in animal foodstuffs, such as meat and dairy products, fish and poultry. He has made a significant contribution to developing the field of food hygiene and public health at an international level.

For 13 years he was Head of the Department of “Food and Environmental Hygiene” at the University of Finland, which he developed into a world-renowned research centre. His research is focused on so-called cold-tolerant (psychrotrophic) and spore-forming bacteria, which can cause food poisoning in humans. These bacteria thrive and reproduce particularly well at refrigerator temperatures. They include *Clostridium botulinum*, *Clostridium perfringens*, *Listeria monocytogenes*, *Yersinia enterocolitica* and *Yersinia pseudotuberculosis*.

Korkeala researched the particular genetic mechanisms which make the bacterial pathogens tolerant to stress, such as low temperatures in cooling counters and refrigerators. In addition, he has been able to identify diverse bacterial strains of pathogens using molecular biology methods to reconstruct the origin and course of food poisoning epidemics. His findings have laid the groundwork for significantly improving food safety and the protection of public health. For example they have enabled the food industry to optimise their refrigeration chains in order to further reduce the risk of food poisoning epidemics. In a further branch of his research, by using molecular biological technologies the veterinarian has developed antidotes to the relatively easily produced botulinum neurotoxin, which is highly toxic for humans and is classed as a possible biological weapon. In Germany it is subject to the War Weapons Control Act.