



The Honor Society of Food Science and Technology

Phi Tau Sigma Newsletter February 2021

News:

Award and Scholarship Deadlines Approaching -

Phi Tau Sigma Outstanding Chapter of the Year Award deadline April 1.

The award includes an honorarium of \$1000 and a plaque.

“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.”

Send completed nomination forms for the Phi Tau Sigma Outstanding Chapter of the Year Award to Charlwit Kulchaiyawat, Ph.D, Awards Committee Chair, at: charlwit.kulchaiyawat@fosterfarms.com, with a copy to Kathryn Kotula, Ph.D., at: klkotula@msn.com.

Phi Tau Sigma–AMSA ‘Research with Impact’ Scholarship deadline April 19.

The award includes an honorarium of \$2000 and a plaque.

The objective of the **Phi Tau Sigma -AMSA ‘Research with Impact’ Scholarship** “is to emphasize the importance of original research, carefully selected to solve vexing problems of the meat/food industry. The *Phi Tau Sigma – AMSA Research with Impact Scholarship* shall be given to a student Member or recently graduated Member of the American Meat Science Association whose undergraduate or graduate research has had, or is expected to have, a significant Impact - a practical and meaningful application.”

Send completed nomination forms for the Phi Tau Sigma – AMSA ‘Research with Impact’ Scholarship to Phi Tau Sigma Executive Director (klkotula@msn.com) and the AMSA Youth Programs Manager (scholarships@meatscience.org)

Full information for both opportunities can be found at:

<http://www.phitausigma.org/awards/>.

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.

Membership Nominations – Reminder:

(Contributed by Lauren Jackson, Ph.D., Membership & Qualifications Committee Chair)

Please be sure you are using the proper membership nomination form.

The proper form has 2021 in the title and can be found on the Phi Tau Sigma website:

<http://www.phitausigma.org/phi-tau-sigma-nomination-2021-pdf/>

<http://www.phitausigma.org/phi-tau-sigma-nomination-2021-doc/>

There are two formats available, Word and a writable pdf. Choose the format you prefer. And, be sure to read the Instructions which start on page 3 before and after filling out the form.

Upcoming Election – Two areas requiring your vote

1) The election for Phi Tau Sigma Leadership: President Elect and four Directors will start March 1. **You MUST be a "member in good standing" (have paid your dues) before February 20 to be able to vote.** If you have not paid your dues, follow the instructions in the "Dues Reminder" section below. Your membership status is listed in the cover email of this Newsletter. If you have any questions, feel free to contact Executive Director Kathryn L. Kotula, Ph.D. at kkotula@msn.com.

2) As usual, you will have the opportunity to show your interest in membership on one of Phi Tau Sigma's Committees. The opportunities include: Awards, Chapter Affairs, Constitution & By-Laws, Membership & Qualifications, Newsletter, Nominations & Elections, Program, Development, Strategic Relations, Student Relations, Website & Wikipedia, and Internship Organization.

IFTSA Seeking Volunteer Judges for 2021 Student Competitions

(Contributed by Claire Zoellner, Ph.D., Chair of the *ad hoc* Student Relations Committee)

As you may know, the IFTSA proudly hosts eight competitions and awards at the IFT Annual Meeting. These programs range from three product development competitions to two research competitions and leadership awards. The crown jewel of this programming is the College Bowl, which will be returning this year in full force.

While the pandemic has led to the postponement or cancellation of many events within the field of food science, the IFTSA competitions have nimbly persisted in their ability to challenge and excite young food scientists. The IFTSA competition chairs have enacted new rules for every competition that facilitate a fully virtual experience and accommodate the variety of pandemic response plans implemented in institutions throughout the world.

With this continued operation comes a continued opportunity for volunteering. The competitions still need judges for both their preliminary and final rounds. Additionally, IFTSA is offering a new “coach” position this year that pairs a professional with a finalist team working in a similar subject matter. The hope is that this position will foster worthwhile connections between new professionals and up-and-coming students in both the product development and research fields.

The diverse members of Phi Tau Sigma are well-suited to serve as judges and coaches, so if you are also a member of IFT, consider applying: [please click on this link to the application](#). While this year has been characterized by isolation and doubt, the IFTSA is eager to ring in 2021 with the promotion of meaningful networking and engaging competition. The Phi Tau Sigma *ad hoc* Student Relations Committee is dedicated to supporting our student members, including IFTSA.

Any questions regarding the competitions and volunteer opportunities may be directed to Julia Schmidt, IFTSA VP of Competitions, schmidt.juliap@gmail.com.

Phi Tau Sigma has QR codes. Give them a try.

For the Phi Tau Sigma website: We also have a new QR code for contributions:



From the Desk of the Treasurer: HEART HEALTH

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

February is a month of hearts. Hearts appear everywhere cheering people to celebrate Valentine’s Day, about loving someone and being loved, and about loving ourselves by taking care of our health. February reminds us to take care of our health by taking care of our heart.



There are several ways to take care of our heart including by managing our diet, following a sensible lifestyle, destressing, and of course, by giving.

Giving makes us feel happy. These good feelings are reflected in our biology. A 2006 study at the National Institutes of Health reported that when people give charity, they activate regions of the brain associated with pleasure, social connection, and trust and create the feeling of a “warm glow”. Science has shown that altruistic behavior releases endorphins in the brain and produces a positive feeling also known as the “helper’s high”.

This February, I invite you to donate to Phi Tau Sigma and experience the warm feeling yourself. Do it for yourself. Do it for your loved ones. Do it for food science!

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 Kulchaiyawat, Ph.D. (charlwit.kulchaiyawat@fosterfarms.com) 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 Rachel Adams, M.S. (radams@meatscience.org). (More information: <http://www.phitausigma.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 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

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

->July 18-21, 2021, Institute of Food Technologists Annual Meeting, Chicago, IL:
 (times tentative, and presumes an in-person meeting)

July 18 (Sunday):

11:00am-12:15pm Phi Tau Sigma Executive Committee Meeting
 12:15pm-1:30pm Lunch Break
 1:30pm-2:30pm Phi Tau Sigma Leadership Council Meeting and Annual Business Meeting
 12:30pm-1pm Student Competition Poster Set-up
 1:00pm-2:30pm Student Poster Competition Judging
 6:00pm-7:00pm IFT Awards Celebration, includes the presentation of the Dr. Carl R. Fellers, Ph.D. Award sponsored by Phi Tau Sigma (Meet the Award winners at the IFT Networking Reception immediately following.)

July 19 (Monday):

12 noon-1:30pm Phi Tau Sigma and IFT Division Competition Awards Ceremony

Student Research Synopsis: Cross-species and cross-polymorph seeding of lysozyme amyloid reveals a dominant polymorph

(Contributed by Lida Rahimi Araghi, M.Sc. under the direction of Dr. Derek R. Dee, Department of Food Science and Technology, University of Georgia)

Adapted from published work: Araghi, L. R., & Dee, D. R. (2020). Cross-species and cross-polymorph seeding of lysozyme amyloid reveals a dominant polymorph. *Frontiers in Molecular Biosciences*, 7.

Introduction: Amyloid-like nanofibrils made from food proteins (e.g., from milk, eggs, cereals, and legumes) are gaining interest as new food ingredients and nanomaterials. Protein nanofibrils resemble amyloid fibrils, some of which are correlated with pathologies (e.g., systemic amyloidosis, and neurodegenerative diseases) while others play a beneficial, functional role. Like amyloid, protein nanofibrils can self-propagate by 'seeding' and induce normally folded proteins to assemble into nanofibrils. Since amyloid fibrils are resistant to protease digestion, as evidenced by prions (Cobb et al., 2014) and amyloid A protein from foie-gras (Solomon et al., 2007), there is a chance that protein nanofibrils used in food, or cosmetics could *cross-seed* the amyloid formation of other proteins in the human body upon oral consumption, leading to systemic amyloidosis and toxicity. Cross-seeding is more likely the more similar in structure two proteins are, and the milk and egg proteins most commonly used to form nanofibrils are structurally similar (60-90% similarity) to several human proteins. Currently,



there is limited knowledge on the propensity for food protein nanofibrils to cross-seed fibril formation of similar human proteins. Thus, it is prudent to examine their impact on human health before employing nanofibrils directly in our food or food-contact surfaces. A given protein can be induced to form different amyloid fibrils having unique structural properties—termed *polymorphs* (Adamcik, and Mezzenga, 2018). Different polymorphs of the same protein can have different properties (*e.g.*, seeding potential and efficiency) and toxicity behavior. Studies on cytotoxicity and cell viability assays were done on some nanofibrils made from food proteins, but to our understanding, few studies, if any, have examined cross-seeding between food protein nanofibrils and similar proteins endogenous to humans that are structurally related.

Purpose: The objectives of this research were to determine if food protein nanofibrils can induce similar proteins, endogenous to humans, to form amyloid-like structures at a mechanistic level *in vitro*. Using hen egg-white lysozyme and human lysozyme as a model system.

Methods: This study examined the formation of two fibril polymorphs using both hen egg-white lysozyme (HEWL) and human lysozyme (HLZ) and compared their cross-seeding and cross-polymorph seeding propensities. Fluorescence was measured using a SpectraMax Gemini EM spectrofluorophotometer (Molecular Devices, United States), in bottom-reading mode with excitation at 440 nm and emission at 486 nm. The resulting traces of fluorescence intensity (I) over time (t) were fit using the equation (Arosio et al., 2015):

$$I = I_0 + A/(1 + \exp(-k(t - t_{0.5})))$$

where I_0 is the pre-transition baseline, A is the transition amplitude, k is the apparent rate constant for fibril growth, and $t_{0.5}$ is the transition half-time. The lag-time was derived from $t_{lag} = t_{0.5} - 1/2k$.

Two distinct fibril polymorphs, one long and flexible (formed at pH 2) and the other short and rigid (formed at pH 6.3), of human lysozyme and hen egg-white lysozyme and the structural characteristics of these polymorphs were assessed by TEM, MALDI-TOF mass spectrometry, and SDS-PAGE.

Results: Both polymorphs of HEWL could cross-seed aggregation of HLZ (Figure 1), but this reaction was markedly reduced under simulated gastric conditions. Surprisingly, the 6.3 fibril polymorph was dominant even at pH 2, indicating distinct polymorphs of the same protein have unique abilities to self-propagate. Both polymorphs could cross-seed aggregation across species, but this reaction was markedly reduced under physiological conditions. For both species, the pH 6.3 fibril polymorph was dominant, seeding fibril growth with a faster growth rate constant at pH 2 than the pH 2 polymorph (Figure 2). Based on fibrillation kinetics and fibril morphology, we found that the pH 2 polymorph was not able to faithfully replicate itself at pH 6.3. These results show that two distinct amyloid polymorphs are both capable of heterologous seeding across two species (human and hen) of lysozyme, but that the pH 6.3 polymorph is favored, regardless of the species, likely due to a lower energy barrier, or faster configurational diffusion, to accessing this particular misfolded form.

Significance: The findings from the current study contribute to our better understanding of amyloid strain propagation across species barriers. Such research will help to ensure a safe food supply by assessing the potential for food protein nanofibrils to cause unwanted aggregation of human proteins.

References:

Adamcik, J., and Mezzenga, R. (2018). Amyloid polymorphism in the protein folding and aggregation energy landscape. *Angew. Chem. Int. Ed. Engl.* 57, 8370–8382. doi: 10.1002/anie.201713416

Arosio, P., Knowles, T. P. J., and Linse, S. (2015). On the lag phase in amyloid fibril formation. *Phys. Chem. Chem. Phys.* 17, 7606–7618. doi: 10.1039/c4cp05563b

Cobb, N. J., Apostol, M. I., Chen, S., Smirnovas, V., and Surewicz, W. K. (2014). Conformational stability of mammalian prion protein amyloid fibrils is dictated by a packing polymorphism within the core region. *J. Biol. Chem.* 289, 2643–2650. doi: 10.1074/jbc.M113.520718

Solomon, A., Richey, T., Murphy, C. L., Weiss, D. T., Wall, J. S., Westermark, G. T., et al. (2007). Amyloidogenic potential of foie gras. *Proc. Natl. Acad. Sci. U. S. A.* 104, 10998–11001. doi: 10.1073/pnas.0700848104

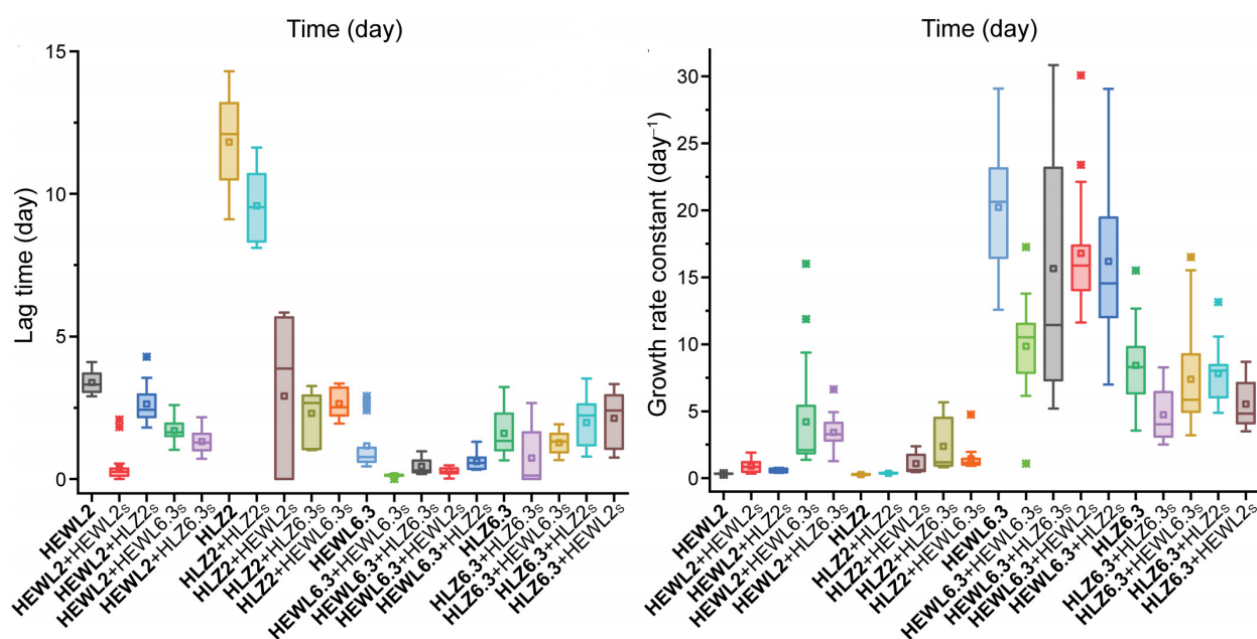


Figure 1 Kinetics of amyloid formation.

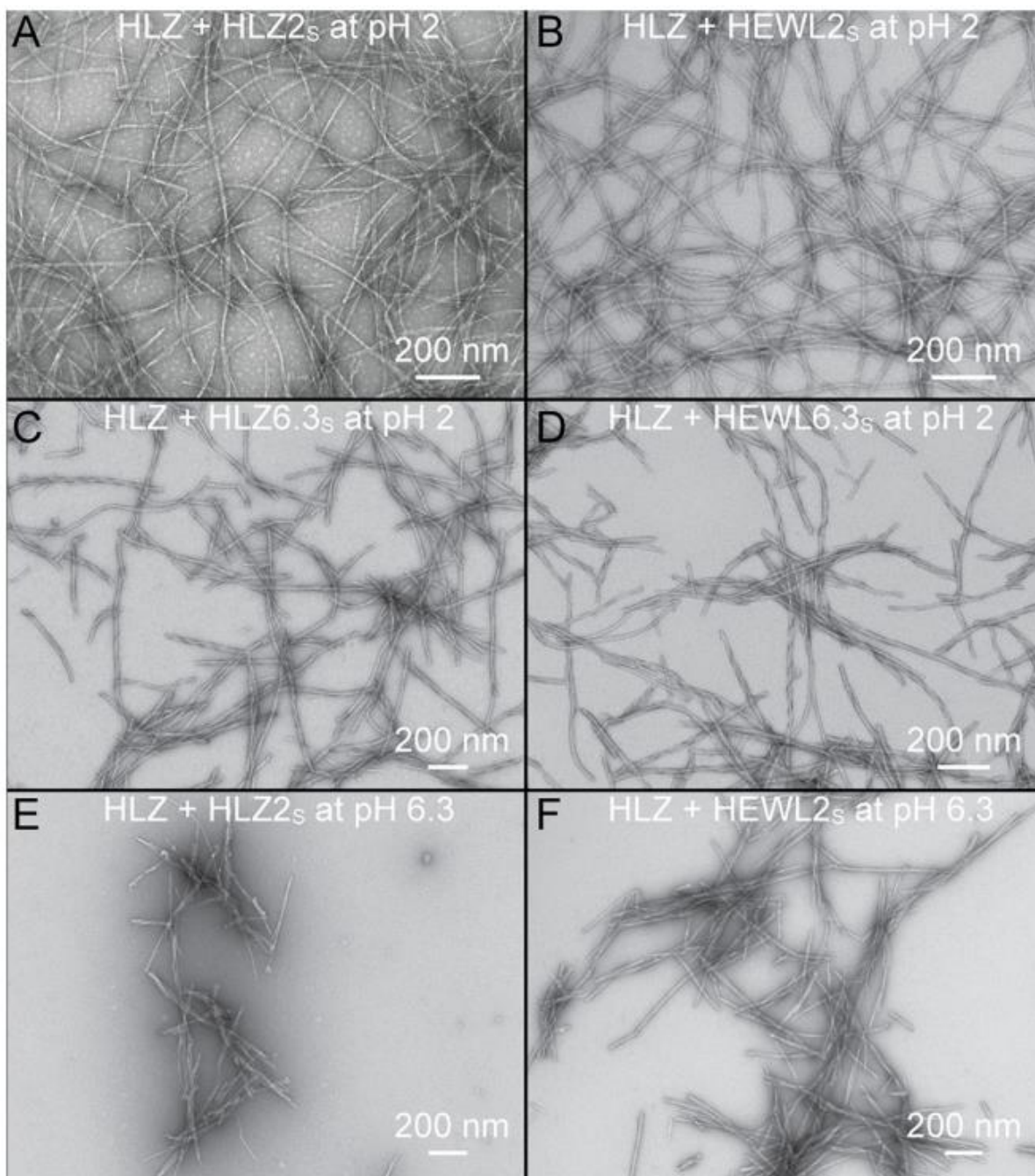


Figure 2 Morphology of HLZ amyloid fibrils produced using various seeds and different conditions.

Lifetime Member Tribute: Aliyar Cyrus Fouladkhah, Ph.D., MPH, CPH

Assistant Professor & Faculty Director of Public Health Microbiology Laboratory, Tennessee State University



Why did you become a Lifetime Member? Phi Tau Sigma is a group of like-minded food scientists that strive for excellence and are passionate about their profession and the contribution that food science is making to security of food supplies, economic growth of the country, and the public health. I think it is noteworthy that, based on a report from the U.S. Centers for Disease Control and Prevention, achieving safe and healthier foods is one of the top ten achievements of public health in the 20th century. And under the landscape of climate changes and emerging/novel infectious diseases, food science and food safety are gaining increasing importance and momentum. It is a great pleasure and lifetime honor for me to be a food scientist and to share the stage with most talented students and scientists in the country and around the globe who are recognized as Phi Tau Sigma members.

Education:

Yale University, School of Public Health: Advanced Professional MPH (AP MPH) in Applied Biostatistics and Epidemiology (2014); Graduate Certificate in Food and Drug Regulatory Affairs (2014); Graduate Certificate, Climate Change and Health (2019).

Colorado State University: Ph.D. in Meat Science & Food Safety (2013); Graduate Certificate in Applied Statistics & Data Analysis (2012); Master of Science in Food Science and Human Nutrition (2009).

Experience/Accomplishments:

Assistant Professor, Tennessee State University, Nashville, TN (2015-present)

Quality Control Supervisor. Boulder Brands Inc., Boulder, CO (2014-2015)

Product Development Scientist, Rodelle Inc., Fort Collins, CO (2012-2013)

Areas of Expertise:

Public Health Microbiology; Microbial Food Safety; Applied Statistics and Epidemiology

Awards and Honors (selected list):

Outstanding Section Volunteer Award, IFT (four times from 2017-2020)

Fellowship, School of Public Health Grant, Yale University, New Haven, CT (2013-2014)

Excellence in Leadership Graduate Award, IFT (2012)

Personal: Family, Interests, Hobbies:

I have recently wedded to a Harvard-trained nutritionist, Dr. Mino Bagheri, that I knew since the first week of my undergraduate days. We are both passionate about healthy foods and exploring cuisines from all cultures of the world. Living with a kind, talented, and hardworking scientist is one of the greatest pleasures in my life.

Advice to university students and career food scientists and technologists:

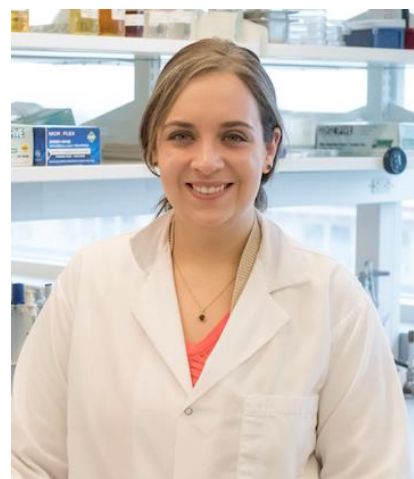
We are living in a society that is increasingly becoming more analytical in nature. Whether a student plans to pursue a career in academia, in the food industry, or in governmental and

non-governmental agencies, I would encourage gaining programming and analytical skills that could be a complement of great importance to food science training. College campuses are great places to gain basic programming skills and also training in applied statistics and epidemiology. Food Science is also a very multidisciplinary field of study so in addition to applied analytical skills and many great food science courses, students could widen their horizon by taking elective courses in human nutrition, public health, chemistry, microbiology, animal science, and business. Having a strong professional network and soft skills could also be a great help for students to secure their first position after college so I strongly encourage active engagement in Phi Tau Sigma and the extracurricular activities of national and regional IFT and closely allied societies. Finally, technical writing skills, particularly for those students obtaining an advanced degree, is a crucial part of scientists' careers so I would suggest working closely with your mentor and academic adviser to refine and polish your technical writing skills before entering the job market.

Careers: Assistant Professor

(Contributed by Abby Snyder, Ph.D., Department of Food Science, Cornell University)

Introduction/Background: I am currently an Assistant Professor of microbial food safety in the Department of Food Science at Cornell University. I am originally from a rural area in southeastern Ohio and participated in 4-H and FFA growing up. I received my B.S. in Food Science from The Ohio State University in 2012. During that time, I participated in undergraduate research experiences concerning bacteriophage as a biocontrol strategy on fresh produce and on FT-IR authentication of grape juice blends. Over one summer, I participated in the Summer Scholars program at Cornell University, which is where I ended up for my Ph.D. (2012-2017). My dissertation research generally focused on food mycology. After graduating, I started as an Assistant Professor and Food Safety Extension Specialist at The Ohio State University. There, I was primarily tasked with extension responsibilities like teaching workshops, consulting with industry, and serving as a process authority. In early 2020, I transitioned to Cornell University. My lab focuses on understanding how the physical and spatial attributes of industrial food manufacturing environments influence the formation of microbial communities on environmental surfaces and make it easier or more difficult to manage that environmental microbiota.



Qualifications: Doctorate degree in food microbiology, genomics, epidemiology, or a related field of study. Relevant work experience in research, teaching, and extension.

Positions: Positions commonly held prior to moving into an assistant professorship are graduate student or postdoctoral scholar. After about six years, assistant professors have applied for tenure and become associate professors. Associate professors later apply for and are promoted to full professors. For most faculty, this is the terminal title and promotion unless they move into an administrative role. However, variations to this general trajectory exist at each level – you can definitely find faculty with diverse backgrounds!

Duties: Assistant professor positions in food science departments often have their responsibilities split among research, teaching, and extension (usually two of the three). My current appointment is 50% research and 50% teaching. As part of my research appointment, I mentor graduate students and postdoctoral scholars, run a research lab, secure external grant funding, publish papers, and give talks. For my teaching appointment, I am expected to teach two courses. This spring I will teach Food Safety Assurance (FDSC 3960/5960) which is a large class that offers students the opportunity to earn certificates in key food safety programs. Next year I will be required to develop a second course within the department. I'll identify the topic for that course in consultation with the department chair and curriculum committee. I also give occasional guest lectures in other classes and I led the department seminar series this fall, which is a rotating responsibility among faculty in our department.

In addition to the division of responsibilities split among research, teaching, and extension, faculty positions also vary in whether they are a 9-month or 12-month appointments. Moreover, faculty positions at primarily undergraduate teaching institutions may differ in their duties as well.

Salary: Varies depending on location and appointment.

Benefits: Varies by position, but generally include a retirement savings plan, health care, dental and vision insurance, disability and life insurance, parental leave, paid time off, well-being programs, and relocation support. Additionally, faculty receive a start-up package when they first are hired to start their labs and hire personnel.

Conclusion: Working in academia is exciting! You are given a lot of independence and responsibility. The work is very goal oriented and you often get to work with people in different disciplines towards solving a common, very difficult problem. It also involves a great deal of teaching, advising, and mentorship. It's rewarding to see student professional development as well as the scientific outputs from your work. If you're an undergraduate student interested in this career path, consider getting involved in undergraduate research and talk to your academic advisor about applying for graduate school.

Chapter News: University of Minnesota Chapter Ships More than 500 Food Science Books to Africa

(Contributed by Yara Benavides, MSc-Ph.D. Candidate. Co-Chair of the University of Minnesota Chapter of Phi Tau Sigma)

Despite the many challenges currently facing universities and the world, the University of Minnesota Chapter of Phi Tau Sigma remained committed to its "Building a Science Bridge to Africa and Beyond" program in 2020. In May, more than 500 Food Science and Nutrition books were shipped to Kisii University in Kenya, which was made possible through the generous financial support provided by the Minnesota Section of the Institute of Food Technologists (MNIIFT).



Pictured from left to right: Yara Benavides (Co-Chair of University of Minnesota Chapter of Phi Tau Sigma), Dr. George Annor (Co-Counselor of University of Minnesota Chapter of Phi Tau Sigma)

It was a long journey for the books to reach their final destination in Kisii, but after three months, we received notification that the materials arrived in good condition. As noted in a thank you letter from Dr. John S. Akama, Kisii University's Vice Chancellor, these books will greatly assist in the teaching and learning of students in the Department of Nutrition and Dietetics, which is a relatively new department with limited reference materials and research infrastructure.



Faculty members at Kisii University in Kenya unpacking the shipment of more than 500 Food Science and Nutrition books.

This is our third book shipment to Africa in as many years. We are deeply excited and honored to know that our Chapter is helping contribute to the development of the next generation of food scientists and nutritionists in Africa. We look forward to continuing and expanding this program to other countries in the coming years.

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.

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 Phi Tau Sigma - AMSA 'Research with Impact' Scholarship Fund, the Program Fund, or the General Fund. <http://www.phitausigma.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.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: Did you Know?

Did you know that the Leadership of Phi Tau Sigma is made up entirely of volunteers? There are no salaried employees. Everyone – the Executive Committee, the Directors, the Committee Chairs and Committee Members – are all volunteers. All are, or have been, active in the food science and/or technology, or allied industries.

Phi Tau Sigma is very fortunate to be run by teams of individuals who work in various aspects, and support of, the field of Food Science and Technology.

March is the annual election. Part of the ballot is the opportunity to express interest in serving on one or more committees. Sign up when you have the chance to work, or continue to work, with this dedicated team of volunteers to advance the profession, and the students and professionals within.

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., 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 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/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/donate> 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. 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. (<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.

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.**



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 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 Sigma Chapter of the Year Award)

Dr. Rodrigo Tarté, a Lifetime Member of Phi Tau Sigma, is an Assistant Professor of Animal Science and of Food Science & Human Nutrition at Iowa State University, and President-Elect of Phi Tau Sigma. (Donation towards the endowment for the Phi Tau Sigma – AMSA ‘Research with Impact’ Scholarship.)