News:

Dr. and Mrs. Daryl Lund – Silver Contributing Partner to Phi Tau Sigma (Contributed by Dr. Daryl B. Lund, Lifetime Member)

Dawn and I have enjoyed the opportunity to travel abroad extensively during my professional career. We have appreciated the insights we have gained in visiting and living in different cultures. We realize that not everyone has these opportunities, especially if the person is in his or her academic studies. As result, we have established the endowment for the Dr. Daryl B. Lund Student International Travel Scholarship which encourages international travel in support of food science and technology research.

Interested in becoming a Contributing Partner or other significant donor to Phi Tau Sigma? Read the "Contributing Partners" article below or the "Sponsors and Donors" section.

New: Phi Tau Sigma/AMSA Research with Impact Scholarship

The Future Directions Committee is proud to announce that the Boards of Directors from Phi Tau Sigma and the American Meat Science Association (AMSA) have mutually approved the formation of a joint scholarship. The new scholarship – the Phi Tau Sigma/AMSA Research with Impact Scholarship – was established to emphasize the importance of original research; research carefully designed and executed to solve vexing problems of the meat/food industry. The scholarship (a plaque and $2000 honorarium) will be awarded to a student Member or recently graduated Member of the American Meat Science Association whose research has had or is expected to have a practical and meaningful application; a significant impact.
The Phi Tau Sigma/AMSA Research with Impact Scholarship was inspired by the career and contributions of Dr. Anthony W. Kotula to the meat science community. Dr. Kotula, an AMSA member since 1967 and Phi Tau Sigma Lifetime Member, conducted research for the USDA Agricultural Research Service in Beltsville, MD for 38 years, first in poultry research, then 25 years as the Research Leader of the Meat Science Research Laboratory prior to his retirement. Among his many honors and achievements, Dr. Kotula was the 2003 recipient of the R. C. Pollack Award, the highest honor presented by AMSA, the 2013 Phi Tau Sigma Special Recognition Award, and is a 2020 inductee to the Meat Industry Hall of Fame. Dr. Kotula credits his emphasis on original research to the example of his M.S. advisor, Dr. Carl R. Fellers. Dr. Fellers was Chair of the Food Technology Department at the University of Massachusetts and was instrumental in the formation of Phi Tau Sigma in 1953. Dr. Fellers practiced and instilled the concept that research should solve problems and have significant practical application.

Initial funding for the award has been established through contributions from a Phi Tau Sigma Contributing Partner (Hawkins, Inc.) and donors. The inaugural award will be presented at the AMSA Reciprocal Meat Conference in August 2021. Additional funding is being solicited in an effort to establish a designated, self-sustaining endowment for the Phi Tau Sigma/AMSA Research with Impact Scholarship.

Donations can be made by going to the Phi Tau Sigma Donate page: http://www.phitausigma.org/donate/ and clicking the yellow button. Please indicate that the donation is for the Phi Tau Sigma/AMSA Scholarship. (Or send an email as to your intent to Kathryn L. Kotula, Ph.D. klkotula@msn.com. Kathy can also be reached for questions. Write “Scholarship” in the subject line.)

The scholarship nomination form can be found at: http://www.phitausigma.org/awards/

The deadline for submitting nomination materials is April 19. Nomination materials should be submitted to the Executive Director of Phi Tau Sigma (klkotula@msn.com) and the AMSA Youth Programs Manager (scholarships@meatscience.org).

Award and Scholarship Deadline Approaching

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 Charlwit Kulchaiyawat, Ph.D., Awards Committee Chair, at: charlwit.kulchaiyawat@fosterfarms.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 hints:** (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: GIVING SEAMLESSLY**

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

Phi Tau Sigma is a registered charity with Amazon Smile, a simple and automatic way for you to support Phi Tau Sigma every time you shop online. And, it costs you nothing.

Instead of logging into Amazon, log into Smile.Amazon.com, and you’ll find the very same prices, selection and convenient shopping experience as Amazon.com. The bonus is that if you choose Phi Tau Sigma as your charity of choice when you shop on AmazonSmile, Amazon will donate 0.5% of your qualifying purchases. It’s truly a seamless way to support our endowment fund.

If you have not already done this, I encourage you, when you next visit AmazonSmile (smile.amazon.com), to select Phi Tau Sigma as your charitable organization of choice, so Phi Tau Sigma can receive donations from eligible purchases.

Amazon Smile can also be set up on the Amazon mobile app. Instructions to do this can be found at:  [https://www.amazon.com/b?ie=UTF8&node=15576745011](https://www.amazon.com/b?ie=UTF8&node=15576745011).

You only have to select Phi Tau Sigma once and AmazonSmile will remember your selection and will make a donation to our account for every eligible purchase you make at smile.amazon.com.
**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 Charlwit Kulchayawat, Ph.D. (charlwit.kulchayawat@fosterfarms.com) and Executive Director Kathryn L. Kotula, Ph.D. (klkotula@msn.com). (More information: http://www.phitasigma.org/awards/)

---**December 7:** 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 – AMSA ‘Research with Impact’ Scholarship Schedule:**

April 19: Deadline to submit nominations for the Phi Tau Sigma – AMSA Research with Impact Scholarship.

Send completed nomination forms to Executive Director Kathryn L. Kotula, Ph.D. (klkotula@msn.com), and the AMSA Youth Programs Manager Rachel Adams, M.S. (radams@meatscience.org). (More information: http://www.phitasigma.org/awards/)

---**Phi Tau Sigma Chapter Schedule:**

October 25: 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, Terri Boylston, Ph.D., (tboylsto@iastate.edu), 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
Student Research Synopsis: Development of A Gastric Simulation Model (GSM) Incorporating Gastric Geometry and Peristalsis for Food Digestion Study
(Contributed by Yiwen Li, Ph.D. Student under the direction of Prof. Fanbin Kong, Department of Food Science & Technology, University of Georgia)

Adapted from published work: Li, Y., Fortner, L., & Kong, F. (2019). Development of a Gastric Simulation Model (GSM) incorporating gastric geometry and peristalsis for food digestion study. Food Research International, 125, 108598.

Introduction: There has been growing interest in developing in vitro gastric models as an alternative to in vivo test, which is challenging ethically and financially. Of these, different dynamic gastric models were developed to incorporate contractive forces, e.g., the TIMagc developed at TNO Nutrition and Food Research (Zeist, The Netherlands)\(^1\), the Gastric Digestion Simulator (GDS) invented by National Food Research Institute, NARO (Japan)\(^2\), the Human Gastric Simulator (HGS) designed in University of California, Davis (USA)\(^3\), etc. Despite their applications in pharmacological, nutrition, and food processing assessments related to gastric digestion, the accurate reproduction of geometry and motility of the stomach is extremely difficult to achieve.
**Objective & Methods:** The study aimed to develop a new Gastric Simulation Model (GSM) reproducing the geometry and peristalsis in a way similar to *in vivo* data. The schematic of the GSM is shown in Fig. 1. The chamber is equipped with a series of syringes squeezing the inner stomach walls pneumatically driven by a ladder logic programed control system. A sum of 11 sets of syringes are equipped at different sites from fundus downward to pylorus, while each set of syringes is distributed circumferentially at the specific site. Each set of syringes works simultaneously sharing the same gas delivery wire, while different sets can work independently according to the control panel. To accomplish the remarkable motility characteristics in stomach, the length, amount and position of those syringes are well designed to fabricate the unique contractions at different regions. Other physiological conditions, i.e., acid and enzyme secretion, electrolytes, body temperature are also carefully induced for more relevant *in vitro-in vivo* correlations (IVIVC). Experiments were performed to investigate the digestive behavior of cooked sausage in GSM and a shaking flask under contraction. Furthermore, the transit behavior, mixing and gastric emptying of water-soluble nutrient (methylene blue) and nondigestible solids (amberlite beads) affected by chyme viscosity at different guar gum systems (0%, 0.2%, 0.4%, 0.6%, 0.8%, 1% guar gum solution, m/v) were investigated.

![Figure 1. Schematic of Gastric Simulation Model (GSM): 1 Latex stomach chamber; 2 Elbow-shaped acrylic vessel; 3 Syringes; 4 Multiple sets of syringes surrounding the stomach chamber.](image)

**Results:** By incorporating a series of syringes squeezing the stomach chamber pneumatically, the stomach model successfully reproduced the peristaltic contraction of stomach wall concerning the range, frequency and trends of contractions, creating similar patterns of mechanical forces as *in vivo* (shown in Table 1). The size of sausage particles in both methods tended to shift to be smaller, but the extent differed a lot. Significant disintegration occurred in GSM due to the physical squeezing and crushing compared with chemical erosion predominant in flask shaking system. Additionally, it showed that the viscosity of the gastric digesta significantly affected the local flow and emptying behavior of nutrients and solids. The more viscous system (0.6% guar gum solution) was found to be emptied through a shortcut—a narrow path from fundus and resulted in faster gastric emptying. The effect of viscosity on emptying of indigestible solids was also found to be determined by diffusion rate, suspension and flow resistance (data not shown here).
Table 1. Behavior of GSM and the in vivo findings in the literature.

<table>
<thead>
<tr>
<th>Gastric Simulation Model (GSM)</th>
<th>In vivo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration (Size, volume and shape)</td>
<td></td>
</tr>
<tr>
<td>The stomach incorporates cardia, fundus, corpus, antrum and pylorus, with a volume of 600 mL.</td>
<td>The stomach is divided into fundus, body, and pylorus (pyloric antrum and pyloric canal).</td>
</tr>
<tr>
<td>The diameter of the pylorus is 1 cm.</td>
<td>The stomach can expand from 0.08 L as empty state to hold up to 4 L of food.</td>
</tr>
<tr>
<td>Wall thickness is 2 mm on average.</td>
<td>The pyloric ring diameter is 1 cm or less.</td>
</tr>
<tr>
<td>The stomach is around 20 cm long and 10 cm wide at the widest point of the corpus.</td>
<td>The mean wall thickness is around 2 mm.</td>
</tr>
<tr>
<td>The stomach is overall “J” shaped and the antrum is a shrinking cylindrical shape.</td>
<td>A stomach of a healthy subject was reconstructed from MRI volume scan and presented as around 16 cm long and 11 cm wide at the widest point of the corpus after ingestion of 500 mL of liquid meal.</td>
</tr>
<tr>
<td>Intragastric pressure</td>
<td></td>
</tr>
<tr>
<td>Reaching up to 67.75 mmHg at terminal antrum.</td>
<td>Maximum intragastric pressure was reported as 60.5 ± 8.9 mmHg for liquid food and 53.6 ± 8.4 mmHg for solid food.</td>
</tr>
<tr>
<td>Motility patterns</td>
<td></td>
</tr>
<tr>
<td>Peristalsis occurs with a frequency of 3 per minute.</td>
<td>Peristalsis of roughly 3 per minute was detected in MRE and manometry studies.</td>
</tr>
<tr>
<td>2 peristalsis occur at all times.</td>
<td>2 or 3 peristalsis occur at any time.</td>
</tr>
<tr>
<td>The contractions indent the greater curvature more than the lesser curvature.</td>
<td>X-rays examination showed that deeper contractions appeared on the greater curvature than on the lesser curvature.</td>
</tr>
<tr>
<td>Peristaltic contractions grow deeper as they propagate distally to the pylorus.</td>
<td>X-rays observed that peristalsis deepened as it travelled distally.</td>
</tr>
</tbody>
</table>

Significance: The GSM was able to provide a closer physiological relevance to mimic the human digestion process. In particular, the distribution, amplitude and frequency of peristaltic contractions demonstrated similar patterns as in human gastric conditions. The model could be used to study physiochemical changes of gastric contents that occur during digestion, and the influence of physiological conditions, including acid and enzyme secretion, as well as disintegration kinetics of foods constituents and nutrient or drug delivery and release under the realistic gastric model simulation system.

References:
Leadership and Career Advice
(Contributed by: Dr. Mindy Brashears, USDA Under Secretary for Food Safety)

As a former food safety professor at Texas Tech, one of my favorite aspects of the job was mentoring students. Nothing is more rewarding than to see students who you have mentored over the years succeeding in their own careers — presenting next to you at conferences — and knowing that your influence helped to get them there.

My current role as the Under Secretary for Food Safety at the U.S. Department of Agriculture (USDA) has given me yet another perspective on leadership. You never reach a point in your career where you stop learning, and I have enjoyed applying my scientific training and academic background to new challenges that I face in this position.

In the spirit of mentorship, I would like to share the top 10 most important lessons that I have learned over the course of my career in food safety.

1. Never burn bridges.
2. Meet as many people you can and have a story that makes you stand out.
3. Do not be afraid to approach influencers.
4. Social media posts can be your friend or enemy; never believe your own press (good or bad).
5. Every experience becomes a tool in your toolbox; you never know when you will need that tool.
6. You have a RESPONSIBILITY to those you lead — take it seriously. You are always leading someone whether you know it or not.
7. Leadership is not about a title — it is about a posture. Sometimes you will face situations for which you are unprepared. Your reaction and your posture will separate you as a leader or follower.
8. Always invest your time in developing the next generation of leaders. Your time as a leader is limited, and the goal is for the long-term success of the organization.
9. Do not let fear and “what ifs” keep you from making the right decision.

My last piece of advice is to say “yes” to new adventures. Saying “yes” to new adventures is what led me to a career in food science and eventually to my position as Under Secretary at USDA. If you are open to the unexpected opportunity, your career may take you to places that are more impactful than what you originally had in mind.
Lifetime Member Tribute: Chris R. Calkins, Ph.D.
Professor of Animal Science, University of Nebraska - Lincoln

Why did you become a Lifetime Member?
My professional associations have proven invaluable in my career, whether it's seeking advice, knowledge, and guidance or just making great friends. Phi Tau Sigma was among the first organizations I joined as a graduate student and I wanted to support an organization that puts students front and center. In the long run, I hope others will benefit, as I have, from the professional relationships.

Education:
1976 B.S. Animal Science; Texas A&M University
1978 M.S. Food Technology and Science, University of Tennessee

Experience/Accomplishments:
I have spent my entire professional career on the faculty at the University of Nebraska, moving from Assistant to Associate to Full Professor. For over 15 years I held the Nebraska Beef Industry Professor of Animal Science (Endowed Chair). During my career, I had the honor to serve as President of the American Meat Science Association.

My research accomplishments include the beef muscle profiling initiative, which lead to the flat iron steak, petite tender, and numerous other cuts. This was a great example of collaboration. We also studied the effects of feeding various forms of distillers grains on meat quality as well as consumer valuation of beef flavor. Recently, our work with dry aging of beef has taken on a new dimension as we seek to bring science to that art. Other projects include use of hyperspectral imaging to classify beef for tenderness, postmortem biochemistry (as influenced by oxidative stress), and frozen meat color.

Areas of Expertise:
Meat quality, palatability, tenderness, color
Beef fabrication
Meat evaluation
Dry aging

Awards and Honors (selected list):
University of Nebraska system-wide Innovation, Development, and Engagement Award
American Meat Science Association Research Award
American Society of Animal Science Meat Research Award
American Society of Animal Science Industry Service Award
Meat Industry Hall of Fame
North American Meat Processors Association - Educator of the year

Personal: Family, Interests, Hobbies:
My wife, Ellen and I have two daughters and a granddaughter. I enjoy running, although I've dropped from marathons to half-marathons. I also enjoy traveling and getting to know people of different cultures in different countries. And I am a compulsive reader.
Advice to university students and career food scientists and technologists:
It’s been said that life is a journey, not a destination. **Enjoy the Journey.** I remember as an undergraduate I was with a judging team and we ended up in an entertainment venue I didn’t like. Not my kind of place. I was whining and my friend said to me “We have to be someplace. I’m going to have fun wherever that is.” It changed my attitude. You can have fun and enjoy yourself in many places. It’s all about how you choose to react to the situation.

My next bit of advice I got from Dr. Mindy Brashears, USDA Undersecretary for Food Safety. She says to **Say Yes to the Adventure.** That’s a great way to say that you should be open and willing to new experiences. In fact, it supports my next tip - **Be Intentional about Gaining Experiences and Expanding Your Tool Box.** You never know when you will use skills and knowledge you pick up along the way. It just makes sense to actively seek to expand your skills as you go along in your career. In truth, most jobs change with the times. Talents and skills that contribute to success today might not be the ones that are needed tomorrow. Don’t be narrow minded about what you are able to do.

Throughout your career, you will be working with others. You don’t always get the chance to select who they will be. Think about teammates you have had in the past. The best ones engaged in the task, contributed openly and honestly, reliably executed their assignments, and helped others with theirs. There are very few jobs where you go it alone. **Be the Best Teammate You Can Be.**

Finally, today’s times make it especially important to **Stay Healthy.** Not just in how you react to the pandemic. Make it a lifestyle choice. Being fit and watching what we put into our bodies pays big dividends in the long run.

**Careers: Food Designer**  
Contributed by Kelley Putt, M.S., Kellogg’s

**Introduction/Background:** My current role is Associate Food Designer on the Portable Wholesome Snacks team at Kellogg’s, where I’ve worked for the last 3.5 years. Before that, I received my Bachelor’s and Master’s in Food Science from the University of Wisconsin – Madison. As a student, I had multiple product development internships, solidifying my interest in R&D and a desire to work for a company with a strong global presence.

**Qualifications:** At Kellogg’s, entry level food designers (product developers) have a variety of degrees and previous work experience. Master’s and Ph.D.’s in Food Science are the most common, but it’s also possible with a Bachelor’s and the right experience.

**Positions:** Assistant Product Development Scientist (Kellogg’s), Graduate Research Assistant (UW-Madison), Innovation Product Development Intern (Nestle Nutrition), Operations and Innovations Intern (MOM Brands), and Research, Quality, and Innovations Intern (ConAgra).

**Duties:** The duties of a food designer at Kellogg’s are very similar to product developers at other companies. We manage projects from initial ideation through benchtop development
and scale up to the plant environment. We work closely with cross functional teams including our marketing partners, engineering, and quality to launch great products as efficiently as possible. Designers at Kellogg’s typically manage 3-10 projects at a time, depending on size and complexity. Day-to-day activities vary depending on project needs and business demands, but every day is exciting! Most of our time is spent in the lab developing prototypes or the pilot plant running trials in preparation for full scale up. During startup season, there is a lot of travel between the various production facilities to ensure successful scale up. Typically, travel falls between 25%-50%, but that always depends on the type of project. In addition to our expansive lab for benchtop development, and our fully loaded pilot plant facility (with all the necessary unit operations to make any Kellogg’s product), we have a state-of-the-art center for culinary innovation. We work with our culinary team in the creation of gold standards and inspire new innovations. In addition to new product development and existing product renovation work, food designers are also responsible for communicating with external suppliers, working with quality teams to write new ingredient specifications, manage our recipes in formula software, and serve as a technical resource for the plant teams.

Salaries: The salary range for entry level (Assistant/Associate) Food Designers at Kellogg’s is approximately $65k-90k, depending on education level.

Benefits: Medical, Dental, Vision, Life Insurance; 401k; Flexible work schedule; Summer Hours; “Dress for Your Day” dress code

Conclusion: Working at a global company like Kellogg’s is a great way to start your career in R&D. With so many iconic brands, such a wide variety of food forms, and an organization full of highly trained technical experts around the world, there is so much to learn every day. There are also many opportunities for personal and professional development within and across functions.

Chapter News: Virginia Tech Chapter
(contributed by Renata Carneiro, Ph.D. Candidate at the Department of Food Science and Technology)

The Virginia Tech Chapter of Phi Tau Sigma was reactivated in 2016 and since then, it has provided its student members with several opportunities to grow professionally. Along with teaching and research, serving our communities is at the heart of the land-grant institutions like Virginia Tech and this value is also reflected in our Phi Tau Sigma Chapter. On November 7th, Virginia Tech held its annual Science Festival as a free online event to the community. In a year that has been showing the importance of science as no other, the VT Chapter of Phi Tau Sigma presented “The Science Behind Food” to Mrs. McKinney’s 4th grade class (Falling Branch Elementary School, Christiansburg VA). On October 15th, our current leadership team (Renata Carneiro, Ph.D. Candidate, Dajun Yu, Ph.D. student, and Leah Hamilton, Ph.D. candidate) had a Zoom meet up with the kids during their school time and explained what a food scientist does, how sensory evaluation has been used to describe berries, the different products that can be made with grains, and how to make kombucha at home. The presentation was supported by the Department of Food Science and Technology and several members of our Chapter contributed with ideas and videos. The kids were very engaged and asked great questions, such as “is the 5-second rule real?”, “what makes chocolate sweet?”, “how is food edible?”, “why do foods taste different?”, and “why do foods look like shapes?”. The meetup was recorded and an edited video was made available on
the official day of the festival (November 7th) at the VT Science Festival page (https://youtu.be/D6kdmfv5iqc).

More Chapter News: University of Minnesota Chapter
(Contributed by: Sonali Raghunath, Ph.D. Student. President University of Minnesota Chapter of Phi Tau Sigma)

On 30th September 2020, the University of chapter of Phi Tau Sigma hosted a panel discussion virtually with the theme "Lessons Learned from COVID 19 in the food industry: Focus on Consumer Behavior, Research and Development and Food Safety" with MNIFT. This Panel discussion featured distinguished speakers across the globe ranging from Anne Goldman, M.S., VP consumer research from ACCE International, Lisa R Robinson, M.S., VP of food safety and public health from EcoLab and Jenny Mccab, B.S., ITQ Director for Dairy Operating Unit from General Mills to offer a very brief and wide overview of how COVID19 has impacted and is continuing to impact various sectors in the food industry. The speakers discussed various challenges and solutions they had faced in each sector of the food industry and the session turned out to be very informative with the panelists.

The virtual meeting had nearly 55 participants virtually attending the panel discussion including students, faculty members and industry professionals from the food industry. The food industry has been standing strong amidst the ongoing pandemic with various
challenges in consumer trends and behavior, product development, supply chain management and food safety. These challenges are intense and we are trying to better understand as the COVID 19 will still have an ongoing impact on the food industry and its supply chains. This panel discussion helped the participants to better understand the challenges and solutions that the food industry.

The attendees found the panel discussion very timely, interactive, informative and engaging virtual session so far in the ongoing pandemic season.

(Screenshots of virtual meeting organized by Phi Tau Sigma University of Minnesota Chapter)

**And More Chapter News: Penn State Chapter**

**Food Science launches virtual buddy program to support student community**

UNIVERSITY PARK, Pa. (November 12, 2020) — The Food Science Club and the Penn State chapter of Phi Tau Sigma launched a buddy program this fall, a virtual platform for undergraduate and graduate students to connect, interact and gain professional development skills during the academic year.

The program currently has 28 partnerships between undergraduate and graduate students who are matched based on hobbies and interests. The pairs connect virtually via Groupme, FaceTime, Google Hangouts, iMessage or WhatsApp.
A doctoral degree student in the Department of Food Science, Laura Maria Rolon, spearheaded the initiative because she saw that new students need support to balance the stress and limitations caused by COVID-19.

“Based on my work as teaching assistant for undergraduate courses, I often see a division between the graduate and undergraduate students in the department,” she said. “With the buddy program, I found the opportunity to connect graduate and undergraduate students on a more personal level, to promote friendship and future professional connections.”

Rolon wanted to promote connections between students early on because the pandemic has shifted school life significantly. “Having an additional support system is very important for our academic success,” she said.

Brigitte Farah, a new graduate student in the department, is pleased with the new initiative.

“I wish I had this experience as an undergraduate — I think forming relationships between grad students and undergrads is a great idea,” she said. “I look forward to being a mentor to my buddy, and I am excited for this opportunity to get more involved in the department.”

Faculty champion for the buddy program, Josephine Wee, assistant professor of food science in the College of Agricultural Sciences, hopes that the program can bring a sense of comfort and friendship to students, especially first-year and new graduate students.
Member News: Jacqueline H. Beckley, B.S., MBA, RD Honored by ASTM International with Dr. David R. Peryam Award

ASTM International presented the Dr. David R. Peryam Award to Jacqueline H. Beckley, B.S., MBA, RD Chief Innovation Officer at The Understanding & Insight Group, for her outstanding contributions to the field of basic and applied sensory science. Jacqueline is a Lifetime Member of Phi Tau Sigma.

The award, established by the ASTM International committee on sensory evaluation of materials and products (E18), recognizes outstanding professionals in the field of applied sensory science. It is granted to individuals who best exemplify the life and career of Dr. David R. Peryam, the "father" of sensory evaluation and major contributor to E18.

Beckley is a current member of the Institute of Food Technologists (IFT), European Society for Opinion and Market Research, American Marketing Association, Society of Sensory Professionals, and Product Development Management Association.

An ASTM International member from 1975 through 1998, Beckley has also received the Certificate of Appreciation (1981) and the Award of Merit (1988) from E18. Beckley is the recipient of other industry awards including the Award of Distinction from the College of Agriculture and Environmental Sciences, UC Davis (2015). She has also been named a Fellow (2006) and presented the Sensory and Consumer Sciences Achievement Award (2018) by IFT.

Beckley has served in her current position since 1999, having previously held positions at Nabisco Foods, Peryam & Kroll Research, Quaker Oats, and Amoco Corporation. She holds a bachelor’s degree in food science from University of California, Davis, a master’s degree in business administration from Dominican University, and a registered dietician certification through Rush-Presbyterian-St. Luke’s Hospital.

Jackeline authors textbooks and book chapters related to product innovation, product design, and the value of deep conversation to understanding product and services creation.

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: https://www.phitasigma.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.

Send an email to Kantha to let her know to expect your check (kantha@corvusblue.net).

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. [http://www.phitasigma.org/donate/](http://www.phitasigma.org/donate/)

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, Terri Boylston, Ph.D. at: tboylsto@iastate.edu, 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.phitasigma.org/store](http://www.phitasigma.org/store).

**Support Phi Tau Sigma through AmazonSmile:**

If you shop at Amazon, please register Phi Tau Sigma as your charity through AmazonSmile ([https://smile.amazon.com/](https://smile.amazon.com/)). There is also a mobile app that one can access. Instructions for the mobile app can be found at: [https://www.amazon.com/b?ie=UTF8&node=15576745011](https://www.amazon.com/b?ie=UTF8&node=15576745011).

The AmazonSmile Foundation will then donate 0.5% of the purchase price of eligible products to Phi Tau Sigma. This may not sound like a lot, but it adds up. Be sure to enter Amazon through AmazonSmile every time you shop ([https://smile.amazon.com/](https://smile.amazon.com/)). **Thank you!**

**Editorial:**

Another year has started. We look forward, but we also need to look back. 2020 was challenging. (Ok, that is an understatement.)

But we need to remember the good and remarkable things that happened. Good and remarkable things that would have happened anyway, but also things that happened as a...
result of the virus, such as the virtual Phi Tau Sigma Awards Ceremony that was highly successful and is available to view by going to the home page of the Phi Tau Sigma website: www.phitausigma.org.

We also need to celebrate what advances we developed or improved because of the restrictions, such as remote teaching/learning, meetings, and getting to know family and friends better or in different ways.

My hope is that 2021 is not as challenging as 2020. But whether it is or not, ideally, we can learn and grow from the challenges, and we can each find and appreciate the good and remarkable things that occur along the way.

Wishing each of you a good and remarkable 2021!

About Phi Tau Sigma Communications:

The Phi Tau Sigma Newsletter Committee includes: Kathryn Kotula, Ph.D., Editor-in-Chief, Chair (kklotula@msn.com), Claire Zoellner, Ph.D., Associate Editor (cez23@cornell.edu), Anthony W. Kotula, Ph.D., Hossein Daryaei, Ph.D., Tianxi Yang, Ph.D., Laura Strawn, Ph.D., Diane Schmitt, Ph.D., Gabriela John Swamy, Ph.D., Jennifer Fideler M.S. (Ph.D. Candidate), Tiantian Lin, 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 kklotula@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/phi-tau-sigma-nomination-2021-doc/
http://www.phitausigma.org/phi-tau-sigma-nomination-2021-pdf/

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/
Sponsors, Donors, and Contributing Partners:

Phi Tau Sigma accepts contributions and has a variety of available sponsorship opportunities, as well as the General fund and Program fund.

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.

Contributions 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.phitausigma.org/sponsor/). Contributions by check (written from a US bank) can be made by sending to our Treasurer: Kantha Shelke, Ph.D., 33 West Ontario, Suite 57F, Chicago, IL 60654. Please write “Sponsorship”, “Donation”, “Contributing Partner”, etc. in the subject line. [A Sponsorship covers the cost of the honorarium and the administrative costs (PayPal, plaque, postage). A Donation covers only the cost of the honorarium. The Contributing Partners program is described below.]

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 monthly Phi Tau Sigma Newsletter. Endowments are also accepted.

Contribution opportunities are available for the 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 (on a ‘first come’ basis), as well as the Program fund (which includes the Phi Tau Sigma Awards Ceremony) and the General fund.

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
- 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 “Contribution” in the subject line.

2020-2021 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 sponsor the Phi Tau Sigma Founders’ Scholarship, and to sponsor the new Phi Tau Sigma – AMSA Research with Impact Scholarship and its endowment.) **Hawkins, Inc. is a Silver level Contributing Partner.**

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. (Contribution to support and endow the Dr. Daryl B. Lund Student International Travel Scholarship.) **The Lunds are a Silver level Contributing Partner.**

2020-2021 Sponsors and Donors:

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)

David K. Park, B.S., Phi Tau Sigma Lifetime Member, is Principal, Food-Defense, LLC, providing expert food safety / food defense, USFDA and USDA-FSIS Process
Authority technical and regulatory 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. 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.

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.)

Dr. Rakesh K. Singh is a Past President of Phi Tau Sigma, a Lifetime Member; and is a Professor in the Department of Food Science & Technology at the University of Georgia, where he was department head from 2001 to 2020. He is also a Fellow of IFT, Fellow of IAFoST, Fellow of National Academy of Agricultural Sciences of India, and Editor-in-Chief of LWT – Food Science and Technology. (Sponsorship of a Phi Tau Sigma Student Achievement Scholarship.)

Dr. Mary K. Schmidl 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.

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. (Donation towards a Phi Tau Sigma Student Achievement Scholarship.)

Corvus Blue LLC is a Chicago-based contract food science and research firm retained by food, dietary supplement, and allied enterprises to expedite new product development and commercialization and pave the path for rapid market realization with competitive intelligence and food science communication. The firm works with startups and established entities at the intersection of science and business to maximize opportunity and minimize risk.

Anonymous donation towards the endowment for the Phi Tau Sigma – AMSA ‘Research with Impact’ Scholarship.

Dr. Claire Zoellner, Food Safety Scientist at iFoodDecisionSciences, Phi Tau Sigma Director, Associate Newsletter Editor, and Chair of ad hoc Student Relations Committee.

Phi Tau Sigma Development Committee 2020 - 2021
Each and every member of Phi Tau Sigma Development Committee has generously donated to Phi Tau Sigma. The Development Committee is responsible to develop and implement strategies and mechanisms to raise long range funding to allow Phi Tau Sigma to be funded in perpetuity. The Committee has made its generous contributions to demonstrate its
unwavering support and to role model the action of making a financial contribution to the Society. (Sponsorship for the Phi Tau Sigma Special Recognition Award)

**Phi Tau Sigma Leadership 2020 -2021**
Each and every member of Phi Tau Sigma Leadership has generously donated to Phi Tau Sigma. The Phi Tau Sigma Leadership is composed of its Board of Directors and Chairs of its appointed Committees. Its mission is to honor and build excellence in the profession of food science and technology. Besides sharing generously of their time and talent, the Leadership has made a generous financial contribution to set, through example, what our discipline may achieve through its contributions. (Sponsorship for the Phi Tau Chapter of the Year Award)