



The Honor Society of Food Science and Technology

Phi Tau Sigma Newsletter *December 2021*

News:

Membership Nomination Reminder:

(Contributed by Elizabeth Grasso-Kelley, Membership and Qualifications Committee Chair)

We would like to encourage nomination of students and/or colleagues as members of Phi Tau Sigma. Nomination forms can be found at: <http://phitausigma.org/membership/>. Membership criteria for student and professional membership are found on pages 3 – 4 of the nomination form, as well as instructions for filling out the form. We encourage reading the instructions before and after filling out the form. Note that the nomination form must be completed in full to aid in the review process.

The Membership and Qualifications Committee is eager to review nominations and welcome new members into our Honor Society of Food Science and Technology. Please do not hesitate to reach out if you have any questions or would like to submit a nomination.

Feel free to send me your questions: Elizabeth.grasso-kelley@fda.hhs.gov

Graduating or Moving?

Be sure to send your new contact information, particularly your new email address, to Executive Director, Kathryn L. Kotula, Ph.D. at klkotula@msn.com. We don't want to lose you when/if your current email address becomes inactive.

Year-end tax-deductible contribution opportunity

As the end of the calendar year approaches, when you are looking for a tax-deductible contribution, and want to make a positive impact with your contribution, please consider Phi Tau Sigma.

Contributions can fall into four broad categories:

1. Contributing Partners (\$5000 and up)
2. Scholarship and Award supporter
3. Endowment contributor
4. General donations

All Contributing Partners, Sponsors, and Donors are listed in the Phi Tau Sigma Newsletter (monthly, 11 issues per year) from the time the funds are received until the next September. Multi-year donations are listed in the Newsletter in an uninterrupted fashion.

All Contributing Partners, and Sponsors and Donors are acknowledged and publicly thanked during Phi Tau Sigma Awards Ceremony.

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

HOW TO CONTRIBUTE:

Contributions are appreciated in any amount, and can be made by way of the Phi Tau Sigma website: <http://phitausigma.org/sponsor/>. Scroll down and click the yellow Donate button. Please choose the appropriate option from the drop-down menu, and on the PayPal screen, please fill in the "Add special Instructions to the seller" line.

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.

If you would like more information, or to talk about this in more detail, please send me an email (klkotula@msn.com). Put 'Phi Tau Sigma' in the subject line. We can 'talk' via email, or set up a phone call.

Nominations and Elections Committee:

(Contributed by Liz Boyle, Ph.D., Chair of the Nominations and Elections Committee)

There was excellent interest in serving Phi Tau Sigma for 2022 and the slate of nominees for the ballot is complete. No further nominations are being accepted at this time for the upcoming election in March.

From the Treasurer's Desk - Gratitude and Phi Tau Sigma membership

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



One of the reasons for the exceptionally strong feeling of camaraderie among Phi Tau Sigma members may be that each of us was nominated by two other members and our gratitude persists to the nominators for this honor and privilege. Every nomination at Phi Tau Sigma is deep-rooted in appreciation and gratitude.

Gratitude may seem like a simple emotion, but it inspires powerful emotions like kindness and connection that creates transformative life changes. Gratitude usually sparks a desire to do something in return. It moves recipients to share and multiply the goodness they have received. Gratitude becomes the gift, creating a cycle of giving and receiving, like an endless waterfall. Filling up and spilling over... often, not just to the giver but also to someone else in the giver's path.

Gratitude strengthens social ties by cultivating interconnectedness. Gratitude is “the moral memory of mankind” that evokes the powerful spirit of doing something for others. It is gratitude for an alma mater’s influence and healing at medical institutions that moves the grateful to award notable donations to these institutions to carry on their good work to help others.

I welcome you to experience the power of such gratitude this holiday season by nominating a fellow food scientist or a student. You can get the nomination documents from Dr. Kathryn Kotula, Dr. Elizabeth Grasso-Kelley, or me. It takes very little to write a short paragraph to shine the light on your nominee. If you feel benevolent and if you can afford it, please consider paying the nomination fees for your nominee.

The Phi Tau Sigma nomination is a gift that keeps on giving. You will put a smile on the nominee’s heart by paying their membership dues for the first year. You will also put a smile on your heart (and your accounting brain) during tax time because this nominal payment is tax deductible.

Just imagine the power of gratitude each professional member would experience with nominating a fellow food scientist or a student and the goodness and interconnectedness it will continue to foster at Phi Tau Sigma.

Calendar:

->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
- 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).

->Phi Tau Sigma Scholarship and Awards Schedule:

- November 30: Deadline to submit nominations to the Awards Committee for the Dr. Daryl B. and Mrs. Dawn L. Lund Student 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 Lili He, Ph.D. (lilihe@foodsci.umass.edu) and Executive Director Kathryn L. Kotula, Ph.D. (klkotula@msn.com). (More information: <http://www.phitausigma.org/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 (scholarships@meatscience.org). (More information: <http://www.phitausigma.org/awards/>)

->January 14: 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>)

->Election schedule:

~~December 15:~~ Nominations due to Nomination and Election Committee
Note: Nominations are now closed due to overwhelming interest.
(Liz Boyle, Ph.D., Chair, lboyle@ksu.edu)
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
May: Newly elected individuals announced to the Membership in the May Phi Tau Sigma Newsletter

->June 12-15, 2022 - Reciprocal Meat Conference of the AMSA, Des Moines, Iowa

->Phi Tau Sigma Annual Meetings and Events:

2022: To be determined

->July 10-13, 2022, Institute of Food Technologists Annual Meeting

Research Synopsis: Determining the fate of bacteria and viruses in the food industry at the University of Arkansas

(Contributed by Dr. Adam Baker and Dr. Kristen E. Gibson, Department of Food Science, University of Arkansas)

Background: Dr. Kristen Gibson is an Associate Professor in Food Safety and Microbiology at the University of Arkansas. Her research group focuses on pathogen mitigation strategies in multiple food production environments. Dr. Gibson has built a research program to address current issues related to food safety. While involved with several projects, recent work has investigated factors impacting environmental monitoring, controlled environment agriculture, and virus transmission in dining establishments. Dr. Adam Baker joined Dr. Gibson's group shortly after graduating from the University of Florida in Food Science in

August 2020. Adam works alongside graduate students in the laboratory on food safety-related projects and helps lead efforts on the virus persistence and transfer studies. He is a Lifetime Member of Phi Tau Sigma and is the 2021-22 Chair of the Phi Tau Sigma Development Committee.

Research: *Environmental monitoring.* The food industry relies heavily on effective environmental monitoring (EM) programs to: i) determine harborage sites of microorganisms, ii) assess effectiveness of surface sanitation programs, and iii) prevent transmission of microorganisms. In general, there is a lack of standardization of EM programs across the food industry. While there are regulatory guidelines to help food manufacturers align their EM programs with best practices (1), the actual collection devices used in these programs vary in size, shape, and material. Surprisingly, most EM tools are not well characterized in their ability to recover and release microorganisms for downstream detection. For this project, two bacterium (*Salmonella* Typhimurium and *Listeria monocytogenes*) and two viruses (human norovirus [HuNoV] and Tulane virus—a surrogate for HuNoV) were utilized for initial characterization of polyurethane foam and cellulose-based EM tools. Data revealed a significant difference in microbial release based on EM tool material composition. In addition, the average release of microorganisms from swabs decreased as the number of microorganisms on the swab decreased (2). Overall, this study lays the foundation for future research to identify environmental factors impacting the efficacy of EM programs and will help guide evidence-based EM practices to improve the safety of our food supply.



Sunflower (left) and pea shoot (right) microgreens prior to harvest.

Controlled environment agriculture. Food crop production in controlled environments is an increasingly important sector of U.S. agriculture. Greenhouses, high-tunnels, and indoor warehouses are common controlled environment agriculture (CEA) structures and hydroponics, aeroponics, soilless substrate culture, and vertical farming systems are common CEA growing systems. Leafy greens such as microgreens are profitable and popular crops for production in CEA systems. Microgreen growing systems often utilize soil alternatives for cultivation which may influence the plant's uptake of microorganisms, including human pathogens that contribute to produce-associated foodborne illness (3-4). However, the impact of soil alternatives on pathogen transfer to microgreens has received little attention. In addition to the type of soil alternative, the variety of microgreens previously studied is not representative of the most commonly grown microgreens—sunflower and pea shoots (5). Thus far, our research on this topic demonstrates that pathogen (*Salmonella* Javiana and *L. monocytogenes*) transfer to microgreens during production is influenced by the specific soil alternative and microgreen variety. Overall, this research has implications for the CEA industry and will help stakeholders characterize food safety risks in microgreen growing operations specific to microgreen variety and soil alternative selection. These findings will inform microgreen-specific food safety training materials for microgreens producers which are currently in development with support from a USDA Food Safety Outreach Program grant.

Fate of SARS-CoV-2-related viruses in foodservice establishments. The impact of the COVID-19 pandemic has been felt across nearly every major industry in the U.S. and worldwide. The foodservice industry has been hit particularly hard accounting for 60% of job losses by mid-2020. Our long-term goal is to inform a national action plan to help the foodservice industry skillfully navigate the COVID-19 pandemic with increased confidence, which will help develop control measures for future virus-related pandemics. Our project is building the evidence base to inform environmental cleaning procedures at food service establishments (FSEs) with a specific focus on the front-of-the-house. Implementation of effective environmental cleaning procedures is instrumental in the ability of FSEs to provide a safe dining experience. We have published a factsheet on how to use USEPA List N (6). Current research has identified optimal recovery methods for phi 6 bacteriophage from fingerpads. The persistence and transfer of SARS-CoV-2 surrogates on and between hands and surfaces relevant to the front-of-the-house in FSE continues to be investigated.

For more information about any of the projects or broader research undertaken by Dr. Gibson's lab group, please contact Dr. Kristen Gibson at keg005@uark.edu.

References:

1. U.S. Food and Drug Administration [FDA]. 2017. Control of *Listeria monocytogenes* in Ready-to-eat Foods: Guidance for Industry - Draft. <https://www.fda.gov/media/102633/download>.
2. Jones, S.L., Gibson, K.E. 2020. Characterization of polyurethane foam environmental monitoring tools for the recovery and release of viruses. *Food Environ Virol.* 12(2): 158–166.
3. Riggio, G.M., Wang Q., Kniel, K.E., Gibson, K.E. 2019. Microgreens—A review of food safety considerations along the farm to fork continuum. *Int. J. Food Microbiol.* 290: 76–85.
4. Riggio, G.M., Jones, S.L., Gibson, K.E. 2019. Risk of human pathogen internalization in leafy vegetables during lab-scale hydroponic cultivation. *Horticulturae*, 5(1): 25.
5. Misra, G., Gibson, K.E. 2021. Characterization of microgreen growing operations and associated food safety practices. *Food Prot. Trends*, 4: 56–69.

6. Baker C.A., Jones, S., Fraser, A., Gibson, K. 2021. Removing SARS-CoV-2 from Food Production Environments: US EPA List N for Chemical Surface Disinfection. University of Arkansas System Division of Agriculture, Family and Consumer Sciences. FSFCS143. <https://www.uaex.uada.edu/publications/pdf/FSFCS-143.pdf>.



Sunrise at the entrance of the Don Tyson Center for Agricultural Sciences, University of Arkansas Division of Agriculture, in Fayetteville, AR, the site of Dr. Gibson's research laboratory.

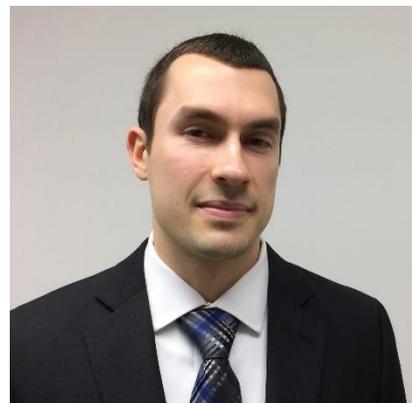
Lifetime Member Tribute: Alexander Chouljenko, Ph.D.

Assistant Professor and Director of the Seafood Technology Program at North Carolina State University

Why did you become a Lifetime Member?

I became a Lifetime Member because I value Phi Tau Sigma's work in supporting students and professionals alike. I am excited about the networking and mentoring opportunities that this prestigious organization provides for all of its members, ultimately leading to the advancement of food science and technology.

Education: I received my bachelor's, master's, and doctorate degrees at Louisiana State University in kinesiology, food science, and food science, respectively.



Experience/Accomplishments:

- 8 years of combined experience in food science and technology consisting of teaching, extension, and research activities as a student and professional
- Published 23 peer-reviewed journal articles with 300+ citations
- Current research grant funding: >\$270,000
- Completed courses/training: Seafood HACCP Basic, Seafood HACCP Train-the-Trainer, SCP for Processing Fish and Fisheries Products Basic, SCP for Processing Fish and Fisheries Products Train-the-Trainer, FSPCA Preventive Controls for Human Food

Areas of Expertise: Seafood Science and Technology, Food Processing, Food Safety, Food Quality

Awards and Honors (selected list):

- First place winner of the graduate student research paper competition in the IFT Refrigerated and Frozen Foods Division, sponsored by Phi Tau Sigma & IFT (2014)
- First place winner of the graduate student research paper competition in the IFT Refrigerated and Frozen Foods Division, sponsored by Phi Tau Sigma & IFT (2015)
- Eurofins Central Analytical Laboratories Scholarship, presented by the Gulf Coast Section of IFT and Eurofins Central Analytical Laboratories (2016)
- Eurofins Central Analytical Laboratories Scholarship, presented by the Gulf Coast Section of IFT and Eurofins Central Analytical Laboratories (2017)
- Graduate Scholarship, presented by Feeding Tomorrow, the Foundation of IFT (2016)
- Graduate Scholarship, presented by Feeding Tomorrow, the Foundation of IFT (2017)
- Robert M. Grodner Fellowship, presented by the Louisiana State University School of Nutrition and Food Sciences (2017)
- Robert M. Grodner Fellowship, presented by the Louisiana State University School of Nutrition and Food Sciences (2018)
- Finalist in the Three-Minute Thesis (3MT) Competition, hosted by the Louisiana State University Graduate School (2019)

Personal: Family, Interests, Hobbies: In my free time I like to travel and visit new places with my family and my partner. I also enjoy cooking (making ice cream in particular), weight lifting, and fishing.

Advice to university students and career food scientists and technologists: Having good questions is just as important for personal development as having good answers: be inquisitive.

Chapter News:

Chapters of Excellence and Chapters of Merit for 2020-2021

(Contributed by Terri Boylston, Ph.D., Chapter Affairs Committee Chair)

The Chapter Affairs Committee would like to recognize the following Chapters for their accomplishments during the 2020-2021 administrative year.

Chapters of Excellence:

- Hoosier (Purdue University)
- Penn State University
- University of Georgia
- University of Minnesota

Chapters of Merit:

- Buckeye (Ohio State University)
- Cal Poly-Pomona University
- Iowa State University
- University of Massachusetts
- University of Nebraska – Lincoln
- Virginia Tech

The objectives of Phi Tau Sigma are to:

- Recognize and honor academic and professional achievements of students and professionals in Food Science/Industry,
- Encourage the application of fundamental scientific principles of Food Science and Technology
- Stimulate the exchange of scientific knowledge through meetings, lecture and publications
- Establish and maintain a network of like-minded professionals
- Promote charitable, scientific, literary and educational programs.

These Chapters have excelled in meeting the objectives of Phi Tau Sigma in all aspects. Among the many activities these Chapters have participated in during the past year, include Thesis Presentation Competitions, Trivia Night, Career Readiness Seminars, lectures and presentations, fostering mentorships between graduate and undergraduate students, volunteering at community gardens, sponsoring a fun run/walk, writing postcards to nursing homes, donating books, and more.

If you are interested in establishing an active Chapter at your university or would like to connect with an active Chapter and participate in their activities, contact Terri D. Boylston, Ph.D., Chair, Chapter Affairs Committee (tboylsto@iastate.edu).

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. Be sure to include your address. 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. and Mrs. Dawn L. Lund Student International Scholarship Fund, Phi Tau Sigma Founders' Scholarship, Phi Tau Sigma Chapter of the Year Award, the Phi Tau Sigma – AMSA 'Research with Impact'

Scholarship Fund, the Program Fund, or the General Fund. <http://phitausigma.org/store/>
Scroll down to Donate and click the yellow Donate button.

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.phitausigma.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/>). 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>.



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/>). **Thank you!**

Editorial: To-do lists

To-do lists are funny things. There are numerous ways to do them, and the effectiveness of each depends on the needs of the user. I find having detailed daily lists, and a calendar of larger events effective. It is also helpful to have a note pad on the bedside table for middle of the night ideas.

Before I get into that: One may ask why keep a to-do list at all. The answer is 'peace of mind'. There are fewer things to clutter one's mind if the to-do list is written down, there is much less chance of forgetting something, and this all leads to a better night's sleep, and a more peaceful day.

Going back to the original topic: One thing I have found is the that number of items on the daily list, and the expectations of completion are very important. Remember that things take longer to accomplish than we usually anticipate. While it is essential to have a comprehensive list, one must also prioritize it, and adjust the daily number of tasks to their personality.

The point of to-do lists is to facilitate time management – to ensure that the things we need to accomplish are done in a timely manner.

Some people do not mind having an expansive list, and moving unfinished tasks to the next day. Whereas other people find unfinished items discouraging and so need a shorter list, with the idea that if they finish all of the items, they can start of tomorrow's items. Some people fit in the middle. To be maximally effective, it is imperative to have a length of daily list that does not cause discouragement. Good luck finding the list strategy that is optimum for you.

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.; Tianxi Yang, Ph.D., Research Co-Correspondent; Tiantian Lin, Ph.D., Research Co-Correspondent; Samruddhi Jadhav, M.S., Careers Correspondent; Kaavya.Rathnakumar, M.S., Chapter News Correspondent; Diane Schmitt, Ph.D., Member News Correspondent; Ashwini Wagh, Ph.D.; Ravi Tadapaneni, Ph.D.; Damla Dag, M.S. (Ph.D. student), Social media Co-Correspondent; Sonali Raghunath, M.S. (Ph.D. student), Social Media Co-Correspondent

Please be responsive to their inquiries for information for the Newsletter.

Documents:

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

Phi Tau Sigma Membership Nominations

<http://phitausigma.org/wp-content/uploads/2021/07/Phi-Tau-Sigma-Nomination-2022.doc>

<http://phitausigma.org/wp-content/uploads/2021/07/Phi-Tau-Sigma-Nomination-2022.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/>

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://phitausigma.org/store/> Scroll down to Donate and click the yellow Donate button, or by going directly to PayPal https://www.paypal.com/donate?hosted_button_id=QTA7NUHUEEPP2). 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. and Mrs. Dawn L. Lund Student 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. (<http://www.phitausigma.org/sponsor/>)

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.

2021-2022 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.**



Food Ingredients Group 

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 endow the Dr. Daryl B. and Mrs. Dawn L. Lund Student International Travel Scholarship.) **The Lunds are a Platinum level Contributing Partner.**

2021-2022 Sponsors and Donors:

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. (Donation to the General Fund)

The **American Meat Science Association (AMSA)** works to cultivate a global community of professionals and students to discover, apply and communicate meat science and technology. An independent, objective, and credible voice for meat science and technology, AMSA is an organization recognized for its unmatched competence and commitment to attracting and developing meat industry leaders. We are an association that encourages our members' active participation and engagement, welcoming collaborative relationships with other groups and organizations.



Anthony W. Kotula, Ph.D., a Lifetime Member of Phi Tau Sigma, retired in 1992 as a Supervisory Food Technologist after 38 years of service at the Agricultural Research Service, USDA; 25 years of which were as the Leader of the Meat Science Research Laboratory. (Donation towards the endowment for the Phi Tau Sigma-AMSA 'Research with Impact' Scholarship)

Anonymous donation towards the endowment for the Phi Tau Sigma – AMSA 'Research with Impact' 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.)

William Benjy Mikel, Ph.D., a Phi Tau Sigma past President and a longtime Lifetime Member. (Recurring donation towards the endowment for the Phi Tau Sigma-AMSA 'Research with Impact' Scholarship)

Kalsec® is the leading global producer of natural spice and herb flavor extracts, natural colors, natural food protection solutions, and advanced hop products for the food and beverage industry. Our mission is to capture the best nature has to offer, allowing us to provide creative solutions to those who seek safer, healthier, more flavorful and more attractive foods, beverages and functional ingredients. Operating for more than 60 years as a family-owned company, Kalsec now covers over 70 countries, with headquarters in Kalamazoo, Michigan, and with facilities in the United States, Europe and Asia. For more information, visit www.kalsec.com. (Sponsorship of the Dr. Daryl B. and Mrs. Dawn L. Lund Student International Travel Scholarship.)



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

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