

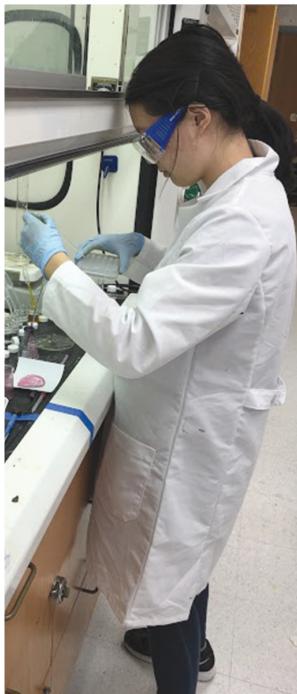


United States National Chemistry Olympiad

33rd *Summary Report*



2016



U.S. NATIONAL CHEMISTRY OLYMPIAD

33rd SUMMARY REPORT

2016

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2016 CHEMISTRY OLYMPIAD COMPETITIONS

The 48th International Chemistry Olympiad (IChO) was hosted for the first time in Tbilisi, Georgia. Sixty seven (67) countries sent 264 students to compete in theoretical and practical examinations from July 23-August 1, 2016.

The American Chemical Society (ACS), sponsored the participation of the U.S. Alpha Iota team in the 48th IChO. The four members of the team earned four medals. **Alex Liu**, a sophomore from The Village School, TX (Greater Houston Local Section), won a gold medal, ranking eighth in the overall classification of medals. **Kevin Tang**, from Solon High School, OH (Cleveland Local Section), and **Joyce Tian**, from Thomas Jefferson High School for Science and Technology, VA (Chemical Society of Washington), earned silver medals. **Zilu Pan**, from Canyon Crest Academy, CA (San Diego Local Section), won a bronze medal.

Approximately 16,000 high school students from more than 1,300 schools representing 142 ACS local sections, including two ACS International Chemical Sciences Chapters, participated in the U.S. National Chemistry Olympiad (USNCO) local competition. Nearly one thousand of these students representing 128 ACS Local Sections took the USNCO national exam to compete for a spot on the international team. The test consisted of three parts: 60 multiple-choice questions, eight complex problems, and two laboratory practical exercises.

Twenty students who excelled on the national examination were invited to participate in a two-week chemistry study camp. This year the University of Mary Washington (UMW) in Fredericksburg, Virginia hosted the camp. Students were trained in all of the major areas of chemistry by the faculty of the UMW Department of Chemistry and mentors **Kelli Slunt** (chemistry professor, UMW), **Christine Saber** (chemistry professor, Gannon University, PA), and **Patrick Chan** (chemistry teacher, Benjamin N. Cardozo High School, NY). Peer mentors **Jacob Sanders** (chemistry graduate student University of California Los Angeles, CA) and **Sidharth Chand** (chemistry graduate student, Harvard University, MA) assisted in training the students during the Study Camp. At the conclusion of the camp, the U.S. team and two alternates were named based on a combination of tests and laboratory exercises. The 2016 alternates were **Steven Liu**, Monta Vista High School, CA (Santa Clara Valley Local Section), and **Harrison Wang**, Hinsdale Central School, IL (Chicago Local Section). The three mentors accompanied the U.S. team to Georgia.

The U.S. delegation was greeted by student guide Gvantsa Kochiashvili at the airport in Tbilisi, Georgia on July 22. The team officially registered for IChO on July 23 and students were separated from the mentors.

The 48th IChO opening ceremony was held on July 24th at the Rustaveli National Theatre. The opening ceremony was a vibrant display of Georgian dance and music. A number of speakers, including Minister of Science and Education of Georgia and President of the 48th IChO Alexandre Jejelava, and the Deputy Minister of Education and Science of Georgia and Chairman of the Organizing Committee of the 48th IChO Tamaz Marsagishvili, gave welcoming remarks.

The competition examinations were prepared by a scientific committee whose members were representatives from various countries. Students were tested during the five-hour laboratory practical and theoretical examination at the Agricultural University of Georgia. When not taking exams, students spent time together with members of the other teams and visited various

attractions and historic sites surrounding Tbilisi. Students toured the 13th century Rabati castle; Mtskheta, one of the ancient cities in Georgia; Borjomi, famous for its mineral water, which was used in one of the experiments during the practical examination; the picturesque town of Sighnaghi; and the Old Town of Tbilisi. The teams reunited with their mentors during a party held at the Hotel Asterion on July 28th, where they shared their experiences from the exams.

The IChO concluded on July 31, with the presentation of medals at the closing ceremony at the Rustaveli National Theatre, followed by a banquet at the Restaurant Bermukha to celebrate the accomplishments of the students.

The success of the 2016 USNCO is reflected in the participation of nearly 16,000 students, the extraordinary accomplishments of the U.S. team at the 48th IChO, and the building of friendships between students across the globe who share the same interest and passion in chemistry.

The American Chemical Society views the USNCO program as an investment in the future of young chemists in this country. The goals of the program are to:

- *stimulate young people to achieve excellence in chemistry;*
- *recognize outstanding chemistry students and, by doing so, encourage additional learning at a formative time in their intellectual development;*
- *recognize the excellent achievement of the teachers of these students and the importance of the school environment in which they learn;*
- *promote contact between ACS local sections and area schools and foster the interest and influence of professional chemists in the teaching of chemistry;*
- *challenge the chemical knowledge and skills of young students in an international arena; and,*
- *foster cross-cultural experiences and acquaint students with similarities and differences between themselves and their counterparts in other nations.*

Since 1984, the USNCO program has been sponsored by the Donald F. and Mildred Topp Othmer Chemistry Olympiad Endowment.

Additional support was received from the following corporations through in-kind donations:

- **Advanced Chemistry Development**
pens
- **Carolina Biological Supply and Company**
laboratory supplies
- **Fisher Science Education**
laboratory coats and supplies
- **Flinn Scientific**
chemicals and laboratory supplies
- **John Wiley & Sons Inc.**
biochemistry eBooks
- **National Geographic, Cengage Learning**
analytical chemistry textbooks
- **Pearson Education Company**
physical chemistry textbooks
- **Sigma-Aldrich Inc.**
chemicals and laboratory supplies
- **Texas Instruments Inc.**
scientific calculators
- **University of Mary Washington**
chemicals
- **University Science Books**
inorganic chemistry eBooks

The ACS USNCO staff appreciates the dedication, enthusiasm, and contribution of time given by:

- The 2016 members of the USNCO Subcommittee of the Society Committee on Education, which provided policy direction for this program,
- The members of the USNCO examinations task forces, the grading team, and the mentor selection task force,
- The staff and faculty of the Department of Chemistry of the UMW, and
- The mentors and peer mentors who taught and guided the 2016 Alpha Iota Team.

Thank you!

PARTICIPATING ACS LOCAL SECTIONS

Local Section (YP**)	Coordinator	Local Section (YP**)	Coordinator
1. Akron (22)	Carol Shreiner	62. *Michigan State University (31)	Merlin Bruening
2. Alabama (25)	Shirley Ginwright	63. Mid-Hudson (32)	Lynn Maelia
3. Ames (23)	Terry Kruse	64. Midland (31)	Michael Tulchinsky
4. Baton Rouge (32)	L. Holland/ L. Wilkinson	65. Milwaukee (30)	Scott Barry
5. Binghamton (30)	Alexsandra Silva	66. Minnesota (33)	R. Naujok/ D. Blackburn
6. California (33)	Eileen Nottoli	67. MO-KAN-OK (16)	Dilip Paul
7. California Los Padres (18)	Stephen Contakes	68. Mobile (32)	Jessica Owens
8. Carolina-Piedmont (19)	Tim Champion	69. Montana (32)	Carol Pleninger
9. Central Arizona (29)	Richard Bauer	70. Nashville (29)	David Crouse
10. Central Arkansas (33)	Marian Douglas	71. New Haven (30)	Olivier Nicaise
11. Central Massachusetts (10)	T. Shea/ M. Turnbul	72. New York (33)	Stephen Goldberg
12. Central New Mexico (31)	Reg Rocha	73. North Alabama (30)	Bernhard Vogler
13. Central New York (31)	Joy Logan	74. North Carolina (30)	Myra Halpin
14. *Central North Carolina (22)	Fenghai Guo	75. North Jersey (33)	Jiwen Chen
15. Central Pennsylvania (30)	Wendy Watts	76. Northeast Wisconsin (32)	Andrew Schweitzer
16. Central Texas (31)	Carmen Velez	77. Northeastern (33)	Steve Lantos
17. Chattanooga (31)	Harriet Hamilton	78. Northeastern Indiana (28)	Ruth Nalliah
18. Chemical Soc. of Wash. (33)	Regina Cody	79. Northern Oklahoma (31)	Keith Lawson
19. Chicago (33)	R. Kohnken/D. Crumrine	80. Northern West Virginia (30)	Harry Finklea
20. Cincinnati (32)	Richard Bertz	81. Northwest Central Ohio (26)	Kelly Hall
21. Cleveland (30)	Anne O'Connor	82. Oklahoma (33)	Tami Martyn
22. Colorado (33)	Lisa Johnson	83. *Ole Miss (17)	James Reidy
23. Columbus (31)	Mary Wahba	84. Omaha (9)	Edmund Tisko
24. Connecticut Valley (33)	Edward Fitzgerald	85. Orange County (32)	Brent Shenton
25. Cornell (12)	Catherine Malele	86. *Oregon (19)	Richard Nafshun
26. Dallas-Fort Worth (26)	Kathleen Holley	87. Orlando (24)	Mary Roslonowski
27. Dayton (30)	Barry Farmer	88. Ozark (30)	Kathy Shade
28. Delaware (32)	Glenn Hartman	89. Penn-Ohio Border (31)	Michael Serra
29. Detroit (32)	Mark DeCamp	90. *Pensacola (32)	Tanay Kesharwani
30. East Central Illinois (2)	Kali Miller	91. Philadelphia (32)	Thomas Straub
31. East Tennessee (27)	Al Hazari	92. Pittsburgh (33)	Michelle Coffman
32. *Eastern New York (31)	Janet Krahm	93. Portland (31)	Nick Hamel
33. Eastern North Carolina (25)	Stephen Gabriel	94. Princeton (21)	Danielle Jacobs
34. Erie (31)	Christine Saber	95. Puerto Rico (25)	Myrna Otano-Vega
35. Florida (26)	Stephanie Dillon	96. Puget Sound (25)	Clarita Bhat
36. Georgia (27)	Heather Abbott-Lyon	97. Rhode Island (21)	Elaine Magyar
37. Greater Houston (32)	Simon Bott	98. Richland (28)	Cary Seidel
38. Green Mountain (18)	Alayne Schroll	99. Rio Grande Valley (13)	Erik Yukl
39. Hampton Roads (32)	Suely Black	100. Rochester (30)	Alexey Ignatchenko
40. Hawaii (32)	Ruth Fukuchi	101. Rock River (33)	Matthew Bork
41. Heart O' Texas (12)	Rizalia Klausmeyer	102. Sabine-Neches (16)	Lloyd Crosby
42. Hong Kong Int. Chapter (6)	David Lee Phillips	103. Sacramento (26)	Makoto Masuno
43. Huron Valley (23)	Larry Kolopajlo	104. Salt Lake (33)	Michelle Paustenbaugh
44. Idaho (31)	Rene Rodriguez	105. San Antonio (31)	E. Robert Fanick
45. Illinois-Heartland (27)	Dean Campbell	106. San Diego (32)	Joan Shellinger
46. *Illinois-Iowa (28)	Bradley Sturgeon	107. San Gorgonio (32)	Eileen Di Mauro
47. Indiana-Kentucky Border (29)	Evan Millam	108. San Joaquin Valley (6)	Shawn Fleming
48. Indiana (33)	J. Huang/ R. Pribush	109. Santa Clara Valley (30)	Sally Peters
49. Inland Northwest (9)	Thomas Flanagan	110. Savannah River (31)	Monty Fetterolf
50. Iowa (27)	Leonard MacGillivray	111. Shanghai Int. Chapter (3)	Jiang Peng
51. Jacksonville (31)	Joshua Melko	112. Sierra Nevada (14)	Ian Wallace
52. Joliet (30)	Daniel Kissel	113. Snake River (8)	Marian DeWane
53. Kanawha Valley (21)	Michael Fultz	114. South Carolina (29)	Scott Goode
54. Kansas City (32)	Innocent Pumure	115. South Florida (24)	Venkatesh Shanbhag
55. Lehigh Valley (29)	Elaine Gannon	116. *South Plains (16)	Robert Long
56. Lexington (9)	Patrick Sheridan	117. *South Texas (23)	Joe Lara
57. Louisville (19)	James Tatera	118. Southeastern Pennsylvania (32)	Thomas Eberlein
58. *Maine (29)	James Killarney	119. Southern Arizona (15)	Hillary Ward
59. Mark Twain (28)	Scott Luaders	120. Southern California (33)	Gerald Delker
60. Maryland (28)	Beatrice Salazar	121. Southern Nevada (31)	Mark Garner
61. Memphis (31)	Dennis Merat	122. Southwest Georgia (30)	Alexandrina Focsan

PARTICIPATING ACS LOCAL SECTIONS

Local Section (YP**)

- 123. St. Joseph Valley (31)
- 124. St. Louis (33)
- 125. Susquehanna Valley (30)
- 126. Tampa Bay (11)
- 127. Texas A & M (8)
- 128. Trenton (32)
- 129. Tulsa (29)
- 130. *University of Arkansas (10)
- 131. University of Missouri (21)
- 132. *Virginia Blue Ridge (14)

Coordinator

- Douglas Sisk
- Myron Reese
- Deanne Garver
- Susan Del Valle
- Wenshe Liu
- Danielle Jacobs
- Michael Henk
- Julie Stenken
- Donald Wycoff
- Kimberly Lane

Local Section (YP**)

- 133. Virginia (32)
- 134. Wabash Valley (29)
- 135. *Washington-Idaho Border (5)
- 136. Western Carolinas (28)
- 137. Western Connecticut (32)
- 138. Western Michigan (26)
- 139. Western New York (31)
- 140. Wichita (23)
- 141. *Wichita Falls-Duncan (27)
- 142. Wisconsin (13)

Coordinator

- Ann Sullivan
- Edward Mottel
- Kristopher Waynant
- George Heard
- Monica Strada
- Blair Miller
- Mariusz Kozik
- Bruce Heyen
- Jianguo Shao
- Matt Bowman

* Participated in the local section competition but not the National Exam

** YP-Number of years participating in the USNCO



AMERICAN CHEMICAL SOCIETY



USNCO STUDY CAMP PARTICIPANTS

<u>STUDENT/GRAD. YEAR</u>	<u>SCHOOL/TEACHER</u>	<u>LS/COORDINATOR</u>
Miles Dai 2016	Carmel High School, IN Virginia Kundrat	Indiana Jianping Huang
Brian Daniels 2016	Breavercreek High School, OH Tejinder Rattan	Dayton Barry Farmer
Lily Ireton 2016	Brighton High School, MI Josef Hudecek	Detroit Mark DeCamp
Alex Liu 2018	The Village School, TX Margaret Hennessy	Greater Houston Simon Bott
Steven Liu 2017	Monta Vista High School, CA Kavita Gupta	Santa Clara Valley Sally Peters
Benjamin Nguyen 2017	Valencia High School, CA Brent Shenton	Orange County Brent Shenton
Zilu Pan 2016	Canyon Crest Academy, CA Kaveh Shakeri	San Diego Joan Shellinger
Eric Qian 2017	Stevenson High School, IL Molly Sponseller	Chicago Russell Kohnken
Jeffrey Shi 2019	Marcellus High School, NY Dan Irby	Central New York Joy Logan
Yusha Sun 2016	A&M Consolidated High School, TX John Tollett	Texas A&M Wenshe Liu
Kevin Tang 2017	Solon High School, OH Anthony Sanson	Cleveland Anne O'Connor
Joyce Tian 2017	Thomas Jefferson HS for Science & Technology, VA Hadan Kauffman	Chemical Society of Washington Regina Cody
Anjali Walia 2017	Irvington High School, CA Alex Lee	California Eileen Nottoli
Anushka Walia 2017	Irvington High School, CA Alex Lee	California Eileen Nottoli
Harrison Wang 2017	Hinsdale Central High School, IL Julie May	Chicago Russell Kohnken
Shannon Weng 2018	West Windsor Plainsboro High School South, N.J. Cynthia Jaworsky	Princeton Danielle Jacobs
Junyu Yang 2016	Troy High School, CA Shannon Regli	Orange County Brent Shenton
Brendan Yap 2017	Carmel High School, IN Virginia Kundrat	Indiana Jianping Huang
Allen Zhang 2018	Carmel High School, IN Virginia Kundrat	Indiana Jianping Huang
Lillian Zhu 2016	Buchholtz High School, FL Hyon Park	Florida Stephanie Dillon

48TH INTERNATIONAL CHEMISTRY OLYMPIAD RESULTS

In the 48th International Chemistry Olympiad

264 students from 67 countries participated and were awarded:

170 medals and 9 Honorable Mentions (HM)

30 students received gold

57 students received silver

83 students received bronze

COUNTRY (number of years of participation)	MEDALS	COUNTRY (number of years of participation)	MEDALS
1. Argentina (22)	2 bronze	35. Malaysia (10)	1 bronze, 1 HM
2. Armenia	1 bronze	36. Mexico (25)	3 bronze
3. Australia (29)	4 bronze	37. Moldova (10)	3 bronze
4. Azerbaijan (17)	1 silver, 3 bronze	38. Mongolia (11)	1 bronze
5. Belarus (21)	1 gold, 3 silver	39. Netherlands (37)	1 bronze
6. Brazil (18)	2 silver, 2 bronze	40. New Zealand (25)	3 bronze
7. Bulgaria (47)	4 bronze	41. Nigeria (5)	
8. China (29)	4 gold	42. Norway (35)	
9. Chinese Taipei (17)	3 gold, 1 silver	43. Pakistan (11)	1 bronze
10. Costa Rica (7)	1 bronze	44. Peru (12)	2 bronze
11. Croatia (17)	1 silver, 2 bronze, 1HM	45. Poland (48)	1 gold, 3 silver
12. Cyprus (28)		46. Romania (46)	3 gold, 1 silver
13. Czech Republic (47)	3 silver, 1 bronze	47. Russia (23)	3 gold, 1 silver
14. Denmark (35)	1 bronze	48. El Salvador (4)	
15. Estonia (23)	4 bronze	49. Saudi Arabia (6)	2 silver, 2 bronze
16. Finland (39)	1 bronze, 2 HM	50. Serbia (5)	1 silver, 3 bronze
17. France (35)	1 bronze, 2 HM	51. Singapore (27)	2 gold, 2 silver
18. FYR Macedonia (4)		52. Slovakia (22)	2 silver, 2 bronze
19. Georgia (3)	1 bronze	53. Slovenia (25)	1 silver, 3 bronze
20. Germany (26)	1 silver, 3 bronze	54. South Africa (1)	
21. Greece (21)		55. Spain (22)	
22. Hungary (48)	4 silver	56. Sweden (43)	
23. Iceland (15)		57. Switzerland (30)	1 bronze
24. India (18)	2 gold, 2 silver	58. Syria (7)	3 bronze, 1 HM
25. Indonesia (20)	2 silver, 2 bronze	59. Tajikistan (12)	2 bronze
26. Iran (24)	2 gold, 2 silver	60. Thailand (27)	2 gold, 2 silver
27. Israel (11)	1 silver, 1 bronze	61. Turkmenistan (14)	3 bronze
28. Italy (35)	2 silver, 1 bronze, 1 HM	62. Ukraine (23)	2 silver, 2 bronze
29. Japan (14)	1 gold, 3 silver	63. United Kingdom (34)	1 silver, 2 bronze
30. Kazakhstan (19)	3 silver, 1 bronze	64. <i>USA (33)</i>	<i>1 gold, 2 silver, 1 bronze</i>
31. Korea (25)	3 gold, 1 silver	65. Uruguay (18)	2 bronze
32. Kyrgyzstan (18)	1 bronze	66. Uzbekistan (4)	1 silver, 2 bronze
33. Latvia (26)	1 silver, 1 bronze, 1 HM	67. Vietnam (21)	2 gold, 1 silver
34. Lithuania (15)	2 silver, 2 bronze		

Observing countries:

Philippines (2nd year)

Qatar (1st year)

USNCO STATISTICAL INFORMATION

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Local Exam Local Sections	45	90	115	133	138	137	142	142	136	140	138
Natl. Exam Local Sections	45	90	115	133	138	137	142	142	136	138	138
Natl. Exam Nominees	209	500	600	650	706	689	719	684	638	940	900
Countries participating in IChO	21	22	22	26	26	26	28	31	33	38	41
Students participating in IChO	76	83	86	103	104	104	111	118	131	149	156

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Local Exam Local Sections	131	136	142	147	145	143	142	146	135	131	134
Natl. Exam Local Sections	121	130	127	134	130	126	121	133	130	125	128
Natl. Exam Nominees	875	840	838	880	851	809	796	850	829	800	909
Countries participating in IChO	42	45	47	55	51	54	54	57	59	61	59
Students participating in IChO	163	170	184	185	199	216	210	225	232	234	225

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Local Exam Local Sections	133	139	127	129	133	135	141	141	143	144	142
Natl. Exam Local Sections	125	128	117	125	128	126	134	135	137	134	128
Natl. Exam Nominees	890	917	868	916	930	941	1034	1062	1011	1010	983
Countries participating in IChO	66	66	66	65	68	70	72	73	75	75	67
Students participating in IChO	254	256	257	250	267	273	283	291	291	290	264

**USNCO NATIONAL EXAM STATISTICAL INFORMATION
(TOTAL STUDENTS – 983)**

Gender				
Male		624	74%	
Female		219	26%	
Responses		843	100%	86%
Ethnic Background				
African American		8	1%	
Asian		414	47%	
Hispanic		31	4%	
White		375	42%	
Native American		5	1%	
Pacific Islander		4	0%	
Prefer not to disclose		30	4%	
Other		8	1%	
Responses		875	100%	89%
Grade in School				
8th Grade		1	0%	
9th Grade		18	2%	
10th Grade		130	15%	
11th Grade		475	57%	
12th Grade		215	26%	
Responses		839	100%	85%
Years of H.S. Chemistry				
1		205	25%	
2		580	69%	
3		50	6%	
4		1	0%	
5 or more		0	0%	
Responses		836	100%	85%
Average time per week spent doing experiments in HS Chemistry Lab				
Less than ½ hour		282	37%	
Between ½ and 1 hour		276	36%	
Between 1 and 2 hours		186	24%	
More than 2 hours		26	3%	
Responses		770	100%	78%
Intended College Major				
Biological Sciences/Pre-Medicine		173	18%	
Chemistry or other Chemical Science		220	23%	
Engineering/Mathematics/Physics		321	34%	
Other Science discipline		30	3%	
Other or undecided		195	21%	
Responses		939	100%	96%

As a result of participating in USNCO students (% responded):	Strongly agree	Agree	Disagree	Strongly disagree
Plan to study more chemistry	36%	51%	11%	2%
Plan to major in chemistry	13%	31%	47%	9%
Have more positive view about chemistry	34%	51%	13%	2%

IChO PARTICIPATING TEAMS RESULTS 1984–2016

1984 – Frankfurt, West Germany – 16th IChO

Name	School	Local Section	Medals	Ranking
Seth Brown	Taylor Allderdice H.S., Pittsburgh, PA	Pittsburgh	Silver	13 (of 76)
Keith Rickert	The Latin School of Chicago, IL	Chicago	Bronze	37
Aaron DiAntonio	Clayton H.S., MO	St. Louis	Bronze	50
Peter Capofreddi	Newton High H.S., MA	Northeastern	D. R.*	

1985 – Bratislava, Czechoslovakia – 17th IChO

Name	School	Local Section	Medals	Ranking
Keith Rickert	The Latin School of Chicago, IL	Chicago	Silver	12 (of 83)
David Maymudes	University H.S., Los Angeles, CA	Southern California	Silver	25
Glen Whitney	Medfield H.S., MA	Northeastern	Bronze	44
Eric Kelson	Bountiful H.S., UT	Salt Lake City	Bronze	54

1986 – Leiden, Holland – 18th IChO

Name	School	Local Section	Medals	Ranking
Keith Rickert	The Latin School of Chicago, IL	Chicago	Gold	3 (of 86)
David Maymudes	University H.S., Los Angeles, CA	Southern California	Silver	20
Howard Lee	Lowell H.S., San Francisco, CA	California	Bronze	49
Hedy Edmonds	Greenwich H.S., CT	Western Connecticut	D. R.*	

1987 – Veszprem, Hungary – 19th IChO

Name	School	Local Section	Medals	Ranking
Anthony West	Kempsville H.S., Virginia Beach, VA	Hampton Roads	Silver	23 (of 103)
Cecil Huang	Pequannock Townsh. H.S., Pompton Pl., NJ	North Jersey	Silver	34
Jeffrey Snyder	Amherst Central H.S., NY	Western New York	Bronze	48
Kevin Crellin	Highland H.S., Salt Lake City, UT	Salt Lake City	D. R.*	

1988 – Helsinki, Finland – 20th IChO

Name	School	Local Section	Medals	Ranking
David Cliffel	Plainfield H.S., IL	Joliet	Silver (tie)	15 (of 104)
Laurance Lee	Lowell H.S., San Francisco, CA	California	Silver (tie)	15
Brian Kantsiper	Spring Valley H.S., Columbia, SC	South Carolina	Silver	26
Kurt Huang	New Terier H.S., Winnetka, IL	Chicago	Bronze	43

1989 – Halle, German Democratic Republic – 21st IChO

Name	School	Local Section	Medals	Ranking
Raphael Lehrer	Highland Park H.S., NJ	North Jersey	Bronze	40 (of 104)
Jon Kleinberg	Iroquois Central School, Elma, NY	Western New York	Bronze	42
Michael Furlanetto	Cherry Hill East H.S., PA	Philadelphia	Bronze	64
Roger Moore	Thompson Valley H.S., Loveland, CO	Colorado	D. R.*	69

* D.R. Diploma of Recognition

IChO PARTICIPATING TEAMS RESULTS 1984–2016

1990 – Paris, France – 22nd IChO

Name	School	Local Section	Medals	Ranking
Wayne Whitney	Medfield H.S., MA	Northeastern	Gold	6 (of 111)
Marc Dionne	La Jolla H.S., CA	San Diego	Silver	30
Roger Moore	Thompson Valley H.S., Loveland, CO	Colorado	Silver	31
Steve Gubser	Cherry Creek H.S., Greenwood Village, CO	Colorado	Silver	32

1991 – Lodz, Poland – 23rd IChO

Name	School	Local Section	Medals	Ranking
Forrest Michael	Naperville Central H.S., IL	Chicago	Gold	12 (of 118)
Dean Chung	Mountain Lakes H.S., NJ	North Jersey	Silver	26
Ashley Reiter	NC School of Sci. & Math, Durham, NC	North Carolina	Bronze	39
Susan Kuhn	Girls Preparatory School, Chattanooga, TN	Chattanooga	Bronze	41

1992 – Washington, DC/Pittsburgh, PA, USA – 24th IChO

Name	School	Local Section	Medals	Ranking
Swaine Chen	O'Fallon Township H.S., IL	St. Louis	Gold	15 (of 131)
Logan McCarty	Amherst Central H.S., NY	Western New York	Silver	21
Jeffrey Chuang	Bellaire H.S., TX	Southeastern Texas	Silver	35
Christopher Herzog	Highland Park H.S., NJ	North Jersey	Bronze	44

1993 – Perugia, Italy – 25th IChO

Name	School	Local Section	Medals	Ranking
Chris Herzog	Highland Park H.S., NJ	North Jersey	Gold	5 (of 149)
Daniel Katz	Torrey Pines H.S., San Diego, CA	San Diego	Gold	14
David Hutz	Fox Chapel H.S., Pittsburgh, PA	Pittsburgh	Silver	27
Robert West	Oak Park H.S., Kansas City, MO	Kansas City	Silver	49

1994 – Oslo, Norway – 26th IChO

Name	School	Local Section	Medals	Ranking
Jessen Yu	T. Jefferson H.S. for S&T, Alexandria, VA	Washington, DC	Gold	12 (of 156)
Justin McCarty	Amherst Central H.S., NY	Western New York	Gold	19
Nicholas Loehr	Midlothian H.S., VA	Virginia	Silver	47
James Grimmelman	Horace Mann H.S., Riverdale, NY	New York	Bronze	59

1995 – Beijing, China – 27th IChO

Name	School	Local Section	Medals	Ranking
Jason Wong	T. Jefferson H.S. for S&T, Alexandria, VA	Washington, DC	Silver	43 (of 163)
Prashant Mishra	Detroit Country Day S., Beverly Hills, MI	Detroit	Silver	56
Elliot Waingold	Central York H.S., PA	Southeastern PA	Bronze	79
Michael Sawka, Jr.	Gunn H.S., Palo Alto, CA	Santa Clara Valley	Bronze	106

IChO PARTICIPATING TEAMS RESULTS 1984–2016

1996 – Moscow, Russia – 28th IChO

Name	School	Local Section	Medals	Ranking
Henry Fu	Brecksville-Broadview Hts. H.S., OH	Cleveland	Gold	8 (of 170)
Alex MeVay	Groton School, MA	Northeastern	Silver	39
Michael Sawka, Jr.	Gunn H.S., Palo Alto, CA	Santa Clara Valley	Silver	45
Jason Chen	Claremont H.S., CA	San Gorgonio	Bronze	63

1997 – Montreal, Canada – 29th IChO

Name	School	Local Section	Medals	Ranking
Jason Chen	Claremont H.S., CA	San Gorgonio	Gold	2 (of 184)
Jordan Krall	Harvard-Westlake S., N. Hollywood, CA	Southern California	Silver	38
Andrew Heckerling	Niles West H.S., Skokie, IL	Chicago	Silver	51
Ian Baker	The McCallie School, Chattanooga, TN	Chattanooga	Bronze	112

1998 – Melbourne, Australia – 30th IChO

Name	School	Local Section	Medals	Ranking
Thomas Snyder	Amherst Central H.S., NY	Western New York	Gold	2 (of 185)
Ian Baker	The McCallie School, Chattanooga, TN	Chattanooga	Gold	6
Alexander Ioannidis	Bel Air H.S., MD	Maryland	Silver	30
Wei Ho	New Berlin West H.S., WI	Milwaukee	Bronze	86

1999 – Bangkok, Thailand – 31st IChO

Name	School	Local Section	Medals	Ranking
Timothy Jones	NC School of Sci. & Math, Durham, NC	North Carolina	Top Gold	1 (of 196)
Alexander Ho	Niles West H.S., Skokie, IL	Chicago	Gold	9
Wei Ho	New Berlin West H.S., WI	Milwaukee	Gold	20
Lisa Carlivati	T.Jefferson H.S. for S&T, Alexandria, VA	Washington, DC	Silver	36

2000 – Copenhagen, Denmark – 32nd IChO

Name	School	Local Section	Medals	Ranking
David Kurtz	Skyline H.S., Idaho Falls, ID	Idaho	Top Gold	1 (of 216)
Charles Duan	Beverly Hills H.S., CA	Southern California	Gold	13
Luke McSpadden	OK School for Science & Math, Tulsa, OK	Oklahoma	Bronze	69
Albert Wang	Bellaire H.S., TX	Greater Houston	Bronze	74

2001 – Mumbai, India – 33rd IChO

Name	School	Local Section	Medals	Ranking
Sean Kedrowski	Baylor H.S., Chattanooga, TN	Chattanooga	Gold	7 (of 210)
Binghai Ling	Brighton H.S., Rochester, NY	Rochester	Gold	15
Albert Wang	Bellaire H.S., TX	Greater Houston	Silver	25
Collin Martin	OK School for Science & Math, Tulsa, OK	Oklahoma	Silver	27

IChO PARTICIPATING TEAMS RESULTS 1984–2016

2002 – Groningen, The Netherlands – 34th IChO

Name	School	Local Section	Medals	Ranking
Helen Shi	OK School for Science & Math, Tulsa, OK	Oklahoma	Gold	21 (of 225)
Daniel Cissell	Walnut Hill H.S., Cincinnati, OH	Cincinnati	Gold	25
Colin Whittaker	Wayland H.S., MA	Northeastern	Silver	36
Timothy Davenport	OK School for Science & Math, Tulsa, OK	Oklahoma	Bronze	90

2003 – Athens, Greece – 35th IChO

Name	School	Local Section	Medals	Ranking
Wei-Han Bobby Liu	Cookeville H.S., TN	Nashville	Silver	80 (of 233)
Eric Brown	The McCallie School, Chattanooga, TN	Chattanooga	Bronze	98
Frances Hocutt	Redondo Union H.S., Redondo Beach, CA	Southern California	Bronze	104
Benjamin Kaduk	Naperville North H.S., IL	Chicago	Bronze	100

2004 – Kiel, Germany – 36th IChO

Name	School	Local Section	Medals	Ranking
Eric Brown	The McCallie School, Chattanooga, TN	Chattanooga	Silver	56 (of 234)
John L. Kiappes Jr.	Memorial H.S., Houston, TX	Greater Houston	Silver	78
Emily Tsui	Montgomery Blair H.S., Silver Spring, MD	Washington, DC	Silver	66
Fan Zhang	Bergen County Academies, NJ	North Jersey	Silver	75

2005 – Taipei, Taiwan – 37th IChO

Name	School	Local Section	Medals	Ranking
Jacob Sanders	Acad. for the Adv. of S&T, Hackensack, NJ	North Jersey	Silver	48 (of 225)
Nicholas Sofroniew	Harvard-Westlake S., N. Hollywood, CA	Southern California	Silver	64
Allen Cheng	Arcadia H.S., CA	Southern California	Silver	72
Scott Rabin	Miami Palmetto H.S., FL	South Florida	Bronze	109

2006 – Gyeongsan, Republic of Korea – 38th IChO

Name	School	Local Section	Medals	Ranking
Michael Blaisse	Bishop McDevitt H.S., PA	Southeastern PA	Silver	55 (of 254)
Gregory Brockman	Red River H.S., ND	Red River Valley	Silver	65
Andrew Freddo	Manalapan H.S., NJ	Monmouth County	Silver	77
Alexander Zozula	East Brunswick H.S., NJ	North Jersey	Bronze	94

2007 – Moscow, Russia – 39th IChO

Name	School	Local Section	Medals	Ranking
Brian Lee	Aca. for the Adv. of S&T, Hackensack, NJ	North Jersey	Silver	40 (of 256)
Justin Koh	Stockdale H.S., CA	Southern California	Silver	43
Kenneth Brewer	Timpview H.S., UT	Central Utah	Silver	65
Sofia Izmailov	W. Windsor-Plainsboro H.S. South, NJ	Trenton	Bronze	152

IChO PARTICIPATING TEAMS RESULTS 1984–2016

2008 – Budapest, Hungary – 40th IChO

Name	School	Local Section	Medals	Ranking
Jonathan Lee	Harvard-Westlake H.S., N. Hollywood, CA	Southern California	Silver	70 (of 257)
Yuxin Xie	East Brunswick H.S., NJ	North Jersey	Bronze	89
Jenny Lu	Pomperaug H.S., Southbury, CT	New Haven	Bronze	132
Andrew Liu	Parkway Central H.S., Chesterfield, MO	St. Louis	Bronze	137

2009 – Cambridge, England – 41st IChO

Name	School	Local Section	Medals	Ranking
Yixiao Wang	Westfield H.S., NJ	North Jersey	Gold	25 (of 250)
Nathan Benjamin	W. H. Harrison H.S., West Lafayette, IN	Purdue	Silver	34
Brian Seifried	Chamblee H.S., GA	Georgia	Silver	37
Colin Lu	Vestal H.S., NY	Binghamton	Silver	59

2010 – Tokyo, Japan – 42nd IChO

Name	School	Local Section	Medals	Ranking
Colin Lu	Vestal H.S., NY	Binghamton	Gold	21 (of 267)
Alex Siegenfeld	Hopkins School, CT	New Haven	Gold	22
Richard Li	River Hill H.S., MD	Maryland	Silver	52
Utsarga Sikder	S. Brunswick H.S., NJ	North Jersey	Bronze	94

2011 – Ankara, Turkey – 43rd IChO

Name	School	Local Section	Medals	Ranking
Konstantin Borisov	North Allegheny H.S., PA	Pittsburgh	Gold	9 (of 273)
Joe Tung	Gretchen Whitney H.S., CA	Southern California	Gold	24
Elmer Tan	John P. Stevens H.S., NJ	North Jersey	Silver	48
Tayyab Shah	Vestal H.S., NY	Binghamton	Silver	80

2012 – Washington, D.C. – 44th IChO

Name	School	Local Section	Medals	Ranking
Chris Hillenbrand	Regis H.S., NY	New York	Gold	16 (of 283)
Sidhart Chand	Detroit Country Day School, MI	Detroit	Silver	64
James Deng	Choate Rosemary Hall, CT	New Haven	Silver	70
Jason Ge	Westview H.S., CA	San Diego	Silver	80

2013 – Moscow, Russia – 45th IChO

Name	School	Local Section	Medals	Ranking
David Liang	Carmel H.S., IN	Indiana	Gold	21 (of 291)
Runpeng Liu	Ladue Horton Watkins H.S., MO	St. Louis	Gold	26
Stephen Ting	Monta Vista H.S., CA	Santa Clara Valley	Silver	36
Saaket Agrawal	Mira Loma H.S., CA	Sacramento	Silver	47

IChO PARTICIPATING TEAMS RESULTS 1984–2016

2014 – Hanoi, Vietnam – 46th IChO

Name	School	Local Section	Medals	Ranking
Robert Kao	Edwin O. Smith High School, CT	Connecticut Valley	Gold	28 (of 291)
Derek Wang	North Allegheny Senior High School, PA	Pittsburgh	Silver	41
Stephen Li	Troy High School, MI	Detroit	Silver	44
Andrew Chen	W. Windsor-Plainsboro H.S. South, NJ	Trenton	Silver	50

2015 – Baku, Azerbaijan – 47th IChO

Name	School	Local Section	Medals	Ranking
David Wang	Monta Vista High School, Cupertino, CA	Santa Clara Valley	Gold	7 (of 290)
Janice Ong	T. Jefferson H.S. for S&T, Alexandria, VA	Washington, DC	Silver	76
Bryce Cai	Barrington High School, IL	Chicago	Silver	82
Soorajnath Boominathan	OK School of Sci. and Math., OK	Oklahoma	Silver	83

2016 – Tbilisi, Georgia – 48th IChO

Name	School	Local Section	Medals	Ranking
Alex Liu	The Village School, Houston, TX	Greater Houston	Gold	8 (of 264)
Kevin Tang	Solon High School, OH	Cleveland	Silver	44
Joyce Tian	T. Jefferson H.S. for S&T, Alexandria, VA	Washington, DC	Silver	66
Zilu Pan	Canyon Crest Academy, San Diego, CA	San Diego	Bronze	102



L to R: Alex Liu, Joyce Tian, Zilu Pan and Kevin Tang

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, I really enjoyed the third practical task, which required the students to distinguish many organic compounds used in flavors and fragrances, because I was both able to smell a variety of different compounds and perform a type of lab I had never encountered before, which required me to combine theoretical knowledge with practical skills. I also found it very interesting that the second practical task had the students 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.

However, in those two weeks, 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.

One of my fondest memories from this experience was when we and the Polish team walked around the city of Tbilisi at night with our guides. We adventured through an underground bazaar, ate delicious Georgian food at a local restaurant, and even walked across the Bridge of Peace while it was lit up with the Georgian flag colors! The activities planned by our Georgian hosts also helped us bond more with each other as well as our friends from other countries. We had late night disco parties, a trip to the amusement park, and excursions to other Georgian cities as well. In retrospect, I think my favorite excursion was the one to the Rabati castle, not only because this was the first castle I had ever seen up close, but also since the rain caused us to socialize more on the bus ride back instead of sleeping the whole time.

The closing ceremony was extremely nerve-racking, as they called out all the medalists and honorable mentions in reverse order, but I will always treasure the moment when they called my name as a gold medalist. Finally, I would like to thank ACS, all the mentors, UMW and our teachers, Gvantsa, and all of the IChO staff for preparing us well and making this competition an unforgettable experience! You guys are the best!

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, with different cultures and customs than I was used to. However, after the conclusion of the ICHO, suffice it to say it's one of the best, most unique and unforgettable experiences of my life.

Upon arrival in Tbilisi, I met our guide Gvantsa, who is the friendliest and most welcoming person I have ever met. She greeted us with this huge smile even though it was something like 4 AM local time when we arrived at the airport. On the bus ride to our hotel, I met the team from Poland. Little did I know then that we would become the best of friends. One of them is even going to MIT with me, and I have no doubt I'll stay in touch with all of the Polish team for years to come. After settling into our hotel, Gvantsa took us to a restaurant and I had my first taste of traditional Georgian food. It was certainly different from the Chinese food I eat at home, and the American food I'm accustomed to, but nevertheless, I loved Khachapuri (traditional Georgian cheese bread) as well Khinkali (a dumpling like dish).

After meeting our mentors during registration, we were treated to an exceptionally well organized opening ceremony held in Rustaveli National Theatre, featuring Georgian dance and polyphonic music. I was especially amazed by Georgian dance—by the difficulty of the dances, as well as the overall aesthetics. I remember very vividly that in one of the dances, the female dancers seemed to be floating in air, being able to spin in circles without any friction. In reality,

they were simply moving their feet very, very quickly—a testament to the skills of these Georgian dancers.

Additionally, we toured the city and explored famous sights near Tbilisi during our many excursions. The most memorable excursion for me was probably our trip to Borjomi, a city in Georgia famous for its mineral water. The mineral water there had a very distinctive taste to it, due to its high sulfur content, as well as electrolytes like chloride and fluorides. In fact, one of the practical tests from the exam had us analyze the electrolyte composition of Georgian mineral water using titrations. I remember being shocked when I saw 2000mg/L of chloride in the mineral water sample. However, after tasting the Borjomi mineral water in real life, I saw that 2000mg/L of chloride was only fitting for its unusual taste. The guides told us that the Borjomi water is very healthy for the body, and all of Georgia drinks it.

Of course, the most important days for us were the practical exam and the theoretical exam. The problems this year mostly followed the prep problems, but with a bit of twist as well. For example, while the qualitative inorganic and the titration tasks were much like the practical prep problems, a qualitative organic task was thrown into the mix as well, which took me a little bit by surprise. On the theoretical side, while all of the problems are doable, the exam was very long and I know many fellow contestants had trouble finishing. But overall, I was able to have fun on the exams without giving myself too much pressure.

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.

Kevin Tang

There are few things in this world that tend to surmount the barriers of language, customs, and sovereign borders. They are products of a common foundation and are natural to humanity. Among them stand music, song and dance—and, quite unexpectedly, chemistry.

At our stop in Germany, we were astounded by the “Natrium” concentration in the spring water. In our practical examination four days later, we were tasked in determining the “Fluorid” and “Chlorid” concentration of Georgian mineral water. Throughout our entire trip, we witnessed chemistry unfold not just in our mother tongues and weathered textbooks, but everywhere around us, sometimes bent to fit the confines of another language, but always the same chemistry that we all knew. And so in the 3am darkness, we did not arrive to Georgia to find two hundred and ninety fellow competitors from over seventy countries speaking dozens of different languages, but two hundred and ninety 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 cooperation. For the 48th IChO, the opening ceremony served us a medley of Georgian culture. We listened to the famous polyphonic Georgian singing where each

vocalist, in a group of nearly twenty, sang a unique pitch and melody. Together, each tone drifted through the great Rustaveli National Theater, mixing and merging, and finally assembling into a deep and complex rhythmic melody. We witnessed the traditional Georgian dance as well. Dancers were flurries of rotating motion, leaping through the air as if defying the command of gravity, landing softly and seamlessly on their knees only to leap once more and if possible, higher still. On excursions too, we explored ancient churches, and their monolithic stone towers that soared stoic against the elements, a testament to a history long in the making. And finally, led by our dedicated guide, tasted the very best food Georgia had to offer: khachapuri, a delicacy consisting of cheese filled bread, baked to a crispy-gooey goodness in a traditional open air oven.

Then came exams and the anxiety and excitement of the wait was over. Lab came first: qualitative inorganic analysis, then titration, then qualitative organic analysis, all in 5 hours. At first it was a blur. Then it got fun. What changed for me is that I had a realization that I had come as far as I would go. There was no higher level, no more competition: this was it. And depending on how you choose to accept it, that epiphany can be even more terrifying or wholly cathartic. For me it was the latter. So I thought of my mentors: Kelli Slunt and Patrick Chan, and Christine Saber, and Sidharth Chand, and Jacob Sanders—whose support helped me reach that point. And then I had fun. So I would like to thank all of them, for their support and faith, and all the help they gave me during study camp! I would also like to thank Mr. Anthony Sanson, 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.

In the end, after my selfies with Singapore and pictures with Poland, after all the testing and excitement, 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. Not only physically, though the many street musicians played it often and fondly, crystal notes intermingling with the birdsong and traffic on the bustling, open roads. Rather, the phrase depicted the very spirit of Tbilisi, encapsulating the beauty and welcome we were met with every step of the way.

The sun, for instance, illuminated the stunning monasteries and castles, shined on grassy hills and waterfalls. More importantly, perhaps, we felt it in the warm smiles of our guide, Gvantsa, her laughter as we asked about translations for “food” and “free wifi”. Sunshine lit up the roof of mouths, delight from the savory khinkali and khachapuri, and was washed away gently with mineral water. Every morning, the crescendo from our window, rays slowly peeking through the drapes, gave an easy transition from sleep to wakefulness.

Flowers, meanwhile, grew wild on the mountains, and fluttered on the dress and skirt patterns of passersby. Rosewater accompanied the kind grips on my shoulder from ladies steadyng me on the subway. In a city so steeped in history, the myriad floral colors of Tbilisi posed a delicate contrast to the centuries-old architecture. Like us, their stay was temporary, and like us, they made the most of it.

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.

As always, the most genuine moments occurred upon departure. Unburdened by the stress of exams and all too aware that this marked the end of an era, we let go of our façade of apathy; I don't think I've ever hugged so many people in so short a period, nor cried so much. Last-minute farewells were exchanged, promises made abound to visit each other in the near future.

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.

Press Release

American Chemical Society
Office of Public Affairs



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Top 20 high school students compete for spot on U.S. Chemistry Olympiad Team

WASHINGTON, May 18, 2016 — Twenty of the nation's top high school chemistry students have been named and they will compete for a spot on the U.S. Chemistry Olympiad Team, bound for the Eastern European nation of Georgia this summer. The announcement was made by the American Chemical Society, sponsor of the team.

These students emerged from a series of exams that involved more than 16,000 students across the country. Their next stop in qualifying for the U.S. team will be the Chemistry Olympiad Study Camp at the University of Mary Washington (UMW) in Fredericksburg, Virginia, May 31-June 15. This is the first year the camp will be hosted by UMW.

During the camp, the students will receive college-level training, with an emphasis on organic chemistry, through a series of lectures, problem-solving exercises, lab work and testing. At the conclusion of the camp, the top four will represent the U.S. at the 48th International Chemistry Olympiad in Tbilisi, Georgia, July 23-August 1. There, they will compete with their peers from more than 70 nations for gold, silver and bronze medals.

The 20 finalists — 13 boys and seven girls — include a set of identical twins and three students from the same high school:

<u>City/State</u>	<u>Name</u>	<u>High School</u>
Cupertino, California	Steven Liu	Monta Vista High School
Fremont, California	Anjali Walia	Irvington High School
Fremont, California	Anushka Walia*	Irvington High School
Rowland Heights, California	Junyu Yang**	Troy High School
San Diego, California	Zilu Pan	Canyon Crest Academy
Yorba Linda, California	Benjamin Nguyen	Valencia High School
Gainesville, Florida	Lillian Zhu	Buchholz High School
Hinsdale, Illinois	Harrison Wang	Hinsdale Central High School
Lincolnshire, Illinois	Eric Qian	Stevenson High School
Carmel, Indiana	Miles Jichuan*	Carmel High School
Carmel, Indiana	Brendan Yap	Carmel High School
Zionsville, Indiana	Allen Zhang	Carmel High School
Brighton, Michigan	Lily Ireton	Brighton High School
Princeton Junction, New Jersey	Shannon Weng	West Windsor Plainsboro High School South
Marcellus, New York	Jeffery Shi	Marcellus High School
Beavercreek, Ohio	Brian Daniels	Beavercreek High School
Solon, Ohio	Kevin Tang*	Solon High School
College Station, Texas	Yusha Sun	A&M Consolidated High School
Houston, Texas	Alex Liu	The Village School
Vienna, Virginia	Joyce Tian	Thomas Jefferson High School for Science and Technology

*participated in the 2015 study camp; **participated in the 2014 study camp

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The American Chemical Society has sponsored the American team annually since the U.S. joined the Olympiad in 1984. Principal funding is through the ACS Donald F. and Mildred Topp Othmer Olympiad Endowment, with additional support from the Advanced Chemistry Development; Carolina Biological Supply Company; Cengage Learning, Fisher Science Education; Flinn Scientific Inc.; Prentice Hall Publishers; Sigma Aldrich Co.; Texas Instruments Inc.; University Science Books, University of Mary Washington, and Wiley & Sons Publishers.

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Press Release

American Chemical Society
Office of Public Affairs



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FOR IMMEDIATE RELEASE

The U.S. Alpha Iota Team chosen for the 48th International Chemistry Olympiad

WASHINGTON, July 13, 2016 — The American Chemical Society (ACS) is proud to announce the team that will represent the U.S. at the 48th [International Chemistry Olympiad](#) in Tbilisi, Georgia, July 23 – Aug. 1, 2016.

The members of the U.S. Team Alpha Iota are:

- **Alex Liu** of The Village School in Houston, Texas;
- **Zilu Pan** of Canyon Crest Academy in San Diego, California;
- **Kevin Tang** of Solon High School in Solon, Ohio and
- **Joyce Tian** of Thomas Jefferson High School for Science and Technology in Alexandria, Virginia.

The alternates are:

- **Steven Liu** of Monta Vista High School in Cupertino, California, first alternate and
- **Harrison Wang** of Hinsdale Central High School in Hinsdale, Illinois, second alternate.

The competition for the U.S. team was fierce, beginning with a multiple-choice exam taken by nearly 16,000 high school students across the country. The top 1,000 then advanced to take the National Chemistry Olympiad test. From there the top 20 went on to a study camp at the University of Mary Washington in Fredericksburg, Virginia where four were selected for the team along with two as alternates.

The IChO originated with Czechoslovakia, Poland and Hungary in 1968. Soon, other Eastern European countries joined the event; Western Europe began participating in 1974. The first U.S. team competed in 1984, winning one silver and two bronze medals.

ACS has sponsored the American team annually since the U.S. joined the Olympiad in 1984. Principal funding is through the ACS Donald F. and Mildred Topp Othmer Olympiad Endowment, with additional support from the Advanced Chemistry Development; Carolina Biological Supply Company; Cengage Learning, Flinn Scientific, Inc.; Prentice Hall Publishers; Texas Instruments, Inc.; University Science Books, University of Mary Washington, and Wiley & Sons Publishers.



Back row L-R: Kevin Tang, Steven Liu, Alex Liu, Middle row L-R: Zilu Pan, Harrison Wang, and Front: Joyce Tian.

Courtesy of K. Slunt
[Click here for a high-resolution image.](#)

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Press Release

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Office of Public Affairs



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FOR IMMEDIATE RELEASE

U.S. Team brings home one gold, two silver and one bronze medal from International Chemistry Olympiad

WASHINGTON, Aug. 4, 2016 — The four high school students who represented the U.S. at the 48th [International Chemistry Olympiad](#) earned one gold, two silver and one bronze medal.

The U.S. students competed with 260 students from 66 countries July 23 – Aug. 1. During these 10 days of exams, laboratory work, athletics and sightseeing, the students had a chance to compete at the highest levels and establish networks that go beyond cultures and borders.

- **Alex Liu** of The Village School in Houston, Texas: eighth highest ranking **GOLD**
- **Kevin Tang** of Solon High School in Solon, Ohio: **SILVER**
- **Joyce Tian** of Thomas Jefferson High School for Science and Technology in Alexandria, Virginia: **SILVER**
- **Zilu Pan** of Canyon Crest Academy in San Diego, California **BRONZE**

The IChO originated with Czechoslovakia, Poland and Hungary in 1968. Soon, other Eastern European countries joined the event; Western Europe began participating in 1974. The first U.S. team competed in 1984, winning one silver and two bronze medals.

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Pan (from left), Tian, Liu, and Tang

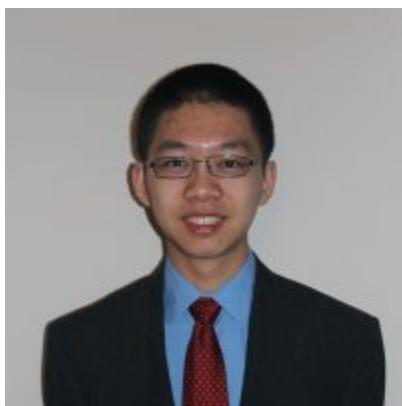
Courtesy of Cecilia Hernandez
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3 Carmel High School students among nation's 20 elite chemistry campers

by Editorial@youarecurrent.com · June 28, 2016 By Mark Ambrogi



M. Dai

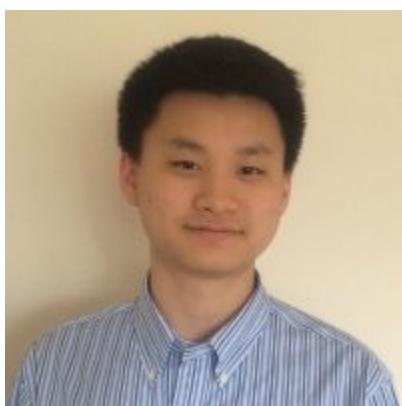
Twenty of nation's top high school chemistry students gathered to compete for four spots on a U.S. Chemistry Olympiad team. Three of those students were from Carmel High School.

The CHS students, Miles Dai, Brendan Yap, Allen Zhang, attended an American Chemistry Society-sponsored study camp at the University of Mary Washington in Fredericksburg, Va., from May 31 to June 12, receiving college and graduate-level training with an emphasis on organic chemistry. Although none of the three was selected for the U.S. team that will compete in the 48th International Chemistry Olympiad July 23 to Aug. 1 in the Eastern European country of Georgia, they said it was a valuable experience.



B. Yap

"I think the best part of the competition is being able to talk to people who share the passion for learning higher level chemistry," said Dai, a recent CHS graduate who is headed to MIT. "At the summer study camp, you get to meet 19 other students who pursue similar interests and share similar challenges."



A. Zhang

Yap said the students learn an abridged version of an undergraduate curriculum for chemistry. "It helps a lot with learning a lot of problem solving and learning laboratory skills," Yap said. Yap, who will be senior in August, will be eligible to compete again. "Next year my goal would be to make the top four in the U.S.," Yap said. This was Dai's second trip to the camp.

"At the study camp, you are expected to perform at a much higher level than you are normally used to, and that can often be quite shocking the first year," said Dai, who is considering majoring in computer science. "My first year, the assessments and concepts were so much more difficult than I was accustomed to. Having the mental preparation and expecting this difficulty the second time around was extremely helpful both to my problem solving and my approach to the summer camp as a whole."

Zhang, a junior-to-be, said the camp was intensive with four hours of lecture in the morning, followed by four hours of lab in the afternoon.

"One day we would have an assessment and the next day we would go over the assessment and review it," Zhang said. "It was a learning experience, but at the same time very competitive."

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U.S. Chemistry Olympiad team selected

Students head to the International Chemistry Olympiad in Tbilisi, Georgia

By Linda Wang



Pan, Tang, Liu, and Tian with their medals.

Credit: Kelli Slunt

Four high school students have been selected to represent the U.S. at the **48th International Chemistry Olympiad** <<http://www.icho2016.chemistry.ge/>> , which will be held in Tbilisi, Georgia, from July 23 to Aug. 1.

The team members are: Alex Liu of the Village School, in Houston; Zilu Pan of Canyon Crest Academy, in San Diego; Kevin Tang of Solon High School, in Ohio; Joyce Tian of Thomas Jefferson High School for Science & Technology, in Alexandria, Va., and Steven Liu of Monta Vista High School, in Cupertino, Calif., is the first alternate. Harrison Wang, Hinsdale Central High School, in Illinois, is the second alternate.

The team was announced at the conclusion of an intensive two-week study camp, held May

C&en to June 15 at the University of Mary Washington, in Fredericksburg, Va. The study camp is sponsored by the American Chemical Society.

“We have a very well-rounded team, and they each have areas in which they excel,” says head mentor Kelli Slunt, a chemistry professor at the University of Mary Washington. “Zilu is very strong in the laboratory. Kevin is very strong in organic theory. Joyce and Alex both excel in the mathematical areas. I’m really proud of them.”

Liu says that attending the study camp helped him strengthen his laboratory techniques. “I improved a lot,” he says.

Pan says that the preparation he received during the study camp exposed him to the time limitations he would be under during the international competition. “It’s given me a taste of what it would be like, so I’m more mentally prepared.”

Tian says she made lifelong friends during the study camp. “Every single person here was both super motivated and super helpful to each other, so there wasn’t as much pressure as I was expecting.”

Tang says he’s looking forward to broadening his perspectives at the international competition. “As a high school student, you’re not introduced to more of the advanced fields, or to what it’s like to be a professional in the field,” he says. “One of the main things I’d like to do is explore all there is about chemistry and get a better idea of my interests in the field.”

Other mentors for the U.S. team include Patrick Chan of Benjamin N. Cardozo High School, in New York; Christine Saber of Gannon University, in Pennsylvania; Jacob Sanders of Harvard University; and Sidharth Chand of Harvard University. This was the first year the study camp took place at the University of Mary Washington.

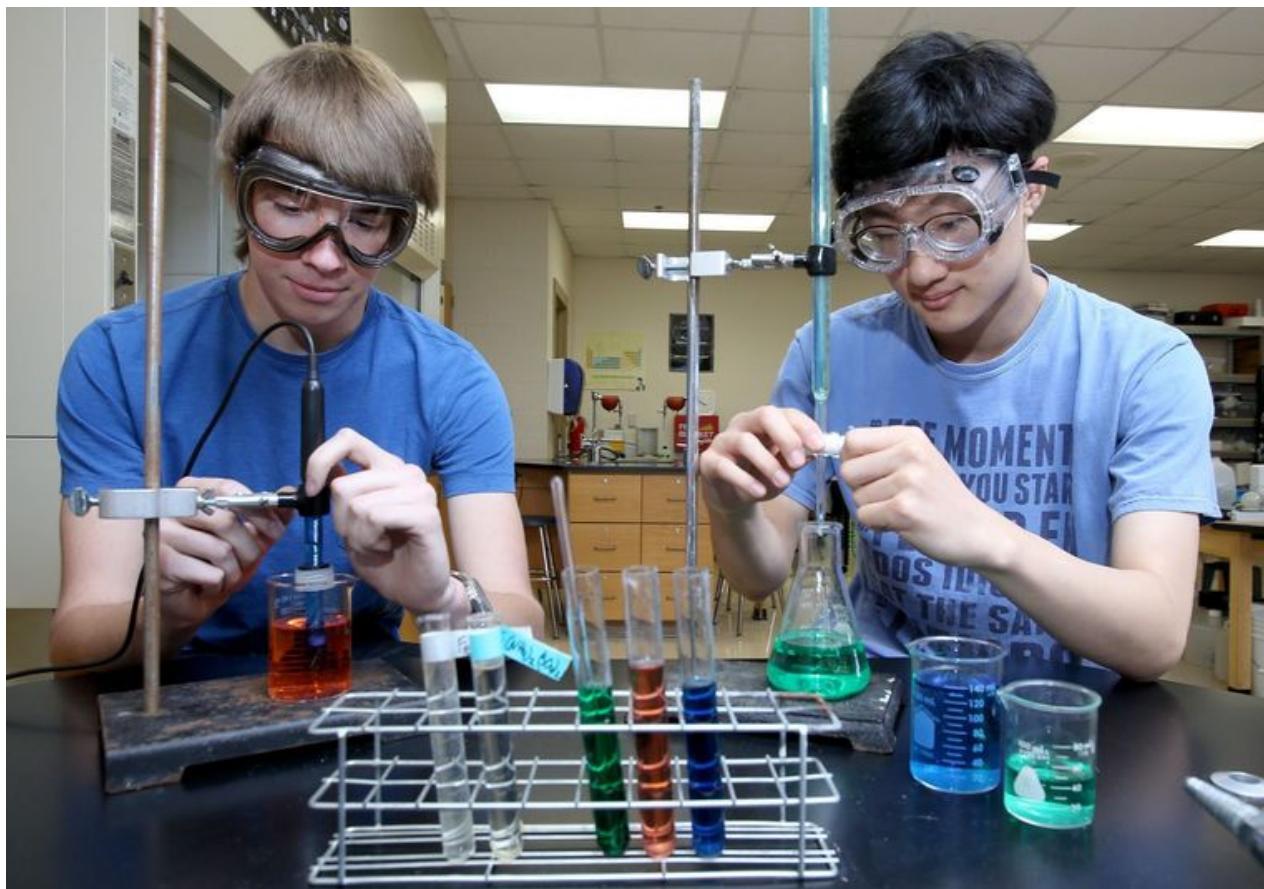
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By STEPHANIE BUTTS sbutts@wacotrib.com

Midway students vie for spots on American Chemistry Olympiad team

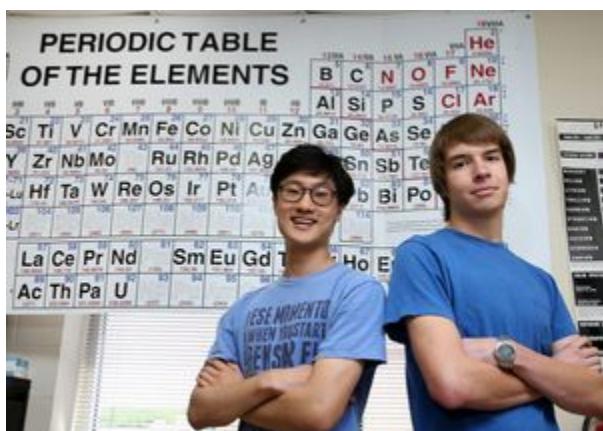


Midway High School students Edward Kim (right), 16, and Dustin Sanford, 18, took a national chemistry test in an effort to represent the United States in the 48th International Chemistry Olympiad for high school students. Kim and Sanford will find out next week whether they qualified for the contest. Staff photo— Jerry Larson

Two Midway High School students will hear next week if they're bound for Tbilisi, Georgia, where they hope to compete for a chance to represent the United States at the 48th International Chemistry Olympiad.

Edward Kim, 16, and Dustin Sanford, 18, took a local chemistry test and advanced to the national competition. The results will come back next week, and if Kim or Sanford are ranked among the top 20 chemistry students in the nation, they will get to travel overseas for a two-week

chemistry boot camp in Georgia. At the end of the study camp, the top four students will compete in the Olympiad at the end of July.



Midway High School students Edward Kim, 16, (left) and Dustin Sanford, 18, took a national chemistry test in an effort to represent the United States in the 48th International Chemistry Olympiad for high school students Staff photo—Jerry Larson

Midway was the only school district in the region that participated, and only two students from each school can advance from the local to the national test. The tests include a written and a lab component.

The American Chemical Society hosts the U.S. National Chemistry Olympiad competition as a way to promote excellence in chemistry at the high school level, according to the ACS website. Eligible students must be enrolled in high school and be U.S. citizens or “legal, permanent residents in the United States.”

Sanford said he decided to try out for the team as a way to study for the Advanced Placement exam in chemistry he took this week.

“I thought it would be a fun thing to do, also, to prepare for the AP test,” Sanford said.

Sanford took AP chemistry this year, but Kim did not, saying he took the national exam this year for the second time in a row to see how much he had learned in the past year. Kim took the national exam last year also but didn’t make it to the boot camp.

The students said the only study guides provided for the national Olympiad exam are old tests. Anything in chemistry can be tested, but Sanford said most of the topics are covered in his AP chemistry class except organic chemistry.

“It was a good deal harder than the AP test was,” he said.

Both students said they enjoy chemistry.

Kim said he found himself reading an old chemistry textbook for fun.

“The thing I like about chemistry, unlike some of the other science or social studies, it’s more conceptually based,” he said. “The concepts, once you get it, you can apply them to many different scenarios.”

By LINDLEY ESTES THE FREE LANCE-STAR

Students train at UMW for international chemistry competition



Anushka Walia of Fremont, Calif., checks on an experiment while at the National Chemistry Olympiad Study Camp at the University of Mary Washington last week.

Photo by: Peter Cihelka / The Free Lance-Star

In University of Mary Washington professor Leanna Giancarlo's physical chemistry lecture last Wednesday, every student paid rapt attention to her expertise in chemical kinetics and quantum mechanics.

And when Giancarlo pointed to a chemical equation, asking what it showed, each one of the 20 students in class could answer her query: "a uni-molecular reaction."

But these students aren't enrolled in college. Some are still sophomores in high school. They represent the top scientific minds in American high schools and competed at UMW for a chance to represent the United States at the 48th International Chemistry Olympiad in Tbilisi, Georgia, this summer.

The 20 top-scoring students on a national exam spend two weeks at the study camp to undergo rigorous training. Based on their performance, four students and two alternates are chosen to represent the U.S. at the international event.

Many of the students are bound for elite colleges like Stanford University, Massachusetts Institute of Technology or Harvard University, but it was the smaller UMW that made this year's camp possible.

The school stepped up to offer the camp after the U.S. reversed its decision not to send a competition team this year and its traditional camp location at the Air Force Academy was no longer available.

The Olympiad was originally scheduled to be held in Pakistan, and the U.S. government had declined to permit students to travel there. In late January, the Pakistani government withdrew its support for the Olympiad and the country of Georgia offered and was approved to host.

UMW's involvement is due to the study camp's head mentor: chemistry professor Kelli Slunt. She offered her department's expertise and the school's labs to train these advanced students.

Lillian Zhu, a 17-year-old from Gainesville, Fla., who has been accepted at Stanford University, participated in the camp.

She was interested in learning about organic and inorganic chemistry, and—of course—earning a spot on the competition team.

“It’s exciting to see new mechanisms,” she said.

Another benefit for Zhu was meeting other intelligent high schoolers. Zhu, who also has a passion for ceramics, said she bonded with other students over interests outside of chemistry, including arts, math and sports.

In the physical chemistry lecture, professor Giancarlo used Skittles to explain equations of quantum mechanics, which may have qualities that don’t directly relate to one another.

Zhu held up a blue Skittle, and described its color, while Giancarlo explained how that property doesn’t directly correlate to its shape or taste, but all of that can be described in the equation.

For Anuska Walia, 17 from Freemont Calif., and Kevin Tang, 16 from near Cleveland, Ohio, this was the second year of camp and competing for a spot on the team.

“The first time was shocking,” Tang said. “It was so different, a whole new experience from the way I was used to learning. Coming back, I got more into it and connected more with the material.”



Twenty elite chemistry students from all over the United States attended the camp, hoping to earn a trip to Tbilisi, Georgia.
Photo by: Peter Cihelka / The Free Lance-Star

One of the things Walia looked forward to was getting lab experience.



Eric Qian of Lincolnshire, Illinois, checks a beaker during the National Chemistry Olympiad Study Camp held last week at the University of Mary Washington. Students were vying to compete in the International Chemistry Olympiad.

Photo by: Peter Cihelka / The Free Lance-Star

Tang is among those traveling to Georgia this summer for the competition. On Saturday, he, along with Alex Liu, Steven Liu, Zilu Pan, Joyce Tian and Harrison Wang, were announced as the traveling team.

Tian is a student at Thomas Jefferson High School for Science and Technology in Fairfax County.

During their Wednesday practical exam, the students had to work with titration: where a solution of known concentration is used to determine the concentration of an unknown solution. She looked for her chemical compound to get cloudy with precipitate and eventually turn from yellow to blue.

Slunt has worked with the organization for seven years.

She said hosting has provided exposure throughout the chemistry community for UMW's department but also an opportunity for professors to donate time and expertise to a good cause.

She offered up UMW to the ACS and began planning after spring break for students to come to Fredericksburg.

"In high school, there are more and more restrictions on what experiments students can do," she said about the time they spent in UMW's chemical labs. "Here, we can show different reactions, we have access to chemicals they never would in high schools."

Sid Chand, a peer mentor for the group, was a part of the 2012 U.S. team, which competed in Washington, D.C. A graduate of Detroit Country Day School, he's now a junior at Harvard University studying chemistry, physics and mathematics.

"These students are the top performers in any high school," he said. "They excelled at the local and national exams and now the floodgates of advanced chemistry are open to them. They are excited to talk to professors. This is stuff they would never see in high school."

He also made friends. His two roommates were students he met at study camp.

"It's exciting to be around intelligent, enthusiastic people and delve together into the work," he said. "The sense of community is really strong."

Monday, July 11, 2016

Student Scene

Local Students Win Chance To Qualify For International Chemistry Olympiad

Thursday, April 28, 2016

The Chattanooga section of the American Chemical Society has announced the names of 10 high school chemistry students who have taken a national exam that may qualify them to become members of the U.S. National Chemistry Olympiad team that will compete in the 48th International Chemistry Olympiad in Tbilisi, Georgia, July 31-Aug. 1.

The students are:

Allen Lui (McCallie)
Peter Lochmaier (Baylor)
Shikhar Baheti (Redbank High School)
Sawyer Lyons(McCallie)
Pengda Xie (Cleveland)
Christina Love (GPS)
Carson Brock (Northwest High School)
Jacob Smith (Northwest High School)
James West (Notre Dame High School)
Luisangel Sanchez (Notre Dame High School)

The IChO involves a series of theoretical exams, laboratory exercise and other activities aimed at identifying the best chemistry students from participating nations from around the world.

The U.S. has participated in this event since 1984. In 2015 the U.S. team won one gold and three silver medals. A total of 290 students represented 75 countries at the 47th IChO in Baku, Azerbaijan.

Twenty students will be identified from results of the National Exam and will undergo intensive training May 31-June 15 at the University of Mary Washington, Va. The top four will be chose to represent the U.S. in the 48th IChO competition.

Founded in 1876 and chartered by Congress, the American Chemical Society is a nonprofit scientific and educational organization dedicated to the advancement of chemistry in the public interest. The Chattanooga section is one of 185 across the nation serving more than 160,000 members.

Concentrates

Chemistry news from the week

ACS NEWS

China tops 48th International Chemistry Olympiad

U.S. earns a gold, two silvers, and a bronze medal at the annual high school chemistry competition

China emerged as the top-performing team at the 48th International Chemistry Olympiad, with each of its four team members scoring a gold medal. The top-scoring gold medal went to a high school student on the Romanian team, which earned a total of three golds and a silver.

In all, 30 gold, 57 silver, and 83 bronze medals were awarded during the annual high school chemistry competition, which was held from July 23 to Aug. 1 in Tbilisi, Georgia. Sixty-seven countries participated this year, with each country sending up to four students.

The U.S. team, which is sponsored by the American Chemical Society, earned one gold, two silvers, and a bronze medal. “I’m very proud of the overall performance of the team, and we enjoyed the experience of being here in Georgia,” says head mentor Kelli Slunt, a chemistry professor at the University of Mary Washington. “The students were excellent ambassadors for the United States.”

“I was really nervous throughout the closing ceremony,” says Alex Liu, a rising junior at the Village School, in Houston, who won the team’s gold medal. “When I heard my name being called, it was a combination of excitement and relief at the same time.”

The competition consisted of a five-hour

The Olympiad at a glance

- **Number of students:** 264
- **Participating countries:** 67
- **Medals awarded:** 30 golds, 57 silvers, 83 bronzes
- **Top performing countries:**
 - ● ● China
 - ● ● Russia, Taiwan, Romania, Korea
 - ● ● Singapore, Iran, Thailand, India

ing Massachusetts Institute of Technology in the fall. “It had a very interesting taste

theoretical exam plus a five-hour practical laboratory exam. Some of the questions related to chemistry in Georgia, for example analyzing samples of the country’s famous mineral water.

“We actually tasted the mineral water after the exam,” says bronze medalist Zilu Pan, who just graduated from Canyon Crest Academy, in San Diego, and is attending

to it. I could taste the sulfur and the salts.” He and his fellow students also took an excursion to the region in Georgia where the mineral water is produced.

Joyce Tian, a rising senior at Thomas Jefferson High School for Science & Technology in Alexandria, Va., who won a silver medal, says she’s proud of how she was able to handle intense pressure and have fun at the same time.

The students agreed that the experience was more than about winning a medal. “Meeting all these students from other countries, sharing experiences, and talking about the future, it’s really a once-in-a-lifetime experience,” says Kevin Tang, a rising senior at Solon High School, in Ohio, who brought home a silver medal.

The 49th International Chemistry Olympiad will take place in Thailand on July 6–15, 2017.—LINDA WANG



The U.S. team members, Pan (from left), Tian, Liu, and Tang, celebrate with their medals.

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Quantum Leap

June 15, 2016 by [Lisa Chinn Marvashti](#)

Benjamin Nguyen tugged at his blue-rimmed goggles and held his breath, a test tube teetering in his hand. A standout student from Valencia High School in Orange County, California, he knows his way around a lab, but after shattering a pair of beakers the day before, he wasn't taking any chances.

Nguyen was among 20 teenage chemists, top scorers from across the country, to converge on the University of Mary Washington's Jepson Science Center early this month. Professor of Chemistry Kelli Slunt, long involved with the U.S. National Chemistry Olympiad, pushed for UMW to host its annual two-week summer training camp, held until this year at the U.S. Air Force Academy (USAFA) in Colorado.



“This is huge,” said Slunt, 2016 head camp mentor. “For my colleagues and me, it’s an opportunity to teach and mentor students of the highest academic caliber, future leaders in the scientific community. For UMW, it’s an opportunity to showcase our excellent facilities and dedication to STEM.”

Plucked from high schools in 10 states, from New York to Texas, star chemistry students – seven girls and 13 boys – rose from the ranks, outscoring more than 1,000 peers who sat for the nearly five-hour national exam. Four finalists will go on to represent the United States at next month’s 48th International Chemistry Olympiad in Tbilisi, Georgia.

The summer camp, sponsored by the American Chemistry Society, is loaded with labs, lectures, and exams covering analytical, organic, inorganic, physical, and biological chemistry.

“It’s a very intense program,” said Jacob Sanders, a camp peer mentor and Harvard doctoral student who won silver at the 2005 international competition in Taipei, Taiwan. “They’re basically learning about chemistry and thinking about chemistry every day for two weeks.”

Due to concerns over which country would host this year’s final contest, camp organizers were too late to reserve space, as they normally do, at the USAFA. When UMW came up as an alternate venue, Slunt slammed into high gear, consulting with colleagues, lining up logistics, and pushing fellow faculty members into new territory.

“I’m going to try and not let America down today,” Associate Professor Nicole Crowder joked at the start of a Friday morning lecture on cubic structures.

UMW Assistant Professor Davis Oldham and Associate Professor Charlie Sharpless took turns teaching classes, along with Associate Professor Leanna Giancarlo, who also served as camp coordinator. Fredericksburg-area retired chemist William Wacher and a handful of Mary Washington students pitched in, as well, helping prepare solutions and samples for the chemistry-savvy contenders.

Sending its first team to the global competition in 1984, the U.S. has twice won the International Chemistry Olympiad.

Slunt, who earned a bachelor’s degree from UMW in 1991 and a Ph.D. in chemistry from U.Va. in 1995, also directs Mary Washington’s Honors Program. She fit the organization and orchestration of the camp into her already-crammed schedule, working to squeeze it in between a European Capitals study-abroad trip and her own 25th UMW reunion.

For what the experience gives budding young chemists across the United States, though, she’d do it all again. “It was an honor to be asked to host this event at UMW.”

Local student heads to international chemistry competition

By [Kathy Stewart](#) | June 19, 2016



Joyce Tian, a rising senior from Thomas Jefferson High School in Alexandria, Virginia, will compete against students from 70 countries at the 48th International Chemistry Olympiad in Tbilisi, Georgia. (Photo courtesy of Joyce Tian)

WASHINGTON — A local student will be one of four high schoolers representing the U.S. during a world chemistry competition in July.

Joyce Tian, a rising senior at Thomas Jefferson High School, a Fairfax County public school in Alexandria, Virginia, will compete against students from 70 countries at the 48th International Chemistry Olympiad in Tbilisi, Georgia.

“We spend about a week there in Georgia,” said Tian, 16.

The annual International Chemistry Olympiad began in 1968 and is considered a competition of the world’s best high school chemistry students.

Tian’s mother Qing Sun said she basically grew up in a chemistry lab. Her dad has a doctorate in organic chemistry, and she spent a lot of her time in his lab when she was younger, according to her mother.

“Of course we are very proud of her,” said her mother said.

This year’s world chemistry competition is July 23 to Aug. 1. The four-member U.S. team will be joined by two additional alternates. Tian said that was a little nervous, but was excited about the opportunity.

“I’m pretty confident that we can pull something off,” Tian said.

Tian said she is also hoping to do some sightseeing during the trip and, hopefully, some good food while she’s there.

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