

## Annual Report of AATCC Student Chapter at UNL

The Student Chapter of the American Association of Textile Chemists and Colorists at the University of Nebraska-Lincoln under the guidance of Dr. Yiqi Yang is one of the three AATCC student chapters in Midwestern regions of the United States. As an active student organization among all 26 student chapters around the world, diverse activities and opportunities have been offered to student members. In order to provide students with opportunities to learn more about the world's latest scientific findings and industrial techniques related to textiles, and to participate in research projects and competitions, the following activities have been held during the current academic year and will be continued in the future.

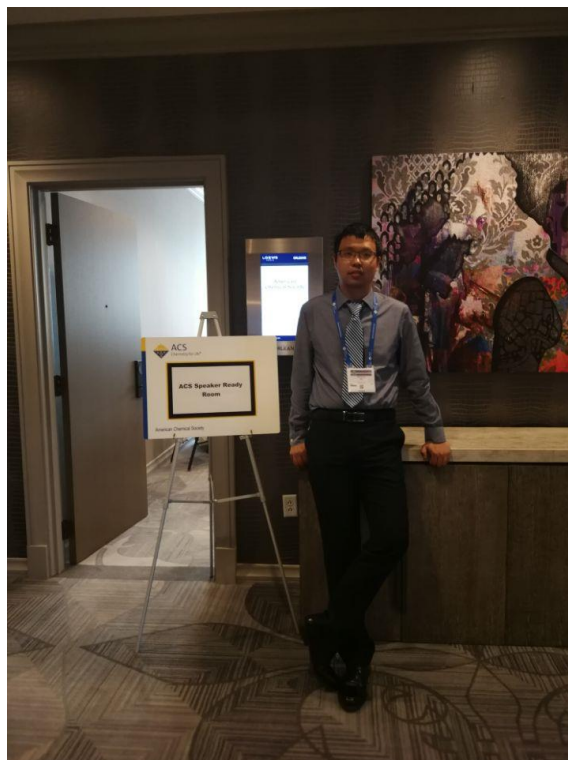
**Note: Our student chapter will NOT apply for the Student Chapter Funding since the number of our current members are less than 15.**

### ➤ Give presentations at international conferences

Members in our AATCC student chapter attended international conferences with researches supported by AATCC Foundation presented.

One conference we attended was the American Chemical Society (ACS) national meeting, which is the world's largest scientific conference that covers the complete field of chemistry and attracts 11,000 to 13,000 chemists, chemical engineers, academicians and related professionals. Three oral presentations and one poster presentation were given at the 255th ACS National Meeting, which is being held from March 18-22, 2018 in New Orleans, Louisiana. In front of the scientific community of high-level, our presence as a member of the AATCC student chapter at UNL would bring national attentions to both of our interested area and programs in Textile Science. Information of the presentations given by our members are listed as below:

- *Li\*, W., Mu, B.N., Xu, H.L., Xu, L. and Yang, Y.Q. Green and efficient extraction of highly crosslinked sorghum protein with preserved backbones. 255<sup>th</sup> ACS National Meeting & Exposition, New Orleans, LA, United States, March 18-22, 2018, AGFD-200. (March 21, 3:25-3:45 pm)*
- *Li\*, W., Mu, B.N. and Yang, Y.Q. Sorghum Protein Based Biocomposites Reinforced by Cellulose Nanowhiskers: Effect of Hydrolysis Time. 255<sup>th</sup> ACS National Meeting & Exposition, New Orleans, LA, United States, March 18-22, 2018, CELL-312. (March 21, 10:00-10:25 am)*
- *Mu\*, B.N, Xu, H.L., and Yang, Y.Q. Environmental benign and salt-free reactive dyeing of cellulose using a cottonseed oil/water system to achieve high dye fixation. 255th ACS National Meeting & Exposition, New Orleans, LA, United States, March 18-22, 2018, CELL-347. (March 21, 4:15-4:40 PM)*
- *Mu\*, B.N, Xu, H.L., and Yang, Y.Q. Investigation of accelerated hydrolysis of cellulose after chemical modification (Poster session). 255th ACS National Meeting & Exposition, New Orleans, LA, United States, March 18-22, 2018, CARB 75. (March 20, 7:30-9:30 PM)*



Our member at the 255<sup>th</sup> ACS national meeting

Another conference we will attend is the American Association of Cereal Chemists (AACC) International annual meeting, which is a place to learn, collaborate, and innovate with experts in the grain-based industry. Such a meeting draws a world-wide audience from industry, academia, and government each year. Information of the oral presentation given is also listed as below:

- *Li, W., Xu\*, L., Mu, B.N. and Yang, Y.Q. An effective extraction and potential utilization of sorghum proteins from distillers grains. Cereals & Grains 18. AACC International annual meeting. London, UK, October 21-23, 2018.*

### ➤ **Join in research projects and competitions**

Students are trained to select research topics, analyze research problems and explain their scientific findings. Diverse research topics related to textile materials can be chosen by our student members according to their interests. With the help and support from our faculty advisor and AATCC, students have more opportunities to establish their research areas and expand their horizons. Two papers have been published by our student members in top research journals since 2018, as listed below:

- *Mu, B., Li, W., Xu, H., Xu, L., & Yang, Y. (2018). Freeze-extrusion for controllable assembly of 3-dimensional ultra-fine and amorphous fibrous matrices: potential applications in sorption. Journal of Materials Chemistry A.*
- *Li, W., Mu, B., Xu, H., Xu, L., & Yang, Y. (2018). Urea-cysteine based extraction of densely crosslinked proteins from sorghum distillers grains with high yield and quality. Industrial Crops and Products, 121, 360-371.*

Members in our student chapter are also encouraged to apply for the AATCC Foundation Student

Research Support each year. Supports from the AATCC allow students to apply scientific concepts learned in classes to real-life activities. Two of our members have been awarded the AATCC Foundation Research Grants 2017-2018, as listed below:

- *Li, W. Development of 100% Regenerated Keratin Fibers of High Quality from Waste Wool and Poultry Feathers. \$1,000.*
- *Mu, B. Dual-Phase Solvent System for Sustainable Reactive Dyeing of Cotton Using Soybean Oil. \$1,300.*

### ➤ **Offer testing services to industries**

As an official student chapter of AATCC, product testing based on AATCC or ASTM standards has been performed by our student members upon requests from textile and other companies around the US. Through these activities, students are educated on current developments of the textile industry. Interactions between students and industries are gradually established. Tests performed per requests of two U.S. companies in 2017-2018 are listed as below:

- *Lightfastness to light of vinyl samples, A company in Omaha, NE*
- *Fineness and length of hemp fibers, A company in Omaha, NE*

### ➤ **Hold weekly discussions and special activities**

Through weekly meetings and discussions, students learn more knowledge in textile science and engineering, communicate with other members and become more involved in the community. Oral presentations are given by our members on their research progress. Special activities are also held with food and drinks provided to motivate participation of our members, such as:

- *AATCC Recruiting Meeting, 6:00-8:00 pm, 08/24/2018*
- *AATCC External Service Discussion, 6:00-8:00 pm, 06/05/2018*
- *Chinese Spring Festival Celebration, 6:30-8:30 pm, 02/16/2018*
- *AATCC Student Grant Discussion, 6:30-8:30 pm, 01/30/2018*
- *AATCC Grant Discussion, 6:00-8:00 pm, 12/01/2017*

### ➤ **Recruit new members**

Three new members have joined our student chapter since 2018.

In the future, the following activities are going to be held: weekly meetings, research projects, participation in research competitions, attendance to scientific conferences, external testing service to industry and promotion activities, such as the UNL E-Week open house and updates for the AATCC student chapter page. Our student chapter is dedicated to enriching the lives of members in textile areas. By providing an active and enterprising atmosphere for learning, the opportunity to make lasting friendships and connections for the future will be offered to its members.