Phi Tau Sigma Newsletter  January 2020

News:

Date change for the 2020 Phi Tau Sigma and IFT Division Competition Awards Ceremony

The date and time of the Phi Tau Sigma and IFT Division Competition Awards Ceremony has been moved from the previous 3:30pm - 4:20pm Sunday to **12noon - 1:30pm Monday.** This change was made because IFT Division Champion Team felt that there is just not enough time between the end of the poster competition and the beginning of the Awards Ceremony for them to tally results and make slides in a non-frenzied manner.

An added advantage for Phi Tau Sigma is that there will not be people practicing on the stage for the IFT Awards Celebration while we are trying to set up for the Awards Ceremony. (Note the difference in phrasing between 'Ceremony' - the Phi Tau Sigma event with IFT poster competition winners, and 'Celebration' the IFT event)

The Awards Ceremony will be in a theatre, as it was last year. This venue was well received last year by the organizers, participants, and audience.

Award and Scholarship Deadline Approaching
(Contributed by Ravi Chermala, M.S., Awards Committee Chair)

Remember to submit your nominations by **February 1** to the Awards Committee for the Phi Tau Sigma Special Recognition Award, the Phi Tau Sigma Student Achievement Scholarship, the Dr. Gideon "Guy" Livingston Scholarship, and the Phi Tau Sigma Founders’ Scholarship. **The student scholarships include an honorarium of $1000 each and a plaque.**

Send completed nomination forms to Ravi Chermala, M.S., Awards Committee Chair, at: ravichermala@gmail.com, with a copy to Kathryn Kotula, Ph.D. klkotula@msn.com.

Full information can be found at: http://www.phitausigma.org/awards/.

However, a short description of each is offered below:

“The **Phi Tau Sigma Special Recognition Award** shall be given to a Member of Phi Tau Sigma who has shown exceptional dedication to Phi Tau Sigma - The Honor Society of Food Science and Technology, as evidenced by significant accomplishments towards the goals
and/or administration of Phi Tau Sigma. The award comes with a plaque and an appropriate memento.”

“The **Phi Tau Sigma Student Achievement Scholarship** shall be given to a student Member of Phi Tau Sigma who has shown exceptional scholastic achievement and a dedication to Phi Tau Sigma.”

“The **Dr. Gideon “Guy” Livingston Scholarship** of Phi Tau Sigma shall be given to a student Member of Phi Tau Sigma in honor of the founder of Phi Tau Sigma, and to acknowledge that student’s scholastic achievements and dedication to Phi Tau Sigma.”

“The **Phi Tau Sigma Founders’ Scholarship** shall be given to a student Member or Member of Phi Tau Sigma whose graduate research has had, or is expected to have, a significant Impact - a practical and meaningful application. The objective of the Founders’ Scholarship is to emphasize the importance of original research, carefully selected, to solve vexing problems of the food industry.”

**Upcoming, with a nomination deadline of April 1:**

“The **Phi Tau Sigma Outstanding Chapter of the Year Award** shall be given to honor a Chapter of Phi Tau Sigma that has achieved excellence in the areas of research, scholarship, leadership and service. The award comes with a plaque and a $1000 honorarium to be used by the Chapter to advance distinction in the food science discipline.”

**Nomination hint:** (From the Editor)
- Read the Criteria carefully. Does the nominee fulfill the criteria?
- Read the Instructions carefully before and after filling out the nomination to be sure all instructions are followed properly, and the information requested is easy to find.
- Feel free to ask questions.
- Don’t wait for the deadline to send in the nomination. Early is good.

**From the Desk of the Treasurer:**

**A Suggestion for an Affordable and Easy New Year’s Resolution for Phi Tau Sigma Members**

(Contributed by Kantha Shelke, Ph.D., Phi Tau Sigma Treasurer)

For many, the dawn of a new year is also an agonizing time for making resolutions that one can honor easily. If you are like me, then, you are probably looking for meaningful resolutions that can be honored without failing and which can also make a difference for those around you.

An anonymous donor just set up an account for a modest monthly recurring donation to Phi Tau Sigma. This donor is driven to help advance food science and technology and gets an immense sense of satisfaction every month just knowing that a modest donation—about the price of a dinner—can add to the foundation reserves slowly and steadily to further extend scholarship and other opportunities for professionals in food science and technology.

So, if you cannot donate once a year, choose a donation level that is comfortable for you to give monthly or quarterly and reap the feeling of satisfaction while you help add to the Phi Tau Sigma foundation reserves. As little as $5, $10, $15, or $20 per month, adds up to $60, $120, $180 or $240 each year, and brings us closer to achieving our mission.
Calendar:

**Phi Tau Sigma Scholarship and Awards Schedule:**

November 30: Deadline to submit nominations to the Awards Committee for the Dr. Daryl B. Lund International Scholarship.

February 1: Deadline to submit nominations to the Awards Committee for the Phi Tau Sigma Special Recognition Award, the Phi Tau Sigma Student Achievement Scholarship, the Dr. Gideon “Guy” Livingston Scholarship, and the Phi Tau Sigma Founders’ Scholarship.

April 1: Deadline to submit nominations to the Awards Committee for the Phi Tau Sigma Outstanding Chapter of the Year Award.

Send completed nomination forms to both Awards Committee Chair Ravi Chermala, M.S., Chair, (ravichermala@gmail.com) and Executive Director Kathryn L. Kotula, Ph.D. (klkotula@msn.com). (More information: http://www.phitausigma.org/awards/)

**December 9:** Deadline to submit Nominations for the Dr. Carl R. Fellers Award, and other IFT Achievement Awards.

(More information: https://www.ift.org/community/awards-and-recognition/achievement-awards)

**Phi Tau Sigma Chapter Schedule:**

November 1: Deadline to order Honor Cords and lapel pins to ensure delivery before Fall graduation dates

March 15: Deadline for membership nominations to ensure decisions from the Membership and Qualifications Committee before the Annual Meeting

April 1: Deadline to order Honor Cords and lapel pins to ensure delivery before Spring graduation dates

May 1: First call for Chapter annual reports

June 1: Second call for Chapter annual reports

July 1: Final call for Chapter annual reports

August 1: Deadline for Chapter annual reports

Reminder to all Chapters: In order to receive the Certificate of Merit or Certificate of Excellence, Chapters must submit their annual reports for evaluation by August 1. Please send your annual report to the current Chair of the Chapter Affairs Committee, Claire Koelsch Sand, Ph.D., Chair, (clairekoelschsand@gmail.com) with a copy to Dr. Kathryn L. Kotula (klkotula@msn.com).

**Election schedule:**

December 15: Nominations due to Nomination and Election Committee

(Tom Aurand, Ph.D., Chair, tom.aurand@gmail.com)

January 2: Nominations and Elections Committee convenes

January 21: Deadline for Nomination and Elections Committee to submit slate of candidates to President

February 5: Last date on which nominations by petition may be submitted

March 2: List of candidates will be emailed to the Members for balloting

March 30: Deadline for casting ballots

April 8: Deadline for tabulation of ballots

July 12: Phi Tau Sigma President will present the newly elected individuals to the Membership at the Annual Business Meeting of Phi Tau Sigma
Student Research Synopsis: Development and Characterization of Novel Bigels for Implementation into Foods and Protection of Probiotics
(Contributed by Mark A. Bollom, M.S. Candidate. Advised by Stephanie Clark, Ph.D. and Nuria C. Acevedo, Ph.D. Iowa State University, Department of Food Science and Human Nutrition)

Introduction: Bigels are a relatively new technology, with the first publication about them appearing in 2008 (Almeida et al., 2008). They are biphasic systems composed of a structured oil phase, called an organogel, and structured water phase, called a hydrogel (Figure 1). Bigels are different from other biphasic systems because both phases are structured, which can offer superior stability. Despite interest in bigels from a variety of industries, there is still unknown information about their structure and potential use in food. The purpose of this research was to develop a novel, edible bigel system, characterize its microstructure, and determine its ability to protect probiotics during in vitro digestion conditions.

Methods: The oil phase was an oleogel emulsion composed of soybean oil, soy lecithin, stearic acid, and milk. The water phase was a thermally set whey protein concentrate 80 gel. The two phases were homogenized together. Two oleogel emulsion water contents (10 and 20% w/w), two hydrogel protein contents (15 and 25% w/w), and five ratios of oleogel emulsion:hydrogel were explored (0:10, 3:7, 5:5, 7:3, 10:0). Characterization was completed using small angle x-ray scattering (SAXS), rheology (amplitude sweep, frequency sweep, temperature sweep), and confocal scanning laser microscopy (CSLM). One bigel was selected to inoculate probiotics into, and the probiotics were included in the milk of the oleogel emulsion. Three different samples were put through in vitro digestion (Brodkorb et al., 2019):
the standard bigel (with soy lecithin, stearic acid, and whey protein concentrate 80), a soy-lecithin free gel (to test the effect of phospholipids), and a control (no gelators). Probiotic survival was measured at five time points: after mastication, mid-way through gastric, end of gastric, mid-way through intestinal, and end of intestinal.

**Results:** SAXS revealed that the oleogel emulsion retained its soy lecithin reverse micelle and stearic acid bilayer, in accordance with previous work on this oleogel emulsion system (Gaudino, Ghazani, Clark, Marangoni, & Acevedo, 2019), despite hydrogel addition. The hydrogel did, however, disrupt long-range interactions between reverse micelles and prevented supramolecular assemblies of soy lecithin into a hexagonal array. Amplitude sweeps revealed that gels with higher proportions of hydrogel phase had higher critical strains, which is an advantage of using a bigel over a pure oleogel. Frequency sweeps showed that all the gels had slight frequency dependence and temperature ramps highlighted stearic acid crystallization. CSLM offered a visual representation of the continuous or discontinuous nature of each phase, depending on the oleogel emulsion to hydrogel ratio. *In vitro* digestion revealed that structure was very important for probiotic survival. The control, with no gelators, had 0 CFU/mL by mid-way through the gastric phase already, whereas the structured samples had ~50% probiotic survival at the end of digestion. When comparing the standard bigel to the soy lecithin free gel, the phospholipids (naturally found in soy lecithin) did not appear to influence probiotic survival during *in vitro* digestion.

**Significance:** Bigels are a relatively new technology; therefore, more information about their microstructure is necessary to better understand how they can be implemented in foods. This research has completed some of the preliminary studies needed to understand the microstructure and understand phase interactions. Additionally, we have shown that bigels can be successfully used to protect probiotics from the harsh conditions of our digestive tract.

**References:**


Lifetime Member Tribute: Rakesh K Singh, Ph.D.
Professor and Head, Department of Food Science and Technology, University of Georgia

Why did you become a Lifetime Member? Phi Tau Sigma has been an important part of my professional career, and I used to pay the dues some years and forgot to pay a few times. Eventually, it became apparent to simply pay the Lifetime membership dues once and not worry about paying every year.

Education:
1983 Ph.D. in Agricultural Engineering (Food Engineering option), University of Wisconsin, Madison
1977 M.S. in Agricultural Engineering, University of Manitoba, Winnipeg, Canada
1975 B. Tech. Agricultural Engineering, G. B. Pant University of Agriculture and Technology, Pantnagar, India

Experience/Accomplishments:
2018 - 2019 President, Phi Tau Sigma
2018 - 2021 Visiting Professor, Food Science & Engineering, South China University of Technology, Guangzhou, China
2013 - 2018 Honorary Professor, Bohai University, Jinzhou, China
2001 – Professor & Head, Department of Food Science & Technology, University of Georgia, Athens, GA
1995 - 2001 Professor, Department of Food Science, Purdue University, West Lafayette, IN
1994 & 1996 Visiting Professor, Graduate Programs, University of Chihuahua, Mexico
1991 - 1995 Associate Professor, Department of Food Science, Purdue University, West Lafayette, IN
1985 - 1991 Assistant Professor, Department of Food Science, Purdue University, West Lafayette, IN
1983 - 1985 Assistant Professor, Department of Agricultural Engineering, Technical University of Nova Scotia, Halifax, Canada
1982 Field Engineer, DKI Consulting Group, Milwaukee, WI

Areas of Expertise: My expertise is in food process engineering dealing with effect of processing technologies on safety and quality of foods.

Awards and Honors (selected list):
- Elizabeth Fleming Stier award from IFT, 2009
- Fellow, Institute of Food Technologists, 2008
- Outstanding Counselor Award, Department of Food Science, Purdue University, 2000
- ACOP/ESCOP Leadership Fellow, 1997-98.
- Distinguished M.S. Thesis Award: Canadian Bio Resources Inc., 1977

Personal: Family, Interests, Hobbies:
I have been married to Sunita for 34 years, and we have two children, son Dr. Rahul Singh, Ph.D., and daughter Dr. Supriya Singh, Ph.D. We have been involved in professional and local community organizations. I enjoy visiting new places, and reading.
Advice to university students and career food scientists and technologists:
You can accomplish anything when you set your mind to it and never give up – perseverance is the key to success. Opportunities come and go, but you must be prepared to recognize the potential and take advantage.

Careers: Director of Scientific Affairs
(Contributed by Stephanie Masiello Schuette, Ph.D., National Dairy Council)

Introduction/Background: I am currently a Director of Scientific Affairs at the National Dairy Council (NDC), a non-profit organization founded by dairy farmers and funded through the national dairy checkoff program. NDC is committed to research and education about dairy’s role in healthy dietary patterns and sustainable food systems. NDC comprises a staff of registered dietitians, nutrition scientists, food safety researchers, environmental scientists, and communications experts across the US.

I received my B.A. in Classics with a minor in Mathematics from Bryn Mawr College. While at Bryn Mawr and thinking I wanted to head into large animal veterinary science, I took an unofficial ‘Pre-Vet’ track and volunteered with the University of Pennsylvania’s New Bolton Center working in the large animal NICU. Realizing that I wanted to know more about large animals prior to veterinary school then led me to Virginia Tech. I received my M.S. in Dairy Science, focusing on silage, on-farm management practices, and the incidence of Enterococcal mastitis in lactating dairy cows. While at Virginia Tech, I took an ‘Intro to Food Safety’ course and was hooked! This led my interests to move from the animal side of dairy to the product side, earning my Ph.D. at Cornell University in Food Safety and Technology with minors in Epidemiology and Communication. The combination of these fields was reflected in my doctoral work partnering with dairy farmers all over NY to explore associations between on-farm management practices and spore-forming bacteria levels in bulk tank milk. After graduate school, I moved to Chicago where I worked for the Chicago Department of Public Health in infectious disease surveillance, epidemiology, and research. In my current role, I use my dairy science, food safety, and public health background to share science-based information about dairy’s role in a sustainable food system.

Qualifications: This position requires a breadth of skills from the ability to translate scientific knowledge to various audiences to a background in research science to interpersonal and leadership skills. This job requires a Ph.D. as well as 3-5 years of work experience in a related discipline.

Positions: Prior positions include the International Food Information Council Sylvia Rowe Fellow, Senior Epidemiologist and Director of Program Operations at the Chicago Department of Public Health.

Duties: I am responsible for integrating information on food science and environmental science in the dialogue on sustainability. My specific emphasis is on the intersection of these areas with public health and food security. I provide strategic guidance to help NDC educate and inform scientific stakeholders of relevant dairy research through translation of scientific knowledge and development of outreach and education programs, such as
scientific symposia. I collaborate with different internal research teams and external research partners to provide insight into the role of dairy foods in sustainability. This position requires 25% travel for conferences and meetings.

**Salaries:** Salaries tend to vary based on education, previous experience, and duties.

**Benefits:** Full benefits are offered for a full-time position including medical and life insurance, short-term disability and 401K contributions.

**Conclusion:** This job is awesome because you work every day with scientists from other academic fields, learning from them and bouncing ideas off each other. If you like getting down into the weeds of an issue but can also fly up to the 30,000ft view of an issue, then food systems work is for you. Having the ability to practice communicating specific data as well as big picture goals make each day exciting. Finally, the best part of the job is working for the US dairy farmers. Seeing the passion they have for providing nutritious and responsibly-produced dairy makes the work rewarding.

**In Memoriam: Daniel Yee-Chak Fung, Ph.D.**

Professor Daniel Yee-Chak Fung, Ph.D., a Lifetime Member and President of Phi Tau Sigma for two terms (1997 and 1998), of Manhattan, Kansas, died December 1, 2019, at the Bramlage House at the Meadowlark Hills Retirement Community in Manhattan, after a long illness.

Daniel was born May 15, 1942, in Hong Kong, the fourth child of Francis Kien-Kong Fung and Beatrice Yiu-Yuk Wong. At 6 months of age, his family fled the Japanese invasion of Hong Kong to Kunming, China. After his father died in 1948, his family returned to Hong Kong, where he attended the prestigious Diocesan Boys' School. Following his preparatory education, he won a United Board Scholarship to study at the recently established International Christian University in Tokyo, Japan, where he earned a B.A. in 1965. His studies then brought him to the United States, where he earned an MSPH (University of North Carolina, Chapel Hill, 1967) and a Ph.D. (Iowa State University, 1969) with a groundbreaking dissertation entitled "Rapid methods for determining Staphylococcal Toxins and Salmonella associated with poultry products”, which inaugurated the field of Rapid Methods and Automation in Microbiology.

After a period on the faculty at Pennsylvania State University, in 1978 he began a 36-year tenure at Kansas State University in the Department of Animal Sciences and Industry, where he supervised 36 Ph.D. and 85 M.S. students, authored over 800 scientific publications, and chaired the KSU Food Science graduate program (1979-1987). He was founder and director of the International Workshop on Rapid Methods and Automation in Microbiology, which ran from 1981 to 2010 at KSU, and founder and editor of the Journal of Rapid Methods and Automation in Microbiology (1992-2009), as well as a Distinguished Professor at Universitat Autònoma de Barcelona. He was a Fellow of the American Society for Microbiology, Institute of Food Technologists, International Association for Food Protection, and Institute of Food Science and Technology, and recipient of numerous awards.
and honors. He published the books Instrumental Methods for Quality Assurance in Foods (with R.E. Matthews, 1991), and Handbook on Anaerobic Fermentations (with L. E. Erickson, 1988), as well as textbooks on food microbiology and food fermentation. He also received 3 patents.

Daniel is survived by his wife of 51 years Dr. Catherine Lee Fung; son Dr. Francis Fung and his wife Dr. Maria Fung of Westborough, MA; grandchildren Dessislava Fung of Melbourne, FL, Zlatomir Fung of New York, NY, Kaya Fung of Westborough, MA, and Plamen Fung of Westborough, MA; and sisters Yvette Yip of Toronto, Canada, Elaine Lo of Honolulu, HI, and Dr. Dixie Chua of Singapore.

Daniel was a prize-winning pianist, and also played many other instruments including the accordion, recorder, and ocarina. He was very proficient with foreign languages, and was particularly proud of his Japanese. He greatly enjoyed cooking, taught Chinese cooking classes, and self-published with his family a cookbook, Chinese Cooking Without Sweat. He was a long-time member of the Sunflower Lions Club of Manhattan and the Blue Valley Memorial United Methodist Church. He was well-known for his kindness, his indefatigable work ethic, and his cheerful, optimistic disposition. One of his great joys was serenading his Rapid Methods workshop participants at their annual Tuttle Creek picnic while playing his accordion and wearing a sombrero. For more information on Dr. Fung please visit http://jornades.uab.cat/workshopmrama/en/content/dr-fung-corner.

Funeral Services were held at Blue Valley Memorial United Methodist Church, 835 Church Avenue in Manhattan on Thursday, December 5, 2019, at 2 PM. Interment followed at Sunrise Cemetery.

Memorial donations may be made to the Sunflower Lions Club of Manhattan and the Blue Valley Memorial United Methodist Church, marked “in memory of Daniel Y. C. Fung”. Contributions may be left in care of the Yorgensen-Meloan-Londeen Funeral Home, 1616 Poyntz Avenue, Manhattan, Kansas 66502.

Online condolences may be left for the family through the Yorgensen-Meloan-Londeen Funeral Home website at www.ymlfuneralhome.com

[Modified from: http://www.ymlfuneralhome.com/obituary/6386]

Editor’s Comments: Dr. Fung was featured in the May 2011 Lifetime Member Tribute. As part of that article he wrote:

Why did you become a Lifetime Member?: To be a Phi Tau Sigma Lifetime Member is to have complete confidence and faith in the ideals and goals of Phi Tau Sigma and a commitment to promote and preserve the organization forever!!

Advice to university students and career food scientists and technologists: To be successful in any pursue one must pull all the stops and be the best one can be. Never be afraid of failure when one tries his/her very best. The reward will come for those who shoots for the Stars.

Dr. Fung was a phenomenal microbiologist and scientist. On a personal note, he was one of the only two people that could ever beat my Dad (Anthony W. Kotula, Ph.D.) at table tennis. He will be missed.
In Memoriam: Lloyd B. Bullerman, Ph.D.

Lloyd B. Bullerman, Ph.D., 80, emeritus professor of food science, microbiology and food safety, of Sioux Falls, South Dakota, died November 25, 2019.

Dr. Bullerman served for 40 years as a faculty member at the University of Nebraska–Lincoln. The son of Leonard and Alma (Voss) Bullerman, he was born June 20, 1939, in Adrian, Minnesota. Bullerman attended and graduated from Our Lady of Good Counsel High School in Wilmont, Minnesota, and earned bachelor’s and master’s degrees from South Dakota State University.

After marrying Kathleen Persing on July 30, 1960, Bullerman went on to earn a doctorate in food science with an emphasis on microbiology and food safety from Iowa State University. He worked in research and development for Green Giant Foods in Le Sueur, Minnesota, for two years before becoming a member of the Nebraska faculty. Dr. Bullerman’s work on campus focused on teaching food science, microbiology and food safety courses. He was also one of three Nebraska researchers who developed a technique to irradiate bread that was used in NASA missions. (https://news.unl.edu/newsrooms/today/article/nebraska-space-bread-helped-launch-food-science-program/)

Lloyd was a North American representative to the International Association for Food Protection, where he earned numerous awards. He also served as scientific editor for the Journal of Food Protection and was recognized with the International Association for Food Protection’s Honorary Life Membership in 1995.

Lloyd was a member of Holy Spirit Catholic Church in Sioux Falls and was a charter member of St. Joseph Catholic Church in Lincoln. He had a special love for fishing that he shared with his family and was a lifelong popcorn connoisseur.

Dr. Bullerman was preceded in death by a grandson, Bradley Flores; his parents; stepfather, James Moritz; brothers, Lorne and Wayne Bullerman; and a grandson-in-law, Cade Stensland. Dr. Bullerman is survived by his wife, Kathy; four children, Lisa Flores of Wilmont, Mike and Michelle Bullerman of Aurora, Nebraska, Lori and Skip Romans of Lismore, Minnesota, and Mark Bullerman of Lincoln; 12 grandchildren; three great-grandchildren; brother, Miles Bullerman; two sisters-in-law, Lois and Jean Bullerman; and many other relatives and friends.

Services were November 30, 2019 at Holy Spirit Catholic Church in Sioux Falls, with entombment on December 2, 2019 at Calvary Catholic Cemetery and Mausoleum in Lincoln.

[Modified from: https://news.unl.edu/newsrooms/today/article/obituary-lloyd-b-bullerman/]
In Case You Were Wondering...
In search of Daenerys Dragons and Otzi, the Iceman
(Contributed by Tom Aurand, Ph.D., Lifetime Member)

Fall is always a good time to travel after the tourist crowds have headed home and just the dedicated travelers are on the road. Upon spying a round trip ticket from JFK to Rome for just 28,000 miles, we decided that a fall trip to Italy, Croatia and Austria would be prefect.

Using Rome as the gateway and wanting to stay away from the tourist hotels, we found a nice “guest house” in the Ostiense area of Rome. Very convenient to the Metro and the rail system, it was a perfect neighborhood to explore the lesser known areas of Rome. Nearby were several fresh markets, including Eataly, similar to the one in Chicago with 3 floors of food markets selling fish, cheese, and meat. Of course, the wine market took up close to a full floor on its own. The Mercato Testaccio was the local’s market which took up a full block and had the usual food stalls and restaurants. Fabulous eating and foodie pleasures. Nearby was Mont Testaccio, a hill built by the Romans as they discarded their amphoras that transported olive oil and wine into ancient Rome. The hill, located beside the Tiber River and the ancient port for Rome, is reported to hold millions of broken amphora and other transportation vessels. Just as we were getting our bearings in this section of town, it was time to move on to Croatia's Dalmatian Coast in search of dragons.

Dubrovnik was a short plane ride from Rome and is an ancient city on the Adriatic coast of Croatia. It was the location for many of the scenes from the Game of Thrones series and the filming location for many scenes of Kings Landing, Capital of Westeros. It is a wonderful old city but even in October, swamped with tourists as the tour boats came to disgorge their passengers early in the day and return them to the cruise ships by 3:00pm. Once the tour boats left, the town was a little less crowded but very tourist oriented. We had a wonderful AirBnB just outside the City walls and it overlooked a nice secluded cove perfect for swimming with the locals. We did learn fast that the locals' modesty was a little less than we were used to, so you learn to go about your business, don't look, and enjoy the swim.

The next stop was the old city of Split, home of Roman emperor Diocletian’s Palace, built in 305 AD.
After the fall of the Roman empire, the local population used the palace as the foundation to build their houses and the city of Split. Today, the former palace is outlined by the “old city” and one can explore the narrow streets and parts of the old palace to imagine what it was like to be a Roman Emperor. The “storage rooms” of the palace were huge and used as the backdrops for the lair where Daenerys kept her dragons in The Game of Thrones series. These storage rooms represented amazing Roman engineering.

Besides the exploration of the city by day, it came alive at night with a host of restaurants, live entertainment on the promenade and tourists exploring the back streets of the old town. What a pleasant city.
The next stop on the circuit was the capital of Croatia, Zagreb. There was a very pleasant surprise with the local farmers market with a host of local vegetable, fruits and cheese from local producers.

There was also the discovery of the regional condiment, ajvar, a pureed mixture of roasted eggplant, red peppers and spices that accompanied most meat dishes. Really a wonderful condiment that we enjoyed by itself.

From Zagreb we caught the train to Vienna which was a fabulous scenic ride through the Croatian/Austrian mountains. We shared the seven-hour train ride with a Croatian entrepreneur who was living in Vienna. It was a 7-hour conversation ranging from the food industry to the political climate in the US to starting a business in Austria. During the ride, Patrick pointed out many sites along the route including the hometown of Melania Trump, Sevnica. A very small town where the train stopped for barely 3 minutes.

One of the best stops on the trip was the city of Salzburg, Austria. With its impregnable fortress on top of a mountain, Salzburg controlled the salt trade in Europe for close to a millennium. The scenery was fantastic and the beginnings of the Austrian Alps. The old town was very quaint with narrow streets and old world charm with the feeling of being the hometown of Mozart. No visit to Salzburg is complete without going to the Mirabell Palace and seeing the gardens and the setting for the Sound of Music.
While we wanted to stay a while longer in Salzburg, the trip beckoned to move along to the next stop, Bolzano, Italy. The four hour train ride through the Austrian and Italian Alps was spectacular. While enjoying the scenery, it would disappear as the train entered the numerous tunnels along the route.

Bolzano, Italy is a town nestled into the Italian Alps and home to Otzi, the iceman. Bolzano had a very nice fresh market where it appeared that the locals were shopping for fresh produce for the day. There was a gondola that took tourists up to the top of the mountain where there were summer homes sprinkled across the mountain top. A very interesting stop was the museum devoted to Otzi, the Bronze Age mummified man that was found in a glacier in the mountains. There has been a huge amount of research done on the man now called Otzi and it appears that he was a victim of a homicide 5000 years ago. Why? No one will ever know. But the artifacts found with him and analysis of the mummy has opened a new broader understanding of Bronze age man.
The Bolzano culinary scene was a mixture of Italian and Austrian cultures. There was the expected butcher's shop with a wide assortment of cured meats while the meals would range from smoked cheese with grilled vegetables to a hearty Austrian meal of meat and potatoes. What a great town.

Leaving Bolzano it was a nonstop train ride to Rome where we spent a few more days exploring the tourist attractions of Rome as well as the non-tourist areas of town. One of the first stops was to find a local café that would serve just vegetables and maybe a pizza since the food in the Alps was meant to “stick to your bones”. A little caprese salad and a pizza hit the spot.

We were just beginning to fully understand how to get around Rome on public transportation when it was time to head home. What a wonderful three and a half weeks traveling around Europe.
Dues Reminder:

Your dues status is listed in the cover email of this Newsletter. If you have not already paid your dues, Phi Tau Sigma Member dues are $40 per year, but students get a discount so their dues are $20 per year. Lifetime Membership is $400 (just once). Please access the Phi Tau Sigma Membership Dues Page at: http://www.phitausigma.org/membership-dues/. Proceed on to pay by PayPal. Once you are successful with your PayPal payment, you will receive a receipt. If you do not receive a receipt, please try again.

Dues can also be paid by check payable to Phi Tau Sigma, (made with U.S. Funds and drawn on a U.S. Bank). (Do not send a money order.) Do not write the check to Kantha. Mail your check to: Kantha Shelke, Ph.D. (Do not address to Phi Tau Sigma.)
33 West Ontario, Suite 57F, Chicago, IL 60654.

You are welcome at any time to give a donation to the Dr. Carl R. Fellers Award Fund, the Dr. Gideon “Guy” Livingston Scholarship Fund, Phi Tau Sigma Student Achievement Awards Fund, Phi Tau Sigma Special Recognition Award Fund, Dr. Daryl B. Lund International Scholarship Fund, Phi Tau Sigma Founders’ Scholarship, Phi Tau Sigma Chapter of the Year Award, the Program Fund, or the General Fund.

We also ask each Chapter to send a list of their current, and lapsed, members along with contact information to the Chapter Affairs Committee Chair, Claire Koelsch Sand, Ph.D. at: clairekoelschsand@gmail.com, to help ensure our records are accurate.

Phi Tau Sigma Store

Phi Tau Sigma has an online store. Items featured include Honor Cords, Official Lapel Pins, Banners (podium and wall/table), Annual and Lifetime Member dues, printed Certificates of Membership, and an opportunity to make tax deductible donations to Phi Tau Sigma. The Society Store can be found by going to www.phitausigma.org/store.

Editorial: Another Year

We have started another year, and another decade. So, when asked for 5 initial thoughts to start the decade:

- Always be kind.
- Embrace opportunities.
- Be responsible and respectful.
- Live life today in such a way that there will be no regrets later.
- Have a cheerful, optimistic attitude.
- Be prepared: look ahead, plan ahead.
- Be prompt.
- Help others.
- Do your best.

(Yes, I know that is more than 5, but that works into: Always give more than what is required.)
**About Phi Tau Sigma Communications:**

The Phi Tau Sigma Newsletter Committee includes: Kathryn Kotula, Ph.D., Editor-in-Chief, Chair (klkotula@msn.com), Claire Zoellner, Ph.D., Associate Editor (cez23@cornell.edu), Anthony W. Kotula, Ph.D., Hossein Daryaei, Ph.D., Tianxi Yang, Ph.D., and Yiren Yue, Ph.D., Laura Stawn, Ph.D., Diane Schmitt, Ph.D., Gabriela John Swamy, Ph.D. Please be responsive to their inquiries for information for the Newsletter.

The Newsletter Committee particularly wishes to share news from Phi Tau Sigma Members and Chapters. Any items for the monthly Phi Tau Sigma Newsletter should be emailed in Word to Editor Kathryn L. Kotula, Ph.D. at klkotula@msn.com or Associate Newsletter Editor Claire Zoellner, Ph.D. at cez23@cornell.edu. Write “Phi Tau Sigma Newsletter” in the subject line. Please provide the information by the 1st of the month. Thanks.

**Documents:**

Phi Tau Sigma Documents can be found on our website at: www.phitausigma.org.

Phi Tau Sigma Membership Nominations
http://www.phitausigma.org/membership-nomination-2020-doc/

Phi Tau Sigma Scholarships and Awards Forms
http://www.phitausigma.org/awards/

Phi Tau Sigma Constitution and By-Laws
http://www.phitausigma.org/constitution/
http://www.phitausigma.org/bylaws/

Phi Tau Sigma Mentorship Program
http://www.phitausigma.org/mentorship/

Every Member Get A Member Campaign
http://www.phitausigma.org/growing/

**Why I Contribute to Phi Tau Sigma:**

Phi Tau Sigma’s focus is to recognize the outstanding achievements and leadership skills of exceptional students and professionals in food science and technology. Contributions to Phi Tau Sigma ensures the innovative efforts of food science research carries over into the next generation. Phi Tau Sigma mentors, awards, and educates the best and the brightest in the field. I donate every year to help deliver those goals for humanity. Mary K. Schmidl, Ph.D.
**Donors, Sponsors, and Contributing Partners:**

Phi Tau Sigma accepts donations and has a variety of available sponsorship opportunities.

Phi Tau Sigma is a non-profit 501(c)(3) charitable organization, so your contributions are tax deductible to the extent provided by U.S. law.

Donations and sponsorships may come from, but are not limited to, Corporations, Companies, Universities, Government agencies, Associations, Consultants, and individuals.

Contributions are appreciated in any amount, and can be made by way of the Phi Tau Sigma website (http://www.phitasigma.org/sponsor/). Donations by check can be made by contacting: Treasurer Kantha Shelke, Ph.D. (kantha@corvusblue.net), 33 West Ontario, Suite 57F, Chicago, IL 60654. Please write “Donation” or “Sponsorship” in the subject line.

Contributions of $500 or more will be recognized publicly by the Society at the annual meeting, on the Phi Tau Sigma website, in printed material associated with relevant programs and events, and in the Phi Tau Sigma monthly Newsletter. Sponsorships of awards and scholarships are also available at levels of contribution sufficient to cover the associated cost of the award or scholarship. Endowments are also accepted.

Sponsorship opportunities are available for the Phi Tau Sigma Annual Recognition Event, Phi Tau Sigma Special Recognition Award, Phi Tau Sigma Student Achievement Award (up to 3 will be awarded), the Dr. Gideon “Guy” Livingston Scholarship Fund, the Phi Tau Sigma Founders’ Scholarship, the Dr. Daryl B. Lund International Scholarship Fund, and the Phi Tau Sigma Outstanding Chapter of the Year Award. Donations can be made towards the awards and scholarships listed above, as well as the Program fund and the General fund. There are also endowment opportunities for student scholarships named for the sponsoring company.

Phi Tau Sigma has a **Contributing Partners Program** with five levels of sponsorships as described below. The Contributing Partner receives all of the benefits in the previous levels, plus the addition of the benefit listed for that level.

**Bronze ($5,000)**
- Company listing in the “Donors and Sponsors” section of the Phi Tau Sigma Newsletter.
- Recognition with company name on [www.PhiTauSigma.org](http://www.PhiTauSigma.org)
- Prominent recognition at all major Phi Tau Sigma events

**Silver ($10,000)**
- Bronze benefits.
- Posting your company’s job openings and internships in the Phi Tau Sigma Newsletter.

**Gold ($15,000)**
- Silver benefits.
- Acknowledgement of sponsorship and placement of corporate logo on plaque or scholarship/award memorabilia.

**Platinum ($20,000)**
- Gold benefits.
• A press release associated with significant contributions, distributed to allied professional and trade associations for circulation to their membership via their publications, e-news and/or listservs.
• Complimentary access to student resume database.

**Diamond ($25,000)**

• Platinum benefits.
• Prominent multi-year listing on the Phi Tau Sigma website as a sponsor of an Endowed Program.

Some corporations will match individual contributions of their employees, so check with your company about matching funds.

For more information contact the Treasurer, Kantha Shelke, Ph.D. (kantha@corvusblue.net), or the Executive Director, Kathryn L. Kotula, Ph.D. (klkotula@msn.com). Please write "Donation" or "Sponsorship" in the subject line.

**2019-2020 Contributing Partners:**

**Hawkins, Inc.** is a progressive concern that manufactures and distributes specialty chemicals and provides functional solutions for a wide variety of industries. The Food Ingredients Group is a leading manufacturer of innovative pathogen control technologies and ingredients for the food industry. The formation of Ingredient Works, an entity conceived to capitalize on expertise in functional ingredient applications, food industry knowledge, technical service, and an extensive product portfolio, is focused on the comprehensive science of shelf-life, providing customized solutions to both the common and the highly complex issues faced every day by food manufacturers. The ultimate goal for the Hawkins Food Ingredient Group is to re-define the concept of shelf life and become a complete solution provider to the food industry. (Contribution to support the Phi Tau Sigma Founders’ Scholarship, and the Phi Tau Sigma general fund.) **Hawkins, Inc. is a Bronze level Contributing Partner.**

**2019-2020 Sponsors and Donors:**

**Dr. Mary K. Schmidt** is the President of the International Union of Food Science and Technology (IUFoST), a Lifetime Member and a past President of Phi Tau Sigma, a Past President of the Institute of Food Technologists (IFT) and Adjunct Professor, University of Minnesota.

**Dr. Theodore P. Labuza** is a Lifetime Member of Phi Tau Sigma, a Past President of the Institute of Food Technologists (IFT) and the Morse Alumni Distinguished Teaching Professor of Food Science and Engineering, University of Minnesota.

**Dr. Fergus Clydesdale**, a Lifetime Member of Phi Tau Sigma, is the Distinguished Professor and Director of the UMass Food Science Policy Alliance, University of Massachusetts Amherst and a member of Phi Tau Sigma since the 1960’s.
Dr. Rakesh K. Singh is the Past President of Phi Tau Sigma, a Lifetime Member; and is Professor and Head of Department of Food Science & Technology at the University of Georgia. He is also a Fellow of IFT and Editor-in-Chief of LWT – Food Science and Technology. (Sponsorship of a Phi Tau Sigma Student Achievement Scholarship.)

Dr. Daryl and Mrs. Dawn Lund. Dr. Lund is past President of Phi Tau Sigma, Lifetime Member, past Treasurer, current Assistant Treasurer, and an Emeritus Professor, University of Wisconsin-Madison. (Sponsorship of the Dr. Daryl B. Lund Student International Travel Scholarship.)

Peter M Salmon, M.S., MBA, a Lifetime Member of Phi Tau Sigma, is the Founder and President of International Food Network, Inc., currently retired. (Sponsorship towards a Phi Tau Sigma Student Achievement Scholarship.)

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William Benjy Mikel, Ph.D., a Phi Tau Sigma past President and a Lifetime Member who appreciates the field of food science and technology. (Donation towards a Phi Tau Sigma Student Achievement Scholarship.)

Nina Teicholz, M.Phil. is an adjunct professor at New York University, investigative science journalist and author. Her international bestseller, The Big Fat Surprise has upended the conventional wisdom on dietary fat–especially saturated fat. The executive editor of “The Lancet” wrote, “this is a disquieting book about...ruthless silencing of dissent that has shaped our lives for decades ... researchers, clinicians, and health policy advisors should read this provocative book.” The Big Fat Surprise was named a 2014 *Best Book* by The Economist, the Wall Street Journal, Forbes, Mother Jones, and Library Journal. Teicholz is also the Executive Director of The Nutrition Coalition, a non-profit group that promotes evidence-based nutrition policy. She is a graduate of Stanford and Oxford Universities and previously served as associate director of the Center for Globalization and Sustainable Development at Columbia University. Teicholz is the only journalist to date to be elected to Phi Tau Sigma. (Sponsorship of the Phi Tau Sigma Special Recognition Award, and Phi Tau Sigma programs.)
David K. Park, M.S., Phi Tau Sigma Lifetime Member, is Principal, Food-Defense, LLC, providing expert food safety / food defense, USFDA and USDA-FSIS Process Authority consultation for thermal and non-thermally processed low acid canned foods (LACF), acidified foods (AF), and refrigerated extended shelf life foods (ESL) and their packaging systems. (Donation towards a Phi Tau Sigma Student Achievement Scholarship.)

Dr. Catherine Adams Hutt and Peter Barton Hutt, Phi Tau Sigma Lifetime Members. Catherine is food safety and regulatory consultant and expert witness with RdR Solutions, and Peter is an attorney with Covington and Burling. Both are IFT Fellows. (Donation for the Dr. Gideon “Guy” Livingston Scholarship)

A donation was made towards a Phi Tau Sigma Scholarship by a Phi Tau Sigma Lifetime Member who wishes to remain anonymous.

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