President’s Message: Liz Boyle, Ph.D.

Established in 1953 at the University of Massachusetts by Dr. Gideon “Guy” Livingston, Phi Tau Sigma is now entering its 66th year! It is my honor and privilege to contribute to this time-honored organization as your new President. Phi Tau Sigma has an excellent leadership team and cadre of exceptional volunteers who work diligently to support the four purposes of the society. What are these four purposes? Found in the Phi Tau Sigma Honorary Society Constitution, the four purposes are: 1) To recognize and honor the professional achievements of food scientists and technologists, especially students, 2) To encourage the application of fundamental scientific principles to food science and technology, 3) To stimulate and foster the exchange of scientific knowledge through meetings, lectures, electronic means, publications and other communication tools, and 4) To promote leadership in science, service, education and social programs for the Society membership.

As a member of Phi Tau Sigma, we should all ask ourselves how we can contribute to the four purposes of our organization. Do you know of outstanding students and professionals who should be honored and recognized? Phi Tau Sigma recognized many talented individuals during the Phi Tau Sigma awards ceremony at the 2019 IFT Annual Meeting in New Orleans in June, bestowing $8,000 in scholarships and recognitions, and co-sponsoring three sessions and collaborations at this meeting. These scholarships, recognitions and sponsorships happen by Phi Tau Sigma members nominating deserving candidates, and the nomination application forms may be found on the Phi Tau Sigma website at http://www.phitausigma.org/. How else can you contribute to Phi Tau Sigma? Daryl Lund, Ph.D. created a new campaign called "Every Member Get a Member" to engage more people in the organization so that outstanding professionals, as well as students, can be acknowledged for their talents and academic successes. Reach out to one of your colleagues and nominate them to become a member of Phi Tau Sigma; the membership criteria may be found on the Phi Tau Sigma website. If you are interested in actively participating on one of the Phi Tau Sigma committees, reach out to any of the leadership team as we welcome your engagement in the Society!
Our goal is to continue to encourage your participation and collaboration in Phi Tau Sigma, and for you to be an active member. By being a member of Phi Tau Sigma, you have been recognized as a leader, and it is the leaders who will assist our industry with the global challenge of feeding the world. Make time to participate, read the Phi Tau Sigma Newsletter as it contains a wealth of information about research and projects undertaken by Phi Tau Sigma members, as well as keeping you up-to-date on Phi Tau Sigma activities, and keep engaged. It will be a pleasure to work with the exceptional leadership team, continuing the work of Past President Rakesh Singh, Ph.D., and engaging the Phi Tau Sigma membership to continue the legacy of Phi Tau Sigma.

About your Phi Tau Sigma President:

Liz Boyle, Ph.D., a Lifetime Member of Phi Tau Sigma, is a Professor of Meat Science in the Department of Animal Sciences and Industry at Kansas State University. She received a B.S. in Wildlife Biology from the University of Minnesota, and her M.S. in Food Science and Nutrition and Ph.D. in Food Science with a Meats emphasis from Colorado State University, followed by post-doctoral studies at the University of Kentucky and the University of Minnesota. Research and Extension activities have focused on meat safety and quality, and providing scientific and technical assistance to meat processors and trade associations. Courses instructed are HACCP, advanced HACCP, processed meat operations and advanced meat science. Professional service has been Chair of the Kansas State University Chapter of Phi Tau Sigma, Chair of the Muscle Foods Division and the Kansas City Section of the Institute of Food Technologists, Chair of the Reciprocal Meat Conference of the American Meat Science Association (AMSA), National Academy of Science committee to evaluate scientific criteria to ensure safe food, and Council for Agricultural Science and Technology (CAST) Board of Directors. In 2016, Dr. Boyle was named a Fellow by the American Meat Science Association and was a recipient of the 2016 AMSA Signal Service Award. Previously, she was an At-Large Councilor (currently called Director) for Phi Tau Sigma, and also served on the Awards Committee and as its Chair.

In my spare time, I enjoy being with my family, gardening, crocheting, cooking, and more recently, taking piano lessons! My daughter, Jessica, is a senior at Texas A&M University and we have four dogs, nine chickens, a guinea pig, a tortoise, and a fish I call the Piranha (it is really a crappie but will not let anything else live in its fish tank with it).
From the Desk of the Treasurer:
(Contributed by Kantha Shelke, Ph.D., Phi Tau Sigma Treasurer)

Why monthly giving is good...for you
Subscribe to a smile every month with monthly giving

Donations are invaluable to Phi Tau Sigma scholarships, various awards, and symposia / workshops in food science and technology. Monthly giving is a painless way of donating without the pain or angst one feels when donating at the end of the year or during tax time.

Spreading out your donation to Phi Tau Sigma can be as simple as setting up a monthly payment plan like the recurring payments you are already making for your cell phones, movies, utilities, music, and “box of the month” clubs. Supporting Phi Tau Sigma with a smaller monthly gift can be just as convenient and uplifting too.

You can set up something as simple as $7 on the 7th of each month or $9 on the 9th or even $25 on the 25th of each month...just the cost of a fancy cup of coffee, a lunch, or a movie...to conveniently come to Phi Tau Sigma right out of your credit card or your bank account. Once your monthly donation plan is in place, no further action is required except to feel terrific and smile each month when you see your credit card or bank statement knowing that your monthly gift builds value to Phi Tau Sigma programs.

Your regular donations, no matter the amount, stack up in terms of total impact. In addition to uplifting you on a regular basic without being burdensome, your regular and predictable support also allows Phi Tau Sigma to be a healthy honorary society that funds scholarships and awards with a predictable future cash flow.

Together, we are unstoppable in helping advance the goodness of Phi Tau Sigma in a way that also advances your own careers.

News:

EMGAM Campaign:
(Contributed by Daryl Lund, Ph.D., Chair Ad hoc Recruitment Campaign Committee)

Due to an enthusiastic request, the deadline for the EMGAM Campaign (Every Member Get a Member) has been extended to December 31, 2019. So please, nominate worthy colleagues right away. The membership nomination form can be found on the Phi Tau Sigma website, at http://www.phitausigma.org/value-proposition-2/. Click the button at the bottom of the page.

New Membership Nomination Form: (Contributed by Rebecca A Creasy, Ph.D., Past Chair, Membership and Qualifications Committee)

The Membership and Qualifications Committee would like to thank all nominators who have nominated students and professionals for membership in Phi Tau Sigma this year. We have had a busy year reviewing nomination forms and considering ways in which we can make the nomination form easier to navigate, complete and submit for nominators. Based on
nominators’ suggestions we have updated the nomination form to add clarity and flexibility in completing Section Two: Education and Experience and Section Four: Statement of Qualifications of the form. The Professional experience subsection of Section Two is now scrollable and expandable as is Section Four: Statement of Qualifications. Nominators will now be able to complete these sections of the form without needing to minimize font size or make other modifications.

Another update on the form is a revision of the wording in the table under Section Two: Education and Experience, Credits and Courses. The revised wording, ‘Credits required of degree program,’ was added to prevent confusion among student nominees regarding whether they are being asked to provide the number of credits remaining for them to graduate or the total credits required of their degree program.

The new version of the form is now available on the Phi Tau Sigma website and can be accessed from the Membership drop-down menu. The Membership and Qualifications Committee kindly requests that you use this new PDF form version (2020), or the Word version (2020) when nominating an individual for membership in Phi Tau Sigma. The new versions have the date July 23, 2019 as a footer on page two. Old versions of the nomination form will not be accepted.

If you have any questions about the form, the nomination process or any other topic related to membership and qualifications, please contact the 2019-2020 M&Q Committee Chair, Lauren Jackson, Ph.D. at Lauren.Jackson@fda.hhs.gov or any other member of the M&Q Committee: Rebecca A Creasy, Ph.D., Past Chair; Rodrigo Tarté, Ph.D.; Elizabeth M. Grasso-Kelley, Ph.D.; Diane M. Schmitt, Ph.D.; Rick Falkenberg, Ph.D.; Ashwini Wagh, Ph.D.

The Urban Food Systems Symposium Scientific Committee is pleased to announce their Call for Abstracts
(Contributed by Londa Nwadike, Ph.D.)

URBAN FOOD SYSTEMS SYMPOSIUM
Nourishing Cities in a Changing Climate
June 4 - 6, 2020
Marriott Country Club Plaza - Kansas City, MO
ABSTRACTS DUE NOVEMBER 1
www.ufss2020.org
Abstracts for the Urban Food Systems Symposium set for June 4 - 6, 2020 in Kansas City, MO, are now being accepted. **The abstract submission deadline is 5 p.m. CST, November 1, 2019.** This is a great way to share your work with others through oral or poster presentations.

The symposium brings together researchers, not-for-profit administrators, community organizers, extension professionals, students, and others, to share and gain knowledge on urban food systems and agriculture and their role in global food security. The focus is on climate change; nutrition and human health; food production and distribution in cities; urban planning and development; food security; food policy and advocacy; international perspectives; community engagement; and urban planning and economic development.

More information about the 2020 Urban Food Systems Symposium, including how to submit abstracts, is available at [www.ufss2020.org](http://www.ufss2020.org) or by emailing info@ufss2020.org.

**Know your Leadership:**

**Phi Tau Sigma Executive Committee:**

- Liz Boyle, Ph.D., President: lboyle@ksu.edu
- Martin Sancho-Madriz, Ph.D., President Elect: mfsancho@cpp.edu
- Rakesh Singh, Ph.D., Past President: rsingh@uga.edu
- Kantha Shelke, Ph.D., Treasurer: kantha@corvusblue.net
- Daryl Lund, Ph.D., Assistant Treasurer: dblund@wisc.edu
- Kathryn L. Kotula, Ph.D., Executive Director: klkotula@msn.com

**Phi Tau Sigma Directors:**

2018-19 to 2019-20: Until August 31, 2020
- Ruth MacDonald, Ph.D.: ruthmacd@iastate.edu
- Wesley N. Osburn, Ph.D.: osburnw@tamu.edu
- Elizabeth M. Grasso-Kelley, Ph.D.: egrasso@iit.edu
- Tom Aurand, Ph.D.: tom.aurand@gmail.com

2018-19 to 2020-21: Until August 31, 2021
- Stephen Campano, M.S.: steve.campano@hawkinsinc.com
- Lili He, Ph.D.: lilihe@foodsci.umass.edu
- Rodrigo Tarté, Ph.D.: rtarte@iastate.edu
- Claire Zoellner, Ph.D.: cez23@cornell.edu

2019-20 to 2021-22: Until August 31, 2022
- Martha Cassens, M.S.: mcassens@achfood.com
- Rebecca Creasy, Ph.D.: rebecca.creasy@tamu.edu
- Yaguang (Sunny) Luo, Ph.D.: yaguang.luo@ars.usda.gov
- Laura Strawn, Ph.D.: lstrawn@vt.edu
2019 – 2020 Phi Tau Sigma Committees

Awards
“The Awards Committee shall develop appropriate awards programs to recognize distinguished scientists who have made substantial contributions to Food Science and Technology and its related disciplines. Awards programs shall also be developed to recognize promising younger scientists and students.” [Phi Tau Sigma ByLaws, Article XI, Section 1]
Ravi Chermala, M.S., Chair, (ravichermala@gmail.com), Charlwit Kulchaiyawat, Ph.D., Incoming Chair, Rick Falkenberg, Ph.D., Kasiviswanathan (Muthu) Muthukumarappan, Ph.D., Lili He, Ph.D., Ravi Jadeja, Ph.D., Surendranath Suman, Ph.D., Luo, Yaguang, Ph.D., Rotimi Aluko, Ph.D., Elena Castell-Perez, Ph.D., Nathalie Plundrich, Ph.D.

Chapter Affairs
“The Chapters Affairs Committee shall be responsible for the relationships between the SOCIETY and the Chapters” [Phi Tau Sigma Bylaws, Article XI, Section 2]
Claire Koelsch Sand, Ph.D., Chair, (clairekoelschsand@gmail.com), Terri Boylston, Ph.D., Incoming Chair, Amy Simonne, Ph.D., Past Chair, Lily Yang, M.S., Charlwit Kulchaiyawat, Ph.D., Evelyn Watts, Ph.D., Naim Montazeri, Ph.D., Reza Tahergorabhi, Ph.D.

Constitution & Bylaws
“The Committee shall maintain continuing surveillance over the developments of any conflicts between the Constitution and the Bylaws. It shall review and make recommendations to the Executive Committee on all proposed amendments to the Constitution or Bylaws.” [Phi Tau Sigma Bylaws, Article XI, Section 3]
T. Matt Taylor, Ph.D., Chair (matt_taylor@tamu.edu), Rick Falkenberg, Ph.D., Kenneth McMillin, Ph.D., Hossein Daryaei, Ph.D., Anand Mohan, Ph.D., Vijaya Varma Indukuri, Ph.D., Lida Rahimi Araghi, M.S., Ravi Jadeja, Ph.D.

Finance
“The Finance Committee shall be responsible for managing the SOCIETY’S finances including preparing and submitting the budget.” [Phi Tau Sigma Bylaws, Article XI, Section 4]
Kantha Shelke, Ph.D., Chair (kantha@corvusblue.net), Daryl Lund, Ph.D., Past Chair, Ken Lee, Ph.D., Mary Schmid, Ph.D., Kathryn L. Kotula, Ph.D., Rakesh Singh, Ph.D., Liz Boyle, Ph.D., Martin Sancho-Madriz, Ph.D.

Membership & Qualifications
“The Membership and Qualifications Committee shall review all membership nominations for compliance with the SOCIETY’S requirements and shall recommend qualified candidates to the Executive Committee for induction into Phi Tau Sigma.” [Phi Tau Sigma Bylaws, Article XI, Section 5]
Lauren Jackson, Ph.D., Incoming Chair (lauren.jackson@fda.hhs.gov), Rebecca Creasy, Ph.D., Past Chair, Elizabeth M. Grasso-Kelley, Ph.D., Diane Schmitt, Ph.D., Ashwini Wagh, Ph.D., Rick Falkenberg, Ph.D., Kevin Mis Solval, Ph.D., Rodrigo Tarté, Ph.D.

Newsletter and Communications
“The Newsletter shall serve as a source of information about the SOCIETY, its Members, and other news and information related to Food Science and Technology.” [Phi Tau Sigma Bylaws, Article XI, Section 7]
Kathryn Kotula, Ph.D., Editor-in-Chief, Chair (kkitota@msn.com), Claire Zoellner, Ph.D., Associate Editor (cezz3@cornell.edu), Anthony W. Kotula, Ph.D., Hossein Daryaei, Ph.D.,
Nominations & Elections
“The Nominations and Elections Committee shall solicit nominations for officers and At-Large Councilors, screen candidates and obtain written agreements from them to serve if elected, in time to meet the balloting deadlines.” [Phi Tau Sigma Bylaws, Article XI, Section 6]
Tom Aurand, Ph.D., Chair, (tom.aurand@gmail.com), James Valenti-Jordan, M.S., Past Chair, Charles Onwulata, Ph.D., Roger Clemens, DrPH, Jozef Kokini, Ph.D., Ravi Chermala, M.S., M.B.A., Lida Rahimi Aragh, M.S., Martha Verghese, Ph.D.

Program
“The Program Committee shall be responsible for identifying and presenting appropriate programs to encourage the long-range professional growth of the SOCIETY. It shall be responsible for all activities at the Annual Meeting of both the SOCIETY and of the Institute of Food Technologists, other than the meeting of the Executive Committee. The committee may develop or assist in developing programs for smaller groups or members, such as: Chapters, regional meetings, symposia or scientific lectureships.” [Phi Tau Sigma Bylaws, Article XI, Section 8]
Martin Sancho-Madriz, Ph.D., Chair (mfsancho@cpp.edu), Liz Boyle, Ph.D., Past Chair, Ruojie (Vanessa) Zhang, Ph.D., Ashwini Wagh, Ph.D., Yaguang (Sunny) Luo, Ph.D., Kathiravan Krishnamurthy, Ph.D., Akhila Vasan, Ph.D., Navam Hettiarachchy, Ph.D.

Development
Develop and implement strategies and mechanisms to raise long range funding to allow Phi Tau Sigma to be funded in perpetuity.
Kathryn Kotula, Ph.D., Chair (kkotula@msn.com), Steve Campano, M.S., Daryl Lund, Ph.D., Kantha Shelke, Ph.D., Mary Schmidl, Ph.D.

Ad Hoc Audit
Audits, reviews, and reports on the Treasurer’s records.
Luis Pena, M.S., Chair (lepena@ncsu.edu), Denny Heldman, Ph.D., Past Chair, H. Kenneth Johnson, M.S., Keith Belk, Ph.D.

Ad Hoc Strategic Relations
Develop and recommend to the Executive Committee a prioritized strategic plan for long term financial stability and relationship building of Phi Tau Sigma.
Kantha Shelke, Ph.D., Chair, (kantha@corvusblue.net), Taylor Wallace, Ph.D., Past Chair, Ted Labuza, Ph.D., Roger Clemens, DrPH, Amy Simonne, Ph.D., Larry Keener, B.S., Dongjun Zhao, Ph.D.

Ad Hoc Student Relations
Develop and recommend to the Executive Committee a prioritized strategic plan for a long term relationship with IFTSA and Phi Tau Sigma and improve student relations/interactions with student members of Phi Tau Sigma. The recommended strategies may be implemented with Executive Committee approval.
Claire Zoellner, Ph.D., Chair (cez23@cornell.edu), Rebecca Creasy, Ph.D., Past Chair, Hannah Laird, M.S., Anand Mohan, Ph.D.

Ad hoc Website/Wikipedia Committee
Provides leadership, creativity and timely information for the Phi Tau Sigma website and the webpage on Wikipedia.
Ad hoc Recruitment Campaign Committee
To identify and encourage Phi Tau Sigma membership nominations of professionals.
Daryl Lund, Ph.D., Chair (dblund@wisc.edu), Steve Campano, M.S., Liz Boyle, Ph.D., Claire Zoellner, Ph.D., Ruth MacDonald, Ph.D., Rodrigo Tarté, Ph.D.

Ad hoc “Building a Science Bridge” Committee
To explore if the "National" Headquarters of Phi Tau Sigma should support and adopt into a global program “Building a Science Bridge to Africa and Beyond” beyond the local Chapter at the University of Minnesota.
Mary Schmidl, Ph.D., Chair (mschmidl@umn.edu), Robert Brackett, Ph.D., Daryl Lund, Ph.D., Jenny Hayek, B.S., Kathryn L. Kotula, Ph.D., Vaidhyanathan Anantharamkrishnan, B.S., Sofia Feng, Ph.D.

Ad hoc Internship Organization Committee
To organize and administer a program to advertise and link companies seeking interns with Phi Tau Sigma students seeking internships.
Rebecca Creasy, Ph.D. (rebecca.creasy@tamu.edu), David Park, M.S., Past Chair, Ellen Bradley, B.S., Gayathri Balakrishnan, Ph.D., Kantha Shelke, Ph.D., Christina Dewitt, Ph.D., Purnendu C. Vasavada, Ph.D.

Calendar:

> Phi Tau Sigma Scholarship and Awards Schedule:
  
  **November 30**: Deadline to submit nominations to the Awards Committee for the Dr. Daryl B. Lund International Scholarship.
  
  **February 1**: Deadline to submit nominations to the Awards Committee for the Phi Tau Sigma Special Recognition Award, the Phi Tau Sigma Student Achievement Scholarship, the Dr. Gideon “Guy” Livingston Scholarship, and the Phi Tau Sigma Founders’ Scholarship.
  
  **April 1**: Deadline to submit nominations to the Awards Committee for the Phi Tau Sigma Outstanding Chapter of the Year Award.

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

> December 18: Deadline to submit Nominations for the Dr. Carl R. Fellers Award, and other IFT Achievement Awards.


> Phi Tau Sigma Chapter Schedule:
  
  **November 1**: Deadline to order Honor Cords and lapel pins to ensure delivery before Fall graduation dates
  
  **March 15**: Deadline for membership nominations to ensure decisions from the Membership and Qualifications Committee before the Annual Meeting
April 1: Deadline to order Honor Cords and lapel pins to ensure delivery before Spring graduation dates
May 1: First call for Chapter annual reports
June 1: Second call for Chapter annual reports
July 1: Final call for Chapter annual reports
August 1: Deadline for Chapter annual reports

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

—> Election schedule:
December 15: Nominations due to Nomination and Election Committee
(Tom Aurand, Ph.D., Chair, tom.aurand@gmail.com)
January 2: Nominations and Elections Committee convenes
January 21: Deadline for Nomination and Elections Committee to submit slate of candidates to President
February 5: Last date on which nominations by petition may be submitted
March 2: List of candidates will be emailed to the Members for balloting
March 30: Deadline for casting ballots
April 8: Deadline for tabulation of ballots
June 2: Phi Tau Sigma President will present the newly elected individuals to the Membership at the Annual Business Meeting of Phi Tau Sigma

—> July 12-15, 2020, Institute of Food Technologists Annual Meeting, Chicago, IL:
July 12 (Sunday): (times tentative)
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
3:30pm-4:20pm Phi Tau Sigma and IFT Division Competition Awards Ceremony
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.)

(Contributed by Ogechukwu W Tasie, Ph.D. granted fall 2018 under the direction of Dr. Lamin S. Kassama. The committee members include Dr. Verghese, Dr. Boateng, Dr. Fakas, and Dr. Tazisong. Department of Food Science, Alabama Agricultural and Mechanical University; Research Group website: [http://www.aamu.edu/academics/colleges/agricultural-life-natural-sciences/departments/food-animal-sciences/index.html](http://www.aamu.edu/academics/colleges/agricultural-life-natural-sciences/departments/food-animal-sciences/index.html)

**Introduction:** Red kidney beans (RKB) are rich sources of protein, fiber, carbohydrates, vitamins [1], bioactive phenolic compounds [2], and Phytic acids. Phytic acids are anti-nutritional factors that inhibit nutrients bioaccessibility [3; 4]. Dehydrated bean flours are high in phenolic compounds, as reported by Aguilera et al. [5]. Hence, it is hypothesized that enzyme hydrolysis will reduce the anti-nutrition effect and increase the bioaccessibility of nutrients in RKB. Greiner and Konietzny [6] reported that plant phytase is usually not suitable for hydrolysis of dietary phytic acid passing through the human stomach. Increasing the concentration of phytase in the digestive system may enhance the degradation of phytic acid and increase the bioavailability of nutrients.

**Purpose:** The main purpose of the study was to characterize the phytochemical and antioxidant potentials of enzymatic-hydrolyzed canned RKB and their bioavailability in the gastrointestinal tract (GIT) using simulated *in vitro* digestion model.

**Methods:** Brine and buffer solutions were used for canning RKB, and prior enzyme hydrolysis was conducted with Maxamyl enzyme concentrations of 0 (control) and 200 phytase units (FTU). A simulated digestion model of the GIT consists of 3 vessels connected in series to simulate the mouth (oral), stomach, and intestine. The hydrolyzed canned RKB were fed to the simulated oral (OP), gastric (GP), and intestinal (IP) system to study the effect of hydrolyzed canned RKB in the GIT. The aliquots were collected from the OP, GP, and IP simulation systems, and the Ferric Reducing Antioxidant Potential (FRAP) was determined [7].

**Results:** The ANOVA of the FRAP data of simulated digested RKB shows that the concentration of enzymes significantly (p<0.01) influenced the FRAP concentration during the GIT simulation. Figure 1 shows the mean FRAP concentration of canned RKB in the OP, GP, and IP for RKB hydrolyzed with enzymes with 0 and 200 FTU concentrations. The mean FRAP concentration is an indication that enzymatic...
hydrolysis increases the antioxidant potential of hydrolyzed RKB. The results also showed an increased bioavailability of nutrient during the in vitro digestion.

**Significance:** This study has shown that RKB can be used as a potential source of phytochemicals. Addition of food-grade enzyme (Maxamyl) for hydrolyzing RKB has enhanced the release of phytochemicals. Our results have confirmed that enzyme hydrolysis increases the bioavailability of nutrients. Hence, this significant finding can be used to improve the nutritional content of RKB and other legumes during processing.

**References:**

**Lifetime Member Tribute: Kevin Mis Solval, Ph.D.**
Assistant Professor, Food Science and Technology, University of Georgia

*Why did you become a Lifetime Member?*
I became a Lifetime Member because my professional values and goals perfectly align with those of the organization. I am very passionate about promoting the food science field. Phi Tau Sigma provides an incredible platform to students and professionals to interact and share their passion for the field; so, I am very honored to be part of this prestigious organization.

**Education:**
2008 - B.S. Food Science and Technology from Zamorano University, Honduras;
2011 - M.S. in Food Science from Louisiana State University (LSU);
2015 - Ph.D. in Biological and Agricultural Engineering from LSU.
Experience/Accomplishments:
I joined the University of Georgia (UGA) as an Assistant Professor of Food Process Engineering in the Fall of 2018 where I work on developing smart food ingredients. Before joining UGA, I was a Process Engineer at the Global Graphene Group, in Dayton, OH where I managed the spray drying operations of the company. That was an incredible opportunity that allowed me to work on developing nanomaterials for energy storage applications. I also worked as an Assistant Professor of Biological and Physical Sciences at the University of Holy Cross in New Orleans, LA. from 2015 to 2017 where I taught college level food processing and physics courses and assisted local food startups in food product development and scale-up processing.

Areas of Expertise:
Spray drying, scale-up processing, food ingredient development, microencapsulation of bioactives, computational fluid dynamics (CFD) simulations.

Awards and Honors (selected list):
O’Neil I Science – Endowed Professorship, The University of Holy Cross
IFT’s Feeding Tomorrow Graduate Scholarship

Personal: Family, Interests, Hobbies:
I am happily married to Deborah Xavier-Mis. We have a 2-year old daughter, Maria Fernanda. Among many things, I enjoy training and running obstacle races like the Spartan Race and reading psychology books like “Thinking Fast and Slow” by Daniel Kahneman and “The Power of Habit” by Charles Duhigg. I also enjoy watching college football.

Advice to university students and career food scientists and technologists:
Enjoy your time as a student, it is one of the best times to build long-lasting relationships. Seek advice from your mentor and peers. Take advantage of the many learning opportunities that your university offers. Be able to adapt quickly to new environments and look for opportunities outside the field where your expertise is needed. Take time to exercise, meditate and volunteer in professional organizations like IFT, and Phi Tau Sigma.

Chapter News:

Update from the UMass Chapter
(Contributed by Dr. David Sela, Lifetime Member)

The UMass Chapter of Phi Tau Sigma was re-activated in fall 2014. This year (2018-19), the UMass Chapter of Phi Tau Sigma was led by Dr. David Sela with strong support by the department head, Dr. Eric Decker. In these three years, we have quickly established the Chapter with 8 professional members and 15 student members. Many of our members have received prestigious awards from the professional societies. So far, we have successfully organized 18 Phi Tau Sigma events from 2014 to the present, including student seminars and invited talks from academia and industry, which gave a strong showcase to the department and greatly benefit to our students and faculty.

On April 26, 2019, we hosted a graduate seminar on tips for academic competitions, which aroused great interest among students in promoting their oral and poster presentation skills, and the induction ceremony was included to announce our newly officers.
On November 08, 2018, a list of over 20 kinds of awards/scholarships from Phi Tau Sigma, ACS, AOCS, IFT, and NEIFT was introduced to students, which greatly promoted students’ enthusiasm in award application. On September 13, 2018, the product development seminar was held with winners of competitions sponsored by USDA, BASF, and Ocean Spray, and the speakers’ insights got great appreciation from the instructor and students.

We expect to continue growing and to fulfill the mission of Phi Tau Sigma, to raise the stature and recognize scholarly achievements of the Food Science and Technology profession.
**Member News:**

**Yiwen Li, First Prize of the CAFS Competition**

Yiwen Li, Ph.D. student, of the University of Georgia Chapter won the first prize of the Chinese American Food Society (CAFS) Student Paper Competition in June, 2019. Yiwen’s submission, “Dynamic Ex Vivo Intestinal Model: Development, Nutrient Absorption Behavior, and Application in Study of Human Milk and Infant Formula Bioavailability”, addressed pediatric nutrition and infant formula.

The Chinese American Food Society (CAFS) is a non-political and non-profitable ethnic Chinese organization of Chinese Food Scientists & Technologists in various areas including Food industry, University, or Governmental agencies in the U.S. The committee chairs and officers of CAFS make effort to improve the organization and provide better services for all CAFS members.

Yiwen is the 2019-2020 President of the University of Georgia Chapter of Phi Tau Sigma.

**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/](http://www.phitausigma.org/membership-dues/). Proceed on to pay by PayPal. Once you are successful with your PayPal payment, you will receive a receipt. If you do not receive a receipt, please try again.

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

33 West Ontario, Suite 57F, Chicago, IL 60654.

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

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

**Phi Tau Sigma Store**

Phi Tau Sigma has an online store. Items featured include Honor Cords, Official Lapel Pins, Banners (podium and wall/table), Annual and Lifetime Member dues, printed Certificates of Membership, and an opportunity to make tax deductible donations to Phi Tau Sigma. The Society Store can be found by going to [www.phitausigma.org/store](http://www.phitausigma.org/store).
Phi Tau Sigma & IFT Division Competition Awards Ceremony at IFT19
(Contributed by Claire Zoellner, Ph.D., with photos from IFT’s Knowledge and Learning Experiences Team and Natalie Jane Oswell)

The awards ceremony took place on Sunday June 2, 2019 at the IFT Annual Meeting in New Orleans, LA. IFT President and Phi Tau Sigma Member, Michelle Perchonok, Ph.D. (above), welcomed all student competitors and award nominees to the event.

Phi Tau Sigma President, Rakesh Singh, Ph.D. (left), and Phi Tau Sigma Awards Committee Chair, Poulson Joseph, Ph.D. (right), introduced and presented the Phi Tau Sigma Awards.
Congratulations to all award winners! The following were present to receive their awards in person at the awards ceremony:

**Amadeus (Ando) Driando Ahnan**, University of Massachusetts Amherst, Phi Tau Sigma Achievement Scholarship

**Ruojie Zhang, Ph.D.**, University of Massachusetts Amherst, Phi Tau Sigma Achievement Scholarship

**Shreya Sahasrabudhe, Ph.D.**, Purdue University, Phi Tau Sigma Achievement Scholarship

**Claire Zoellner, Ph.D.**, Cornell University, Phi Tau Sigma Founders’ Scholarship
Phi Tau Sigma IFT19 Fun Run + Fitness Team

Phi Tau Sigma formed a team to participate together in the annual IFT19 Fun Run + Fitness event, Feeding Tomorrow’s largest fundraiser to support food science student scholarships. The team of 10 members participated either virtually to complete a fitness activity or in-person on Monday, June 3rd at Audobon Park for a 5k run or 1-mile walk. It was a hot morning in New Orleans, but we had a great time connecting with other Phi Tau Sigma and IFT members.

Pictured (left to right) are Stephanie Masiello, Ph.D., Ogechukwu Tasie, Ph.D., Claire Zoellner, Ph.D., Kelly Higgins, Ph.D., and Randol Rodriguez, Ph.D. Team members not pictured include Stephen Campano, M.S., Christine Cord, Ph.D., Rebecca Creasy, Ph.D., Paula Feldmar, MBA, Kathryn Kotula, Ph.D., and Joe Regenstein, Ph.D.

Read the event impact report to see how our participation contributed to the...
success of the Fun Run, and check out the photos on the event Facebook page. To learn more about Feeding Tomorrow’s year-round work, get involved, or to make a donation, visit feedingtomorrow.org.

About Phi Tau Sigma Communications:

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

The Newsletter Committee particularly wishes to share news from Phi Tau Sigma Members and Chapters. Any items for the monthly Phi Tau Sigma Newsletter should be emailed in Word to Editor Kathryn L. Kotula, Ph.D. at klkotula@msn.com or Associate Newsletter Editor Claire Zoellner, Ph.D. at cuz23@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.phitasigma.org.

Phi Tau Sigma Membership Nominations
http://www.phitasigma.org/membership-nomination-form-pdf/
http://www.phitasigma.org/membership-nomination-form-word/

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

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

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

Every Member Get A Member Campaign
http://www.phitasigma.org/growing/
Donors, Sponsors, and Contributing Partners:

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

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

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

Contributions are appreciated in any amount, and can be made by way of the Phi Tau Sigma website (http://www.phitausigma.org/sponsor/). Donations by check can be made by contacting: Treasurer Kantha Shelke, Ph.D. (kantha@corvusblue.net), 33 West Ontario, Suite 57F, Chicago, IL 60654. Please write “Donation” or “Sponsorship” in the subject line. Contributions of $500 or more will be recognized publicly by the Society at the annual meeting, on the Phi Tau Sigma website, in printed material associated with relevant programs and events, and in the Phi Tau Sigma monthly Newsletter. Sponsorships of awards and scholarships are also available at levels of contribution sufficient to cover the associated cost of the award or scholarship. Endowments are also accepted.

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

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

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

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

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

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

Diamond ($25,000)
• Platinum benefits.
• Prominent multi-year listing on the Phi Tau Sigma website as a sponsor of an Endowed Program.

Some corporations will match individual contributions of their employees, so check with your company about matching funds.
For more information contact the Treasurer, Kantha Shelke, Ph.D. (kantha@corvusblue.net), or the Executive Director, Kathryn L. Kotula, Ph.D. (klkotula@msn.com). Please write "Donation" or "Sponsorship" in the subject line.

2018-2019 Donors and Sponsors:

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

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

Dr. Fergus Clydesdale, a Lifetime Member of Phi Tau Sigma, is the Distinguished Professor and Director of the UMass Food Science Policy Alliance, University of Massachusetts Amherst and a member of Phi Tau Sigma since the 1960’s.

Dr. Rakesh K. Singh is the President of Phi Tau Sigma, a Lifetime Member; and is Professor and Head of Department of Food Science & Technology at the University of Georgia. He is also a Fellow of IFT and Editor-in-Chief of LWT – Food Science and Technology. (Sponsorship of a Phi Tau Sigma Student Achievement Scholarship.)

David K. Park, M.S., Phi Tau Sigma Lifetime Member, is Principal, Food-Defense, LLC, providing expert food safety / food defense, USDA and USDA-FSIS Process Authority consultation for thermal and non-thermally processed low acid canned foods (LACF), acidified foods (AF), and refrigerated extended shelf life foods (ESL) and their packaging systems. (Donation towards a Phi Tau Sigma Scholarship.)

Nina Teicholz, M.Phil. is an investigative science journalist and author. Her international bestseller, The Big Fat Surprise has upended the conventional wisdom on dietary fat–especially saturated fat. The executive editor of “The Lancet” wrote, “this is a disquieting book about...ruthless silencing of dissent that has shaped our lives for decades ... researchers, clinicians, and health policy advisors should read this provocative book.” The Big Fat Surprise was named a 2014 *Best Book* by The Economist, the Wall Street Journal, Forbes, Mother Jones, and Library Journal. Teicholz is also the Executive Director of The Nutrition Coalition, a non-profit group that promotes evidence-based nutrition policy. She is a graduate of Stanford and Oxford Universities and previously served as associate
director of the Center for Globalization and Sustainable Development at Columbia University. Teicholz is the only journalist to date to be elected to Phi Tau Sigma. (Donation towards a Phi Tau Sigma Scholarship, and Phi Tau Sigma programs.)

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

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

**Elsevier Publishing Company.** Elsevier’s Food Science content covers aspects of food from chemical composition, to growth and production to distribution and consumption – from farm to fork. Our extensive collection includes eBooks, print books, series, handbooks, and major reference works, all complementing our expansive collection of food science journals and designed to help food science professionals continue to be innovative and make evidence-based contributions to the communities, translating knowledge into applications for the world. Elsevier books have an established reputation for providing ground-breaking and expansive content; written by world renowned, award-winning authors and reviewed by an expert team of editors. Our wide variety of books and eBooks has been empowering research development, initiating innovation, and encouraging confidence and career growth in the scientific field. (Donation towards a Phi Tau Sigma Scholarship.)

**International Food Network, Inc.** is a consultancy based in Ithaca, New York that serves the food, beverage and nutrition industry, providing services in the areas of value optimization, corporate development, mergers & acquisitions and divestitures. Peter Salmon is IFN’s founder and principal. (Contribution for the General Fund.)
A donation was made towards a Phi Tau Sigma Scholarship by a Phi Tau Sigma Lifetime Member who wishes to remain anonymous.

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2019-2020 Contributing Partners:

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

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

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

Nina Teicholz, M.Phil. is an adjunct professor at New York University, investigative science journalist and author. Her international bestseller, The Big Fat Surprise has upended the conventional wisdom on dietary fat–especially saturated fat. The executive editor of "The Lancet" wrote, "this is a disquieting book about…ruthless silencing of dissent that has shaped our lives for decades … researchers, clinicians, and health policy advisors should read this provocative book.” The Big Fat Surprise was named a 2014 *Best Book* by The Economist, the Wall Street Journal, Forbes, Mother Jones, and Library Journal. Teicholz is also the Executive Director of The Nutrition Coalition, a non-profit group that promotes evidence-based nutrition policy. She is a graduate of Stanford and Oxford Universities and previously served as associate director of the Center for Globalization and Sustainable Development at Columbia University. Teicholz is the only journalist to date to be elected to Phi Tau Sigma. (Sponsorship of the Phi Tau Sigma Special Recognition Award, and Phi Tau Sigma programs.)

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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)
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