

INTERVIEW



Professor Renato Zanella kindly granted an interview to BrJAC

Professor Renato Zanella earned his PhD in Analytical Chemistry from TU Dortmund Universität, Germany, in 1994, with postdoctoral training completed at the Free University of Amsterdam (the Netherlands). He served as an Adjunct Professor at the Universidade Federal de Santa Maria (UFSM) from 1994 to 2006, was an Associate Professor from 2007 to 2014, and has been a Full Professor since 2014.

He has coordinated the Pesticide Residue Analysis Laboratory (LARP) since 2001. The laboratory has been accredited by the General Coordination for Accreditation of the Instituto Nacional de Metrologia, Qualidade e Tecnologia (CGCRE/INMETRO) since 2012. He has also led the Research Center for Chromatography and Mass Spectrometry (CPCEM) since 2001, coordinating several research projects on residues and contaminants in food, environmental, biological, and industrial samples. He has held a research productivity fellowship from the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) since 2004 and currently holds a PQ 1B level.

He served as a member of the Chemistry Advisory Committee of the CNPq (2020–2023) and of the Superior Council of the Fundação de Amparo à Pesquisa do Estado do Rio Grande do Sul (FAPERGS) (2017–2022), serving as Vice President in 2021 and 2022. He served as Administrative Director (2020–2024) and has been President (2024–present) and a member of the Superior Council of the Fundação de Apoio à Tecnologia e Ciência (FATEC) (2020–present). He served as President of the Red de Análises de La Calidad Ambiental en América Latina (RACAL) (2013–2024) and has been a member of the Extended Executive Committee of the International Association of Environmental Analytical Chemistry (IAEAC) since 2013.

Professor Zanella served as Director (2006–2008) and Vice Director (2004–2006) of the Analytical Chemistry Division of the Sociedade Brasileira de Química (SBQ). He served as Coordinator of the Graduate Program in Chemistry (PPGQ) at UFSM and as a member of the University Council of UFSM (2008–2010). He also served as President of the Advisory Committee of the Pro-Rector of Graduate Studies and Research of UFSM (2009–2010).

He is Vice Coordinator of the Instituto Nacional de Ciência e Tecnologia (INCT) in Analytical Chemistry of Food: Food Safety and Characterization of Functional Foods (INCT-ALIM). He has been a member of the Scientific Committee of the Brazilian Society of Mass Spectrometry (BrMASS) since 2018.

He served as a member of the Coordination Center of the National Food Analysis Network (RENALI) of the Brazilian Technology System at the Ministério da Ciência, Tecnologia e Inovação. (SIBRATEC)/MCTI and as a member of the Scientific Council of the Residues and Contaminants Network of MCTI/MAPA. He is the author of more than 220 articles and 18 book chapters, with more than 5,200 citations and an h-index of 40 (Scopus). He has supervised 51 master's dissertations, 30 doctoral theses, 6 postdoctoral fellows, and 41 undergraduate research projects. Currently supervises 2 master's, 6 doctoral, 1 post-doctoral and 4 undergraduate research students.

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Professor Zanella serves as Associate Editor of Food Analytical Methods and Scientia Chromatographica. He is a member of the Editorial Board of the International Journal of Environmental Analytical Chemistry (IJEAC) and Separations, and acts as an ad hoc reviewer for several scientific journals and the main Brazilian funding agencies. He coordinated the IX Latin American Symposium on Environmental and Sanitary Analytical Chemistry, in Salvador-BA (2011). He was a member of the Organizing Committee of the Latin American Congress on Chromatography and Related Techniques (COLACRO) in 2010 and 2012 and served on the Organizing Committee of the Latin American Symposium on Environmental Analytical Chemistry (LASEAC) in 2015 (Ecuador), 2017 (Colombia), 2018 (Chile), 2019 and 2024 (Brazil), and 2024 (Colombia).

He has delivered lectures at scientific events in Argentina, Chile, Colombia, Costa Rica, Ecuador, France, Germany, Greece, Italy, Mexico, Paraguay, Portugal, Spain, Uruguay, and the United States, as well as numerous events in Brazil. He has also taught courses in Argentina, Chile, Colombia, Uruguay, and Brazil. According to his latest CV the most frequent keywords associated with his work include pesticides, veterinary drugs, pharmaceuticals, water, soil, food, fruits, cereals, milk, meat, chromatography, GC-MS/MS, UHPLC-MS/MS, SPE, and QuEChERS.

BrJAC: How was your childhood?

Prof. Zanella: I grew up in the countryside of Encantado, in Rio Grande do Sul State, in a region of mountains and valleys. My childhood was truly very good. I had many adventures with total freedom and lots of friends. We knew all our neighbors and there were no safety concerns.

My family had a winery next to our house, and I enjoyed watching the entire winemaking process, from the arrival of the grapes to their storage in giant wooden vats. In winter, two distilleries were used to produce grappa from fermented grape pomace, and their fires were a great place to roast green corn and tell stories.

BrJAC: What early influences encouraged you to study chemistry? Did you have any influencers, such as a teacher?

Prof. Zanella: My curiosity about science in general, together with Professor Zanchettin's chemistry classes during the three years I lived in Dourados, Mato Grosso do Sul, played a decisive role in my decision to study chemistry. The coincidence of having a cousin, Jairo Pedrotti, studying Industrial Chemistry at UFSM was exactly what I needed to decide what and where to study.

He later completed his master's and doctoral degrees at the Universidade de São Paulo (USP) and currently works in São Paulo. He provided me with all the information and support I needed to start my undergraduate degree in chemistry.

BrJAC: How was the beginning of your career in chemistry?

Prof. Zanella: I graduated in Industrial Chemistry at UFSM at a time when there was a cooperation agreement between UFSM and the German Technical Cooperation Agency (GTZ), and we had classes with several German professors. When I finished my undergraduate degree, I began my master's degree in chemistry at UFSM. I developed a project related to the determination of metals in coal, ash, and environmental samples and became the second master's graduate in the program.

I applied to the German Academic Exchange Service (DAAD) and was selected for a scholarship to pursue a doctoral degree in Dortmund, Germany. My doctoral thesis, written in German, focused on the determination of organic compounds in air using chromatography. This international experience allowed me to be approved as a professor at UFSM.

BrJAC: What has changed in your profile, ambitions, and performance since the time you started your career?

Prof. Zanella: The experience I have accumulated, mainly in advising undergraduate and graduate students, as well as in extension activities, has guided my work in the pursuit of knowledge and producing results that meet the demands of society. I consider the training of highly qualified personnel to be my greatest motivation to continue working.

BrJAC: Could you comment briefly on the recent evolution of analytical chemistry, considering your contributions?

Prof. Zanella: Analytical chemistry, through the development of new methods of sample preparation and analysis, has contributed greatly to recent advances, especially in food quality control, broader clinical analyses, environmental control, and other fields.

In our research group, we have been working on the development of new methods of analysis, mainly of pesticides, aiming to assess the impacts on human health, animals, and the environment.

BrJAC: What are your lines of research? You have published many scientific papers. Would you highlight any?

Prof. Zanella: I work on the development of new methods for analyzing residues and organic contaminants, with an emphasis on pesticides, veterinary drugs, pharmaceuticals, polychlorinated biphenyls, and polyaromatic hydrocarbons, using liquid and gas chromatography coupled with mass spectrometry techniques. I have published more than 220 scientific articles in this field, with over 5,200 citations. However, although many projects developed in collaboration with public and private organizations have not resulted in scientific publications, I consider them to be just as important.

BrJAC: What is your opinion about the current progress of chemistry research in Brazil? What are the recent advances and challenges in scientific research in Brazil?

Prof. Zanella: We continue to train qualified professionals in the field of chemistry in Brazil. The challenge is to provide them with the conditions to work in the country in an adequate manner, since many have sought to work abroad, where they are valued. There are important initiatives to retain PhDs in companies, which are very important for the start of their professional careers.

BrJAC: For you, what have been the most important recent achievements in analytical chemistry research? What are the landmarks?

Prof. Zanella: The search for the development of analytical methods that meet the precepts of green chemistry has advanced significantly, and new low-cost materials and new procedures have enabled excellent results. Modern analytical instrumentation, developed with collaboration in the field, has enabled comprehensive, reliable analysis at levels appropriate to modern demands.

BrJAC: There are, in Brazil and in the world, several conferences on chemistry. To you, how important are these meetings to the chemistry scientific community? How do you see the development of national chemistry meetings in Brazil?

Prof. Zanella: I consider the participation of researchers and undergraduate and graduate students in scientific events to be of fundamental importance. These events provide opportunities to meet researchers from Brazil and abroad, learn about new topics, present and discuss the work developed, contributing to professional growth. Both general events in the field of analytical chemistry and more specialized meetings are recognized by the international community for their quality.

BrJAC: What is the importance of awards for the development of science and new technologies?

Prof. Zanella: Recognition of the careers of researchers who have made outstanding contributions to the progress of science and new technologies is highly relevant and serves as an incentive for those working in the field.

BrJAC: For you, what is the importance of the national funding agencies for the scientific development of Brazil?

Prof. Zanella: National funding agencies for scientific development play an important role in the development and consolidation of the country's progress. The fact that funding is not prioritized during certain periods hinders the continuity of research.

BrJAC: At the moment, the situation for scientific research in Brazil is one of decreasing investment. How do you see this situation, and what would you say to young researchers?

Prof. Zanella: Brazil has already experienced periods of severe investment shortages in this area. Currently, the country is experiencing a resumption of investment and a renewed appreciation for science. The work of researchers aimed at strengthening state and national funding agencies is of great importance. Raising awareness among young researchers about this importance is essential.

BrJAC: What advice would you give to a young scientist who wants to pursue a career in chemistry?

Prof. Zanella: I consider it a career that offers many possibilities for those who have a solid education and have specialized in their field of interest. It is a very broad field that allows you to work in very attractive areas and achieve professional fulfillment. Opportunities arise for those who are well prepared.

BrJAC: For what would you like to be remembered?

Prof. Zanella: I would like to be remembered for coordinating a research group that trained hundreds of professionals, providing enriching experiences in a well-structured laboratory, with many national and international collaborations and a strong presence in outreach work supporting public agencies, producers, companies, and the community at large.



Pesticide Residue Analysis Laboratory (LARP) team, 2025.