

# USNCO Newsletter

U.S. NATIONAL CHEMISTRY OLYMPIAD

NOVEMBER 2016

## USNCO Local Competitions



ACS MIDLAND LOCAL SECTION

ACS Midland Local Section Recognition Banquet for students and teachers.

In 2016, 142 ACS Local Sections, including two ACS International Chemical Sciences Chapters, selected their contenders for the 2016 USNCO competition. The competition engaged nearly 16,000 high school students from more than 1,300 high schools in an array of activities and examinations at the school-system level.

In April, nearly 1,000 national nominees took the ACS Chemistry Olympiad National Exam. The exam consisted of three parts: 60 multiple-choice questions, eight complex problems, and two practical laboratory exercises. Several Local Sections honored their nominees with gifts, such as monetary prizes, plaques, certificates of recognition, and USNCO pins. High Honors and Honors certificates were awarded to the top-scoring 152 students on the ACS National Exam. ■

## Team ALPHA IOTA Wins Gold, Silver and Bronze Medals in Georgia



Left to right: Zilu Pan, Joyce Tian, Alex Liu, Kevin Tang

The American Chemical Society sponsored the participation of the U.S. team in the 48th International Chemistry Olympiad (IChO) in Tbilisi, Georgia. The four-member team earned four medals with one student ranking eighth in the competition. **Alex Liu**, a sophomore from The Village School, TX, won a gold medal. **Kevin Tang**, from Solon High School, OH, and **Joyce Tian**, from Thomas Jefferson High School for Science and Technology, VA, earned silver medals. **Zilu Pan**, from Canyon Crest Academy, CA, won bronze medal. The representatives of the U.S. Chemistry Olympiad team were among 264 students from 67 countries that participated in the competition, which awarded 30 gold, 57 silver, and 83 bronze medals. Mentors, **Kelli Slunt** (chemistry professor, University of Mary Washington, VA), **Patrick Chan** (chemistry teacher, Benjamin N. Cardozo High School, NY), and **Christine Saber** (chemistry professor, Gannon University, PA), accompanied the U.S. team to Georgia. ■



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# USNCO Study Camp

Twenty of the top-scoring students in the National Exam participated in the USNCO Study Camp at the University of Mary Washington (UMW), VA, May 31–June 15, 2016. These students were engaged in lectures and laboratories covering the major branches of chemistry, including biochemistry, analytical, physical, inorganic, and organic chemistry. In addition to the three mentors, the Study Camp was led by peer mentors **Jacob Sanders** (University of California Los Angeles, CA) and **Sidharth Chand** (Harvard University, MA) and faculty of the UMW Department of Chemistry. Students' skills were tested in laboratory experiments, quizzes, problem solving exercises and a final examination. At the end of the camp, six students were selected for the Alpha Iota team: **Alex Liu**, Greater Houston Local Section; **Zilu Pan**, San



K. SLUNT

*Back left to right: Anushka Walia, Yusha Sun, Miles Dai, Zilu Pan, Kevin Tang, Steven Liu, Jeffrey Shi, Eric Qian, Alex Liu, Benjamin Nguyen, Lilian Zhu, Lily Ireton*

*Front left to right: Harrison Wang, Brendan Yap, Allen Zhang, Anjali Walia, Joyce Tian, Junyu Yang, Shannon Weng, Brian Daniels*

Diego Local Section; **Kevin Tang**, Cleveland Local Section; **Joyce Tian**, Chemical Society of Washington; and

alternates, **Steven Liu**, Santa Clara Valley Local Section, and **Harrison Wang**, Chicago Local Section. ■

## 2016 USNCO Statistical Information

Grade in High School	Intended College Major	Ethnicity	Gender
2% Freshmen	23% Chemistry or other Chemistry-related fields	1% African American	26% Female
15% Sophomores	18% Pre-med/Biology	47% Asian	74% Male
57% Juniors	34% Engineering/Physics/Math	4% Hispanic	
26% Seniors	25% Other	42% White	
		6% Other	



Kayaking



Lecture



In the laboratory and taking the test



Lecture

K. SLUNT

# Team USA members reflect on the IChO



US delegation

## Zilu Pan

*"Going into the 48th IChO, I did not know what to expect. I was unsure of how I will do on the exams, I was scared of being in a foreign country. After the conclusion of the IChO, I can say it's one of the best, most unique and unforgettable experiences of my life.*

The opening ceremony in Rustaveli

National Theatre featured

Georgian dance and polyphonic music. We toured the city and explored famous sights near Tbilisi during our many excursions. The most important days for us were the practical and the theoretical exams. At the end of our stay, we were again treated to a fantastic closing ceremony, this time featuring the Tbilisi Big Band, and they played a variety of Hollywood blockbuster music such as the music from Star Wars. I was very happy to see all the medalists, as well as more of the Georgian polyphonic music. In the end, I'm so glad to have met amazing people at IChO, got to spend time learning about Georgian culture, and I will surely cherish these memories for years to come."

tion. *I would like to thank all of the ACS mentors for their support and faith, and all the help they gave me during the study camp! I would also like to thank my chemistry teacher and lab benefactor, and both the ACS and the University of Mary Washington, for without them, this year's study camp wouldn't have been possible.* I left Georgia with not only a new understanding and appreciation of its culture, but with new friends, and a new understanding and appreciation for Chemistry."

## Joyce Tian

*"Tbiliso - mzis da vardebis mkhareo," translates to "Tbilisi - the city of the sun and roses."* This refrain from the famous song "Tbiliso" left us in silent awe at the IChO opening ceremony, and further proved a motif throughout our journey in Georgia.

What I experienced, however, was not just Georgia. Each and every participant came with a slice of their motherland, contributing ultimately to a mélange of cultures. We learned that a great deal stayed constant among us: nights at the hotel were often spent playing card games or exchanging silly banter, universally appreciated time-passers. On the other hand, the exchanging of gifts, exotic chocolates, keychains, and even rugs, yielded many a unique heritage, small cultural lessons from foreign lands. *The stay was sweetened by the comradery forged between my roommates and me. Having never stayed for so long on our lonesome, we all found in each other friendships reminiscent of home. Food, study materials, and idle chatter were shared at all hours, and we became sisters in all but name. Four girls, four countries, made for one unbreakable bond.* I left Tbilisi lighter, unburdened by stress over chemistry and buoyed by the international encounters. *On my phone screen shine the faces of my new friends, separated by distance but not in spirit. In my smile, there lies Georgian sun.*" ■

## Alex Liu

*"It was a huge honor for me to represent the United States at the 48th International Chemistry Olympiad in Tbilisi, Georgia. The experiences I had over those two weeks will stay with me forever, especially the many new friends that I am very fortunate to have met.*

Both the practical and the theoretical exams were fun and challenging at the same time. On the practical exam we were asked to titrate a sample of mineral water, something that Georgia is famous for, which we also had the opportunity to taste on one of our excursions! The test writers also integrated Georgian culture into the theoretical exam, having the students calculate the amount of iodine in Georgian salt samples and decode the synthesis of an organic molecule from a plant native to Georgia. I learned that the IChO is much more than just a chemistry competition; it is also an opportunity to meet many new people from different countries connected by a similar passion for chemistry and to explore the combination of different cultures from around the world. From rooming with the Poles to playing Mafia with the Spanish and Indonesian teams, we quickly made many friends and learned about cultures from different countries, as well as sharing about what was happening in our own country. Our guide, Gvantsa, was an amazing person who took us to see Georgia's rich culture and also supported us throughout the competition."

## Kevin Tang

*"There are few things in this world that tend to surmount the barriers of language, customs, and sovereign borders; among them stand music, song and dance—and, quite unexpectedly, chemistry. In Georgia we found not fellow competitors but fellow friends, fluent in the same language of chemistry. With them, we made new friends, strengthened our bonds, and rediscovered what chemistry meant to us. Each IChO is a showcase of the host nation's culture. It is not merely a competition, but rather a means to promote cultural understanding among a new generation of chemists, and facilitate new webs of transnational coopera-*

# 48th IChO — Tbilisi, Georgia

The 48<sup>th</sup> IChO began with a beautiful opening ceremony held at the Rustaveli National Theatre and was a vibrant display of Georgian dance and music. Minister of Education and Science of Georgia and President of the 48<sup>th</sup> IChO Alexandre Jejelava, Deputy Minister of Education and Science of Georgia and Chairman of the Organizing Committee of the 48<sup>th</sup> IChO Tamaz Marsagishvili, and other officials gave welcoming remarks. Students were tested during the five-hour laboratory practical and theoretical examinations at the Agricultural University of Georgia. During the remainder of the 10 days students got to know the members of the other teams participating in planned activities and touring historic sites, ancient cities and castles and other attractions. Members of Team U.S. quickly made friends with their peers from different countries and shared as well as learned about different customs, education systems, food and hobbies. ■



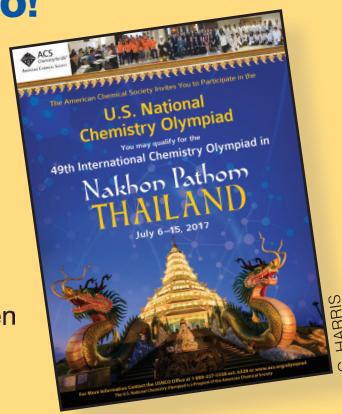
ALL PHOTOS BY 48TH ICHO

## INVITATION FOR STUDENTS TO APPLY FOR THE 2017 USNCO!

The U.S. National Chemistry Olympiad Program provides opportunities to establish social and intellectual ties among students.

To participate in the USNCO, you must be a high school student and qualify at the local level to take the ACS National Exam.

Students must be U.S. citizens or Green Card holders of the United States to take the ACS National Exam.



FOR MORE INFORMATION,  
USE THE CONTACT INFORMATION BELOW

## THANK YOU!

The ACS Donald F. and Mildred Topp Othmer Chemistry Olympiad Endowment is the primary sponsor of the U.S. National Chemistry Olympiad program.

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*Thank you for supporting the 2016 USNCO program!*



PETER CUTTS PHOTOGRAPHY

**Congratulations to the ACS Orange County Local Section for winning the Chemistry Olympiad ChemLuminary Award for its outstanding 2015 program.**

