

Food Technology at University in Bonn

The Rheinische Friedrich-Wilhelms-Universität in Bonn, Germany celebrated the 200th anniversary of its founding in 2018, as King Friedrich Wilhelm III had signed the deed of foundation on 18 October 1818. 2018 was not only especially important for the University in Bonn due to this anniversary, but also due to the great success achieved with the excellence initiative. As part of the initiative, funds were raised for six Clusters of Excellence – the highest number at any university in Germany. In July 2019 the accolade followed with the appointment of the University in Bonn to the University of Excellence. This once again strengthened its reputation as an internationally important research university. In the current Shanghai Ranking, the University in Bonn is listed among the four best universities in Germany, and holds the 70th position worldwide. In this ranking the agricultural sciences in Bonn are globally among the 50 best, and in Germany they hold third place.



The Department of Nutrition and Food Sciences, which is part of the Agricultural Faculty, consists of eight professorships. They conduct research on current nutritional and epidemiological, food chemistry, microbiological and food technology questions. Food Technology was established in Bonn in 1989, when Prof. Benno Kunz was appointed as Professor for Food Technology and Biotechnology. He represented the department with an engineering approach heavily oriented toward bioprocessing. When Prof. Andreas Schieber was appointed in 2011, the focus of the professorship shifted to distinctly scientific research, which consequently also involved the changing of the denomination to Molecular Food Technology in 2015.

Linking of the disciplines

The current research areas of the professorship comprise technological, biotechnological-microbiological and food chemistry work, and therefore have a highly interdisciplinary character. The objective of this approach is to obtain a deeper understanding of the behavior of food ingredients on a molecular level through the linking of the disciplines. The focus is on studies on secondary plant materials, and in particular phenolic compounds and carotenoids and their role as techno-functional and bio-functional food ingredients. The work groups at the professorship are concerned, among other things, with the development of methods for recovering recyclable materials from secondary streams of food production, with the substitution of synthetic additives, e.g. of colorings and preservatives, through compounds of a natural origin and with the quality and authenticity control of foodstuffs. More recent work targets the characterization of reactions of secondary plant materials during processing of food and bio-availability and metabolism of phenolic compounds. There has been a close cooperation with the fruit

juice and wine industry for many years now, which is already reflected in several projects with outside funding and numerous scientific theses and relevant publications.

Since the move to the new building on the Poppelsdorf Campus in September 2018, the Professorship for Molecular Food Technology has had modernly equipped laboratories and a technical center at its disposal at which the above-mentioned analytical, technological and microbiological work can be conducted. The equipment includes several chromatography systems (UPLC-IMS-TOF-MS, UPLC-LIT-MS, UFLC-DAD, UFLC-FLD; HPLC, semi-preparative HPLC, Flash Chromatography and GC), ultrasound devices, flow cytometers, spiral plating units, spray and freeze dryers, tubular and plate heat exchangers, a membrane press, a filling system and systems for accelerated solvent extraction and automated solid-phase extraction. The new institute building was also tied to the construction of sensory cabins used in research and teaching.

Molecular Food Technology

The pronounced scientific character of the research will also be reflected in the training of the students through the modification of the previous "Food Technology" Master's programme. In the future, it will then be called "Molecular Food Technology". Together with the Bachelor of Science course of studies "Nutrition and Food Sciences" and the Master of Science course of studies "Nutritional Sciences", the course of studies is currently in the re-accreditation phase and is to be offered for the first time beginning with the 2020/21 winter semester. It is characterized by a close relationship between food technology and food chemistry contents, and therefore especially addresses students with a strong interest in the molecular structure of food ingredients and the related technological properties. As a result, the course of studies is clearly differentiated from related courses of studies, which frequently have a heavy process-technology orientation.

Further information and contact

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