
Rice Division Newsletter 2016

Update from the Division

To Increase the visibility of Rice Divisions on centennial lane during the exhibit hours at the 2015 Annual Meeting in Minneapolis, our division made some attendees curious and we are proud to welcome **9 new Division members** as a result of this initiative. As of Jan. 2016, our division has a total of 45 members, including 8 student members, suggesting that we should welcome more students to join our division.

As requested by the Division Leadership Council (DLC), we have worked on the revision of the **Division bylaws**, because some of the content seem outdated or might not be relevant anymore. The revised bylaws will be adapted to the current situation and needs of the Rice Division upon deliberation and approval from the members. The revision should be more specific in outlining the responsibilities of each officer, so that (especially incoming) officers will have a valuable guideline for what is expected of them. At this stage, we hope to receive any suggestions and comments from division members.

In January, a **DLC meeting** took place at AACC International headquarters, where Dr. Rusty Bautista personally represented the Rice Division. The DLC aims to reinvigorate and strengthen the **Division as a source of expertise** for AACC International. To achieve this goal, the Division leaders were asked to go through their membership, identify researchers, experts and potential symposium speakers and forward key peoples' names.

The major initiative the DLC will be putting together in 2016 will be a tiered "**Grain Science for Food Scientists**" educational meeting or workshop that will involve the collaboration of all AACC International Divisions. During the meeting, the division gained support from AACCI to offer a short course on rice milling and physicochemical properties through the Rice Processing Program of the Department of Food Science, University of Arkansas. The short course is being planned and coordinated by Dr. Ya-Jane Wang and Dr. Terry Siebenmorgen; it is planned to be offered in 2017.

Financial Report: As of March, 2016, Rice Division has a financial balance of 5755.73 USD. During the Division meeting, we will discuss the possibility to offer speakers some travel scholarships in the future annual meetings.

Highlights: ***Planning to attend the 2016 Annual Meeting in Savannah, GA (Oct. 23-26, 2016)***

"The AACCI Annual Meeting is **the place** to learn, collaborate, and innovate with the

best and the brightest in the grain-based foods industry"! Our Rice Division was active in contributing suggestions for symposia at the upcoming Annual Meeting in Savannah, GA. In addition to exchange of scientific findings and social networking, our rice division will have a Division meeting to discuss Division development during Division Lunch time (12:00-1:30, Monday, Oct. 24, 2016). There are two rice-based symposia in Monday. One is "***Rice: From Field to Application***"(at 10:30am-12:00pm, Oct. 24, 2016), and the other is "*Recent Advances on Structure-Function Relations of Rice and Rice-Based Food*" (at 1:30-3:00pm, Oct. 24, 2016) organized by our division. It should be noted that there are also rice-related talks in other symposia. Do not miss the latest exciting science in Rice Chemistry and Technology! We are looking forward to seeing you all at the meeting and welcome you to attend the division meeting during Division Lunch time (12:00-1:30, Monday, Oct. 24, 2016).

Please also consider to attend the "**Rice Milling & Quality Technical Committee Meeting**" which will be held October 25th, at 7:30 as has been posted by Mark Bason.

Important: *Rice Division Events at the 2016 Annual Meeting in Savannah, GA*

The Rice Division meeting during Division Lunch time (12:00-1:30, Monday, Oct. 24, 2016).

The agenda of the rice division meeting, 2016

1. Welcome, introductions and election, by Jinsong Bao [3-5 min]
2. Updates in our division, by Rusty Bautista [3-5 min]
3. Introduction of rice technology and chemistry short course seminar/training, by Ya-jane Wang [5-10 min]
4. Introduction of new instruments for measuring chalk and other grain quality traits, by Francesco DellEndice (QualySense) and Mark Bason (Pertin Instruments) [5-10 min/each]
5. Any other business
6. Adjourn

Recent Advances on Structure-Function Relations of Rice and Rice-Based Food

Organizer: Jinsong Bao & John Manful

Time: 1:30-3:00, Oct. 24, 2016.

Rice is an important crop in the world, especially in Africa and Asia, and it is unique in the form of its consumption as intact kernels. New forms of rice products are under development, but our understanding of their quality is insufficient. The objective of this symposium is to discuss the quality requirements and structure-function relationships in cooked rice, rice noodle, rice bread, parboiled rice and whole grain rice.

- Effects of rice variety and milling method on the quality of Chinese traditional fermented rice noodles. S. ZHOU, China Academy of Agricultural Science, Beijing, China

- Importance of feedstock and soaking conditions on parboiled rice quality. YJ. WANG, Department of Food Science, University of Arkansas, Fayetteville, AR, U.S.A.
- Enhancing the health-beneficial qualities of whole grain rice. MH. CHEN, Dale Bumpers National Rice Research Center, Stuttgart, AR, U.S.A.
- Sensory quality of cooked rice as affected by degree of milling. X. DUAN, Academy of State Administration of Grain, Beijing, China
- What are the technological keys for producing a steam-cooked bread (Ablo) from rice. C. MESTRES, CIRAD, France, Montpellier, France

Highlights: *New Rice Chemistry and Technology-Related Research*

A special issue published in the Food Chemistry (2016, Vol 91, Pages 1-162) edited by Jaspreet Singh, Lovedeep Kaur and Yukiharu Ogawa focuses on the “*Advances in Rice Chemistry, Nutrition and Technology*”. The issue presents the recent developments in areas such as rice composition and its functional components, processing and quality optimization, boiled and parboiled rice, starch digestibility and nutritional value, new methods of characterization, rice starch chemistry, and the utilization of rice by products.

(<http://www.sciencedirect.com/science/journal/03088146/191>)

Rice related paper (titles) submitted in this 2016 annual meeting, please go to the AACCI website to read detailed abstracts.

1. Effects of rice variety and milling method on the quality of Chinese traditional fermented rice noodles
2. The effects of rice flour and corn starch on estimated glycemic index of rice vermicelli
3. Impact of rice varieties and milling processes on rice flour and final bakery products quality
4. One-pass drying of rough rice with 915 MHz industrial microwave vs. degree of milling and milled rice quality
5. Sensory quality of cooked rice as affected by degree of milling
6. Enhancing the health-beneficial qualities of whole grain rice
7. Application of instrument-based texture measurement to rice quality evaluation
8. Importance of feedstock and soaking conditions on parboiled rice quality
9. Variations in rice grain quality traits across locations in Africa
10. The effects of nitrogen treatment on crack formation during wetting in rice
11. Impact of parboiling feedstock in the simultaneous fortification of rice with iron and zinc
12. Digestibility and physicochemical properties of rice being parboiled combined with heat moisture treatment
13. Effects of cooled storage conditions on milling yields and color properties of parboiled rice
14. Effect of soaking temperature on the healing of fissured rough rice kernels
15. QSorter: A fast and repeatable method for quality inspection and grading of rice
16. Experimental simulation of cross-flow rice drying: moisture content and milling yield profiles
17. Characterization of temperature and quality profiles of rice dried using microwaves for multiple bed thicknesses
18. Enhanced GABA Synthesis in Rice Bran by Anaerobic Incubation and Glutamate Addition

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19. Nutrient profiles and antioxidant activities of germinated brown rice and its food products
 20. Kernel and starch properties of United States and imported medium/short-grain rice
 21. What are the technological keys for producing a steam-cooked bread (Ablo) from rice
 22. Characterization of broken rice kernels caused by moisture-adsorption fissuring – an extended study
 23. SPME/GC–MS study on Volatile Compounds from Aromatic Rice (*Oryza sativa* L.) Cultivars of India
 24. A systematic review of the effects of sustainable production practices on rice quality and nutrient content
 25. Combining metabolomics and genomics to provide robust and trait-relevant tools to rice breeders.
 26. Pasting and cooking properties of aged high amylose rice affected by the changes of storage protein and starch
 27. Characterization of the time evolution of starch structure from rice callus, a model system for plant bioengineering
 28. Millet and teff based gluten free pasta formulated with corn starch and glycerol mono-stearate as texture enhancers
 29. Starch-Gum Interactions in Gluten Free Sorghum Bread
 30. GABA enrichment and functional metabolites produced by Mung bean and cereals fermentation system for foods
 31. Use of Grain Sorghum as the Primary Grain Ingredient in Premium Extruded Foods Designed for Cats
 32. Evaluation of characteristics and palatability of dog kibbles made with pea starch vs other starches
 33. Microscale structure and thermal and pasting properties of sweet corn and cow cockle starches
 34. Physicochemical, functional and digestion characteristics of thermally treated starches under acidic/alkaline conditions
 35. Formulating with Protein – Opportunities and Challenges from a Consumer Packaged Goods Perspective
 36. Harmonizing Sensory Attributes with Nutrition Claims and Emotional Benefits for Ready-To-Eat Cereals: A Case Study
 37. Relationship between pasting parameters and length of paste drop of various starches
 38. Effects of Hydrocolloids on Shear-thickening Behavior of Starch Dispersions and Its Impacts on Gastric Emptying Rate
 39. Comparison of different nitrogen detection methods after Kjeldahl digestion of dietary fiber preparations