LAUDATIO JÜRG GERTSCH

Professor Gertsch, a biochemist, started his transdiciplinary research on bioactive natural products in the field of ethnopharmacology in 1997 as a PhD student in the group of Professor Otto Sticher at the ETH Zürich. During this time he carried out ethnobotanical and ethnopharmacological fieldwork among the Yanomami Amerindians in the Amazon of Venezuela. He then worked on the phytochemistry of selected plants and the setup of new high-content cellular assays in the area of inflammation and anti-cancer screening. As a consequence, he became interested in highly bioactive NPs and in 2003 he started postdoctoral work in the laboratory of Professor Karl-Heinz Altmann at the Department of Chemistry and Applied Biosciences of the ETH Zurich, working on microtubule-targeting anticancer agents, including epothilones and other macrocyclic compounds. He then established his own group and became a senior scientist and lecturer at the ETH Zürich. During the same time he started to work on the molecular mechanisms of action of the bioactive lipids from Echinacea. After having discovered a link between the immunomodulatory effects of *N*-alkylamides and the cannabinoid CB2 receptor he became interested in immunopharmacology and the endocannabinoid system. The majority of his ongoing projects are now related to the biochemistry of the endocannabinoid system. Prof. Gertsch and collaborators described several natural products that interfere with the endocannabinoid system. Among them, the sesquiterpene beta-caryophyllene, one of the most widespread essential oil components, potently activates the CB2 receptor, leading to profound antiinflammatory and analgesic effects. Beta-caryophyllene was thoroughly studied both in vitro and in animal experiments using knockout mice. Currently, this dietary and FDA approved food additive is being studied in different laboratories and might potentially be a novel essential dietary factor able to prevent inflammatory lifestyle diseases in addition to vitamins and fatty acids. Pilot clinical trials will be the next step to evaluate efficacy in humans. Inspired by

the organic synthesis environment at the ETH, Prof. Gertsch synthetically explored the bioactive dodecadiene isobutylamide scaffold in the search of blockers of endocannabinoid cellular reuptake and novel anti-inflammatory agents. Highly potent leads were found and the project is now continued at industry.

Since 2009 Prof Gertsch is at the University of Bern, at the Institute of Biochemistry and Molecular Medicine, where he now holds a chair in membrane biochemistry. Since 2010 he is also an IP in the Swiss funded NCCR program TransCure where membrane transporters will be studied as potential targets for drug discovery. The transition from molecular pharmacology to in vivo pharmacology is a major concern in his new group, but he is also interested in issues related to reverse pharmacology starting from traditional medicinal plants or agents to the elucidation of molecular mechanisms of action.

His contributions impressively show that natural compounds still play an important role in drug discovery and development.

Brigitte Kopp
GA President