IFT FIRST EVENT

Student Experience Enhancement Fund (SEEF)

Faculty of Agricultural and Environmental Sciences

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Introduction

The event is part of the Institue Food of Technology, and the main goal is to connect science and business while providing an atmosphere to share challenges and innovations with the global food community. IFT FIRST allowed us to update our knowledge of the current issues that the food industry is facing as well as the solutions in which many companies and new start-ups are being part of. We had the opportunity to interact with food developers, food scientists, innovators, educators and other students from all over the world, which represents and advantage for us as a recently graduate student and a master student because it opened the panorama to find new ideas, connections, solutions and even problematics in which we can contribute with our ideas.

Activities Involved

Through different activities, IFT FIRST achieve its goal, some of the ones in which we participate were “Business FIRST session”, “Fire side chats”, “Braindate”, the “Start-up pavilion” and the Food Expo in all these activities we chat and discuss problematics as sustainability, innovation, food safety, new technologies that are currently happening in the food industry, it is a great opportunity to hear from experts in different areas the ideas and solutions that can be applied and also for them, to learn from us, the students. The fact that the congress is international gives a wide vision of how different countries are dealing with a common problem.

Some of our favorite activities were the Business first session, the Start-up pavilion and the Food Expo; in the business stage different experts from industry tackle global issues and trends in food and the science of food, one of the most notable speech was “The power of plant proteins” in which the importance of reducing consumption of animal protein due to its sustainable impact was discuss, the experts in this talk gave data about the huge necessity of looking for new sources of protein such as plants and cereals, to create products with high quality protein and they explain the importance of the overall aspect of creating a plant-based product, from the texture and taste to the sustainable claims and nutritional benefits; the Start-up pavilion, was perfectly to find innovations, we were impress with the projects that were focus in creating protein from bacterial or yeast fermentation, also with projects in which the term “upcycling” was their goal, which is using the waste from other industries to create a new and high quality products, their main challenge was the consumer acceptance which is key for the success of these kind of products. The Food Expo was one of our favorite activities because it was the place to try new products, discuss the process and ingredients for the development and learn new technologies that are being use in the industry, we enjoy to try the protein plant-based products and to learn all the different ways in which they can be created, we also visited the expositors that show equipment used in different areas of the food industry.

During the IFT meeting, we also had the opportunity to interact with various industries involved in the production of natural sweeteners, such as mogroside and stevia. The discussions

highlighted some of the most recent techniques and methods being employed to enhance the production of these sweeteners. In the case of stevia, one notable challenge is the presence of an aftertaste associated with its most abundant component, steviol glycoside Reb A. To address this issue, industries are increasingly focusing on extracting and formulating the less abundant but smoother-tasting steviol glycoside, Reb M. By optimizing extraction processes and conducting selective breeding of stevia plants, they aim to increase the yield of Reb M and reduce the overall aftertaste in stevia-based sweeteners. Moreover, to further improve the taste profile of stevia-based sweeteners, industries are exploring innovative formulations that combine stevia with other natural sweeteners. This approach not only helps to mitigate the aftertaste but also allows for a more versatile and well-rounded sweetness profile, enhancing its potential as a sugar substitute in a wide range of food and beverage products. Overall, in light of growing awareness among the general public about the detrimental effects of excessive sugar consumption, industries have been actively seeking innovative alternatives, transitioning from synthetic to natural sweeteners. Notably, a significant surge in the emergence of natural sugar ingredient industries has been observed in recent years, as evidenced during the conference. However, despite these advancements, further research is still required to thoroughly assess the safety and efficacy of substituting sugar with natural sweeteners in various food products.

Student Competition

Besides the chats with industry, we assisted to hear other students from universities around the world to give their final presentations from different competitions such as “33rd Annual IFTSA & Mars Wrigly Product Development Competition”, “Smart snacks for kids” and “Developing solutions for developing countries competition”. The 3rd Annual IFTSA & Mars Wrigly Product Development Competition was amazing, the teams presented the whole concept of new products from the production to the marketing, in the competition Smart snacks for kids our university won first place with the product “Hunger monster” which was a nutritious and fun snack, the team product was creative, and the presentation of the proposal was sustained with strong arguments. We had a huge interest for listen to the Developing solutions for developing countries competition teams, since we submitted a proposal a few months ago, the products presented in this competition were targeting developing countries from around the world using the fruits that represent a high waste quantity of the region, listing to the other proposals and the arguments which with the students defend the projects help us to understand in which ways we need to improve our proposal and with this, we feel motivated to submitted other proposals for the next year’s event.

Poster Presentation

Furthermore, during the conference, a poster was presented that focused on maximizing the potential of apple pomace to produce functional oligo/polysaccharides. Apple pomace, a by-

product of the apple juice and cider industry, contains valuable components like bioactive carbohydrates, phenolic compounds, and dietary fibers. The extraction of these valuable compounds from apple pomace offers economic advantages by converting waste into value-added products, enabling companies to enhance profitability while reducing their environmental impact. The applications of apple pomace in the food industry are diverse. Extracted dietary fibers can be incorporated into food products to enhance their nutritional value. Phenolic compounds can be utilized for their antioxidant properties. Moreover, the bioactive carbohydrates found in apple pomace can serve as prebiotics, benefiting gut health and the immune system. Additionally, these carbohydrates can be transformed into low-calorie sweeteners or fat substitutes for use in various industries, such as beverages, baked goods, confectionery, and dairy products. The main objective of the study presented in the poster was to develop environmentally friendly and highly efficient methods for extracting, purifying, and separating functional carbohydrates from apple pomace. The sustainable techniques we deployed prioritized the use of extraction solvents that are low in toxicity and do not cause erosion, while also extracting significant amounts of valuable products. To achieve this, various methods were explored that included enzymatic, ball-milling and ultrasound methods for assisting with the alkaline or water extraction.

At the conference, we also had the opportunity to come across other posters. One of the interesting research projects showed how apple juice, pomace, and pulp play a crucial role in modulating intestinal functionality, morphology, and bacterial populations in vivo. This research presented a striking parallel to our own upcoming stage of investigation, where we aim to explore the effects of apple pomace extracts in living organisms. In this study, the researchers examined the gene expression of pivotal proteins, duodenal morphology, and the relative cecal bacterial abundance. The results revealed that the extracts derived from apple pomace exhibited prebiotic properties, fostering significant beneficial effects on the host's intestinal health and gut microbiome. This discovery opened up promising avenues for our research, indicating the potential positive impact that apple pomace extracts may have on enhancing gut health and microbial balance. As we proceed with our investigations, we look forward to unearthing further insights and contributing to the development of related research areas.

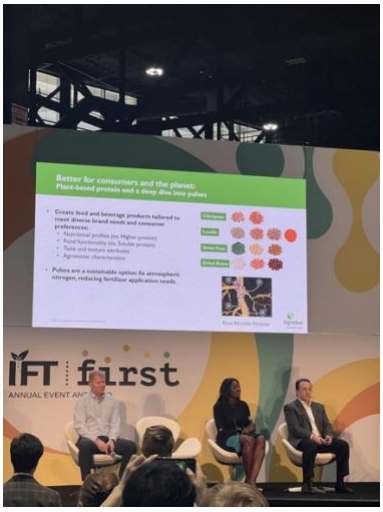
Conclusion

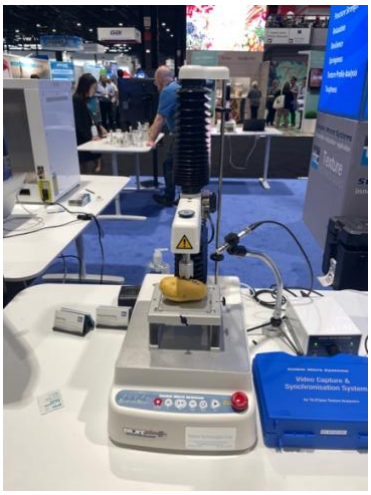
Accredited to the SEEF funding, attending the IFT First conference was an incredibly insightful and enriching experience, filled with a wide range of innovative ideas. By interacting with experts and industries, we gained valuable insights into cutting-edge developments and emerging trends in food technology. From groundbreaking processing techniques to innovative food ingredients, it has demonstrated the commitment of industry and universities to tackling current challenges. Taking a moment to reflect on the information and forward-looking concepts presented, it is clear that the IFT meeting has greatly expanded our understanding of the evolving landscape of the

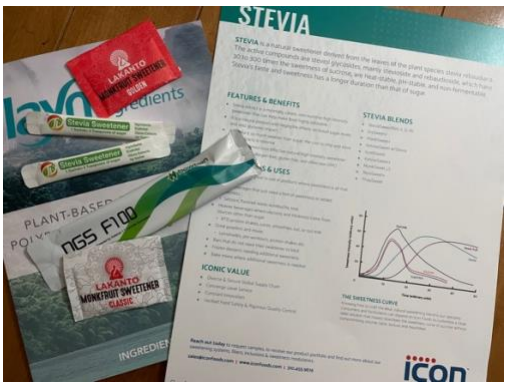
food industry and how we could further contribute to a healthier and more sustainable way of life.

Photos of the event

Here are some photos of activities that we attended and products that we liked.





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