

United States National Chemistry Olympiad

34th Summary Report



2017



Team USA makes history winning four gold medals in Thailand!



U.S. NATIONAL CHEMISTRY OLYMPIAD

34th SUMMARY REPORT

2017

TABLE OF CONTENTS

Program Summary	1
USNCO Participating ACS Local Sections	4
USNCO Study Camp Participants	6
49 th International Chemistry Olympiad Results	7
USNCO Statistical Information	8
IChO Participating Teams Results 1984-2017	11
49 th IChO – Alpha Kappa Team Members' Articles	17
Selected Publicity	23
USNCO Study Camp Personnel	33
USNCO Subcommittee Members	34

2017 CHEMISTRY OLYMPIAD COMPETITIONS

The 49th International Chemistry Olympiad (IChO) was hosted in Nakhon Pathom, Thailand. Seventy-six countries sent 297 students to compete in theoretical and practical examinations from July 6-15, 2017.

The American Chemical Society (ACS) sponsored the participation of the U.S. Alpha Kappa team. The U.S. team made history winning four gold medals. Harrison Wang of Hinsdale Central High School, IL (Chicago Local Section) won the fifth highest ranking gold medal; Steven Liu of Monta Vista High School, CA (Santa Clara Valley Local Section) placed 16th; Joshua Park representing Lexington High School, MA (Northeastern Local Section) placed 28th; and Brendan Yap from Carmel High School, IN (Indiana Local Section) placed 32nd.

Approximately 17,000 students from more than 1,400 high schools representing 144 ACS local sections participated in the U.S. National Chemistry Olympiad (USNCO) local competition. Nearly one thousand of these students representing 138 ACS Local Sections took the USNCO national exam to compete for a spot on the international team. The test consisted of three parts: sixty 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 at the US Air Force Academy in Colorado. Students were trained in all of the major areas of chemistry by the faculty of the USAFA Department of Chemistry and mentors **Michael Danahy** (chemistry professor, Bowdoin College, MA), **Christine Saber** (chemistry professor, Gannon University, PA), and **Patrick Chan** (chemistry teacher, Benjamin N. Cardozo High School, NY). Peer mentor **Christopher Hillenbrand** (chemistry student MIT, 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 results of tests and laboratory exercises. The 2017 alternates were **Jeffrey Shi**, Marcellus High School, NY (Central New York Local Section), and **Aniket Dehadrai**, Oklahoma School of Science and Mathematics, OK (Oklahoma Local Section). The three mentors accompanied the U.S. team to Thailand.

The U.S. delegation arrived in Bangkok Suvarnabhumi Airport on July 5th. The team was greeted by their Thai guide Veerakit Vanitshavit (Meen).

The 49th IChO opening ceremony was held on July 7th at the Prince Mahidol Hall at Mahidol University in Nakhon Pathom. The opening ceremony was formally opened by Her Royal Highness Princess Maha Chakri Sirindhorn. Welcome remarks were given by Pornpun Waitayangkoon, President of the 49th International Chemistry Olympiad and the President of the Institute for the Promotion of Teaching Science and Technology and I-Jy Chang, Chair of the IChO Steering Committee.

Students participated in the five-hour laboratory practical and theoretical examination at the Faculty of Science building of the Mahidol University, Salaya Campus. When not taking exams, students spent time together with members of the other teams and visited various attractions and historic sites including the Sanam Chandra Palace in Nakhon Pathom, The Royal Grand Palace in Bangkok, Domnoen Saduak Floating market, King Rama II Memorial Park and Ayutthaya (the second capital of Thailand and a UNESCO World Heritage site). The teams reunited with their

mentors during a party held at the Mahidol University on July 11th, where they shared their experiences from the exams and events of the day.

The IChO concluded on July 14th, with the presentation of medals at the closing ceremony at the Prince Mahidol Hall at Mahidol University, followed by a banquet to celebrate the accomplishments of all the students.

The success of the 2017 USNCO is reflected by the participation of nearly 17,000 students, the extraordinary accomplishments of the U.S. team at the 49th IChO, and the building of friendships between students across the globe who share the same interest and passion for 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 comes from the USAFA through the faculty and staff of the Department of Chemistry, and in-kind donations of housing, laboratory and lecture space for the students and mentors at the study camp.

The following corporations supported the program through in-kind donations:

- **Carolina Biological Supply and Company**
laboratory supplies
- **Fisher Science Education**
laboratory coats and supplies

- **Flinn Scientific**
chemicals and laboratory supplies
- **John Wiley & Sons Inc.**
Organic chemistry and biochemistry eBooks
- **National Geographic, Cengage Learning**
analytical chemistry textbooks
- **Millipore Sigma**
chemicals and laboratory supplies
- **Pearson Education Company**
physical chemistry textbooks
- **Texas Instruments Inc.**
scientific calculators
- **University Science Books**
inorganic chemistry eBooks

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

- The 2017 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 USAFA, and
- The mentors and peer mentors who taught and guided the 2017 Alpha Kappa Team.

Thank you!

PARTICIPATING ACS LOCAL SECTIONS

<u>Local Section (YP**)</u>	<u>Coordinator</u>	<u>Local Section (YP**)</u>	<u>Coordinator</u>
1. Akron (23)	Carol Shreiner	62. Midland (32)	Michael Tulchinsky
2. Alabama (26)	Shirley Ginwright	63. Milwaukee (31)	Scott Barry
3. Ames (24)	Terry Kruse	64. Minnesota (34)	R. Naujok/ D. Blackburn
4. Baton Rouge (33)	L. Holland/ L. Wilkinson	65. MO-KAN-OK (17)	Dilip Paul
5. Binghamton (31)	Alexsandra Silva	66. Mobile (33)	Jessica Owens
6. California (34)	Eileen Nottoli	67. Montana (33)	Carol Pleninger
7. California Los Padres (19)	Stephen Contakes	68. Nashville (30)	David Crouse
8. Carolina-Piedmont (20)	Tim Champion	69. New Haven (31)	Olivier Nicaise
9. Central Arizona (30)	Richard Bauer	70. New York (34)	Stephen Goldberg
10. Central Arkansas (34)	Marian Douglas	71. North Alabama (31)	Bernhard Vogler
11. Central Massachusetts (11)	Jeremy Andreatta	72. North Carolina (31)	Michael Bruno
12. Central New Mexico (32)	Reg Rocha	73. North Jersey (34)	Jiwen Chen
13. Central New York (32)	Neal Abrams	74. Northeast Wisconsin (33)	Andrew Schweitzer
14. Central Pennsylvania (31)	Tod McPherson	75. Northeastern (34)	Steve Lantos
15. Central Texas (32)	Andria Marsh	76. Northeastern Indiana (29)	Vicki Moravec
16. Chattanooga (32)	Harriet Hamilton	77. Northeastern Ohio (15)	Richard West
17. Chemical Soc. of Wash. (34)	Regina Cody	78. Northern Oklahoma (32)	Keith Lawson
18. Chicago (34)	R. Kohnken/D. Crumrine	79. Northern West Virginia (31)	Harry Finklea
19. Cincinnati (33)	Richard Bertz	80. Northwest Central Ohio (27)	Kelly Hall
20. Cleveland (31)	Anne O'Connor	81. Oklahoma (34)	Reza Latifi
21. Colorado (34)	Lisa Johnson	82. Omaha (10)	Edmund Tisko
22. Columbus (32)	Mary Wahba	83. Orange County (33)	Brent Shenton
23. Connecticut Valley (34)	Edward Fitzgerald	84. Orlando (25)	Mary Roslonowski
24. Dallas-Fort Worth (27)	Kathleen Holley	85. Ozark (31)	Madhuri Manapadi
25. Dayton (31)	Barry Farmer	86. Panhandle Plains (12)	Nick Flynn
26. Delaware (33)	Glenn Hartman	87. Penn-Ohio Border (32)	Michael Serra
27. Detroit (33)	Mark DeCamp	88. *Pensacola (33)	Tanay Kesharwani
28. East Central Illinois (3)	Kali Miller	89. *Permian Basin (8)	Pat Nandakumar
29. East Tennessee (28)	Al Hazari	90. Philadelphia (33)	Craig McClure
30. Eastern New York (32)	Stepehn Deyrup	91. Pittsburgh (34)	Michelle Coffman
31. Eastern North Carolina (26)	Stephen Gabriel	92. Portland (32)	Nick Hamel
32. Erie (32)	Christine Saber	93. Princeton (22)	Danielle Jacobs
33. Florida (27)	Stephanie Dillon	94. Puerto Rico (26)	Myrna Otano-Vega
34. Georgia (28)	Heather Abbott-Lyon	95. Puget Sound (26)	Clarita Bhat
35. Greater Houston (33)	Jerry Yang	96. Red River Valley (16)	Carol Wheeler
36. Green Mountain (19)	Alayne Schroll	97. Rhode Island (22)	Elaine Magyar
37. Hampton Roads (33)	Suely Black	98. Rio Grande Valley (14)	Erik Yukl
38. Hawaii (33)	Pamela Fujinaka	99. Rochester (31)	Alexey Ignatchenko
39. Hong Kong Int. Chapter (7)	David Lee Phillips	100. Rock River (34)	Matthew Bork
40. Huron Valley (24)	Larry Kolopajlo	101. Sabine-Neches (17)	Lloyd Crosby
41. Idaho (32)	Rene Rodriguez	102. Sacramento (27)	Makoto Masuno
42. Illinois-Heartland (28)	Shawn Hitchcock	103. Salt Lake (34)	Michelle Paustenbaugh
43. *Illinois-Iowa (29)	Bradley Sturgeon	104. San Antonio (32)	E. Robert Fanick
44. Indiana-Kentucky Border (30)	Mike Slade	105. San Diego (33)	Joan Shellinger
45. Indiana (34)	J. Huang/ R. Pribush	106. San Geronio (33)	Dennis Pederson
46. Inland Northwest (10)	Thomas Flanagan	107. San Joaquin Valley (7)	Shawn Fleming
47. Iowa (28)	Leonard MacGillivray	108. Santa Clara Valley (31)	Sally Peters
48. Jacksonville (32)	Hannah Malcolm	109. Savannah River (32)	Monty Fetterolf
49. Joliet (32)	Daniel Kissel	110. Shanghai Int. Chapter (4)	Jiang Peng
50. Kanawha Valley (22)	Michael Fultz	111. Sierra Nevada (15)	Ian Wallace
51. Kansas City (33)	Innocent Pumure	112. Snake River (9)	Marian DeWane
52. *LaCrosse Winona (17)	Basudeb Bhattacharyya	113. South Carolina (30)	Scott Goode
53. Lehigh Valley (30)	Kathleen Herrera	114. South Florida (25)	Venkatesh Shanbhag
54. Lexington (10)	Meghan Knapp	115. *South Korea Int. Chapter (1)	Chang Gi Cho
55. Louisville (20)	James Tatera	116. South Plains (17)	Robert Long
56. Maine (30)	James Killarney	117. South Texas (24)	Sajid Bashir
57. Mark Twain (29)	Scott Luaders	118. Southeastern Pennsylvania (33)	Todd Trout
58. Maryland (29)	Beatrice Salazar	119. Southern California (34)	Gerald Delker
59. Memphis (32)	Dennis Merat	120. Southern Illinois (24)	Yuqing Hou
60. Michigan State University (32)	Virginia Cangelosi	121. Southern Nevada (32)	Mark Garner
61. Mid-Hudson (33)	Lynn Maelia	122. Southwest Georgia (31)	Alexandrina Focsan

PARTICIPATING ACS LOCAL SECTIONS

<u>Local Section (YP**)</u>	<u>Coordinator</u>	<u>Local Section (YP**)</u>	<u>Coordinator</u>
123. St. Joseph Valley (32)	Diane Bowersox	134. Virginia (33)	Ann Sullivan
124. St. Louis (34)	Myron Reese	135. Wabash Valley (30)	Edward Mottel
125. Susquehanna Valley (31)	Deanne Garver	136. Wakarusa Valley (7)	Lisa Sharpe Elles
126. Taiwan Int. Chapter (1)	I-Jy Chang	137. Washington-Idaho Border (6)	Kristopher Waynant
127. Tampa Bay (12)	Susan Del Valle	138. Western Carolinas (29)	George Heard
128. Texas A & M (9)	Stephanie McCartney	139. Western Connecticut (33)	Monica Strada
129. Toledo (22)	Somnath Dutta	140. Western Michigan (27)	Blair Miller
130. Trenton (33)	Danielle Jacobs	141. Western New York (32)	Mariusz Kozik
131. Tulsa (30)	Michael Henk	142. Wichita (24)	Norman Schmidt
132. University of Missouri (22)	Donald Wycoff	143. Wichita Falls-Duncan (28)	Jianguo Shao
133. *Virginia Blue Ridge (15)	Kimberly Lane	144. Wisconsin (14)	Matt Bowman

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

** YP-Number of years participating in the USNCO

USNCO STUDY CAMP PARTICIPANTS

<u>STUDENT/GRAD. YEAR</u>	<u>SCHOOL/TEACHER</u>	<u>LS/COORDINATOR</u>
Zachary Chin 2018	Stevenson High School, IL Molly Sponseller	Chicago Russel Kohnken/David Crumrine
Yutong Dai 2018	Princeton Int. School of Math and Sci., NJ Qiang Chen	Princeton Danielle Jacobs
Aniket Dehadrai 2018	Oklahoma School of Science and Mathematics, OK Fazlur Rahman	Oklahoma Reza Latifi
Thomas Draper 2018	Mountain View School, UT Roberto Castro	Salt Lake Michelle Paustenbaugh
Jiwon Lee 2018	Northfield Mount Hermon High School, MA Michelle Hurley	Connecticut Valley Edward Fitzgerald
Alex Li 2018	Mounds View High School, MN David Barhan	Minnesota Roberta Naujok
Steven Liu 2017	Monta Vista High School, CA Kavita Gupta	Santa Clara Valley Sally Peters
Michelle Lu 2020	Pomperaug High School, CT Coleen Merritt	New Haven Olivier Nicaise
Yungfei Ma 2018	Skyline High School, MI Michael Jones	Huron Valley Larry Kolopajlo
Gunasheil Mandava 2017	North Allegheny Senior High School, PA Matthew Davis	Pittsburgh Michelle Coffman
Joshua Park 2018	Lexington High School, MA Janice Compton	Northeastern Steve Lantos
Jeffrey Shi 2019	Marcellus High School, NY Dan Irby	Central New York Joy Logan
Harrison Wang 2017	Hinsdale Central High School, IL Julie May	Chicago Russel Kohnken/David Crumrine
Shannon Weng 2018	West Windsor Plainsboro High School South, NJ Cynthia Jaworsky	Princeton Danielle Jacobs
Andrew Wu 2019	Park Tudor High School, IN Jessica Hollenbeck	Indiana Jianping Huang/Robert Pribush
David Wu 2019	Westview High School, CA Scott Halander	San Diego Joan Schellinger
Brendan Yap 2017	Carmel High School, IN Virginia Kundrat	Indiana Jianping Huang/Robert Pribush
Allen Zhang 2018	Carmel High School, IN Virginia Kundrat	Indiana Jianping Huang/Robert Pribush
Allen Zhao 2018	Park Tudor High School, IN Jessica Hollenbeck	Indiana Jianping Huang/Robert Pribush
Tong Zhao 2018	Clayton High School, MO Nathan Peck	St. Louis Myron Reese

49TH INTERNATIONAL CHEMISTRY OLYMPIAD RESULTS

In the 49th International Chemistry Olympiad 297 students from 76 countries participated and were awarded 196 medals and 10 Honorable Mentions (HM)

36 students received gold, 65 students received silver, and 95 students received bronze medals

COUNTRY (number of years of participation)	MEDALS	COUNTRY (number of years of participation)	MEDALS
1. Argentina (23)	3 bronze, 1 HM	39. Lithuania (16)	1 gold, 1 silver, 2 bronze
2. Armenia (2)	2 bronze, 1 HM	40. Malaysia (11)	1 silver, 1 bronze
3. Australia (30)	2 silver, 2 bronze	41. Mexico (26)	2 HM
4. Austria (42)	1 silver, 3 bronze	42. Moldova (11)	1 silver, 1 bronze
5. Azerbaijan (18)	1 gold, 1 silver, 1 bronze	43. Mongolia (12)	1 bronze
6. Belarus (22)	3 silver, 1 bronze	44. Montenegro (3)	
7. Belgium (37)	1 bronze	45. Netherlands (38)	2 bronze
8. Brazil (18)	3 silver, 1 bronze	46. New Zealand (26)	1 silver, 3 bronze
9. Bulgaria (48)	1 gold, 3 bronze	47. Norway (36)	1 bronze
10. Canada (31)	1 silver, 1 bronze, 1 HM	48. Pakistan (12)	1 bronze
11. China (30)	3 gold, 1 silver	49. Peru (13)	1 gold, 1 bronze
12. Chinese Taipei (18)	4 gold	50. Philippines (1)	2 bronze
13. Costa Rica (8)	1 bronze	51. Poland (49)	3 silver, 1 bronze
14. Croatia (18)	2 silver, 1 bronze, 1 HM	52. Portugal (14)	
15. Cuba (28)	1 bronze	53. Romania (47)	2 gold, 2 silver
16. Cyprus (29)	1 HM	54. Russia (24)	2 gold, 2 silver
17. Czech Republic (48)	3 silver, 1 bronze	55. El Salvador (5)	1 bronze
18. Denmark (36)	1 bronze	56. Saudi Arabia (7)	2 silver, 2 bronze
19. Estonia (24)	1 silver, 3 bronze	57. Serbia (6)	1 silver, 3 bronze
20. Finland (40)	2 bronze	58. Singapore (28)	2 gold, 2 silver
21. France (36)	4 bronze	59. Slovakia (23)	3 bronze
22. FYR Macedonia (5)	1 bronze	60. Slovenia (26)	2 silver, 1 bronze, 1 HM
23. Georgia (4)	3 bronze	61. South Africa (2)	
24. Germany (27)	4 bronze	62. Spain (23)	1 bronze
25. Greece (22)	2 bronze	63. Sweden (43)	
26. Hungary (49)	4 silver	64. Switzerland (31)	
27. Iceland (16)		65. Syria (8)	1 bronze, 1 HM
28. India (19)	1 gold, 3 silver	66. Tajikistan (13)	1 bronze
29. Indonesia (21)	1 gold, 3 silver	67. Thailand (28)	2 gold, 2 silver
30. Iran (25)	3 gold, 1 silver	68. Turkey (25)	1 gold, 3 bronze
31. Ireland (20)	3 bronze	69. Turkmenistan (15)	2 bronze
32. Israel (12)	1 silver, 2 bronze	70. Ukraine (24)	3 silver, 1 bronze
33. Italy (36)	3 silver, 1 HM	71. United Kingdom (35)	3 silver, 1 bronze
34. Japan (15)	1 gold, 3 silver	72. USA (34)	4 gold
35. Kazakhstan (20)	1 gold, 3 bronze	73. Uruguay (19)	
36. Korea (26)	2 gold, 2 silver	74. Uzbekistan (5)	3 bronze
37. Kyrgyzstan (19)	2 bronze	75. Venezuela (17)	1 bronze
38. Latvia (27)	3 bronze	76. Vietnam (22)	3 gold, 1 silver

Observing countries:

Luxembourg (1st year)

United Arab Emirates (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 STATISTICAL INFORMATION

	2017										
Local Exam Local Sections	144										
Natl. Exam Local Sections	138										
Natl. Exam Nominees	982										
Countries participating in IChO	76										
Students participating in IChO	297										

USNCO NATIONAL EXAM STATISTICAL INFORMATION
(TOTAL STUDENTS – 982)

Gender			
Male	633	74%	
Female	222	26%	
Responses	855	100%	87%
Ethnic Background			
African American	14	2%	
Asian	427	50%	
Hispanic	24	3%	
White	350	41%	
Native American	2	0%	
Pacific Islander	6	1%	
Prefer not to disclose	27	3%	
Other	5	0%	
Responses	855	100%	96%
Grade in School			
9th Grade	22	3%	
10th Grade	132	15%	
11th Grade	503	59%	
12th Grade	199	23%	
Responses	856	100%	87%
Years of H.S. Chemistry			
1	192	23%	
2	608	71%	
3	49	6%	
4	3	0%	
5 or more	0	0%	
Responses	852	100%	87%
Average time per week spent doing experiments in HS Chemistry Lab			
Less than ½ hour	219	37%	
Between ½ and 1 hour	200	34%	
Between 1 and 2 hours	148	25%	
More than 2 hours	22	4%	
Responses	589	100%	60%
Intended College Major			
Biological Sciences/Pre-Medicine	146	20%	
Chemistry or other Chemical Science	151	21%	
Engineering/Mathematics/Physics	238	32%	
Other Science discipline	25	3%	
Other or undecided	177	24%	
Responses	737	100%	75%

As a result of participating in USNCO students (% responded):	Strongly agree	Agree	Disagree	Strongly disagree
Plan to study more chemistry	36%	50%	13%	1%
Plan to major in chemistry	11%	35%	46%	8%
Have more positive view about chemistry	35%	52%	11%	2%

IChO PARTICIPATING TEAMS RESULTS 1984–2017

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 1984–2017

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 1984–2017

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 1984–2017

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 1984–2017

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 1984–2017

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

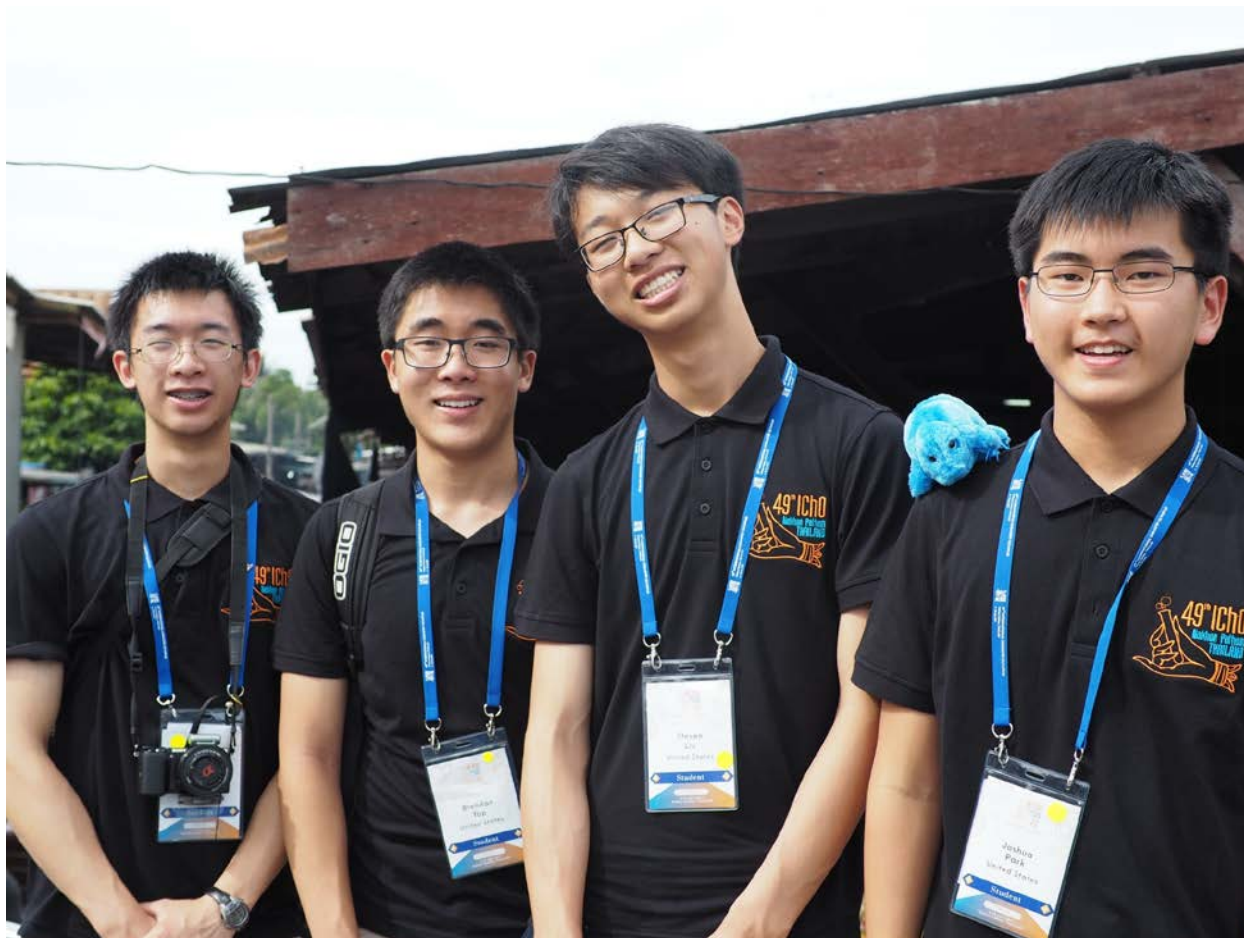
Name	School	Local Section	Medals	Ranking
David Wang	Monta Vista High School, Cupertino, CA	Santa Clara Valley	Gold	7 (of 290)
Janice Ong	T. Jefferson H.S. for S&T, Alexandria, VA	Washington, DC	Silver	76
Bryce Cai	Barrington High School, IL	Chicago	Silver	82
Soorajmath	OK School of Sci. and Math., OK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

2017 – Nakhon Pathom, Thailand – 49th IChO

Name	School	Local Section	Medals	Ranking
Harrison Wang	Hinsdale Central High School, IL	Chicago	Gold	5 (of 297)
Joshua Park	Lexington High School, MA	Northeastern	Gold	16
Steven Liu	Monta Vista High School, CA	Santa Clara Valley	Gold	28
Brendan Yap	Carmel High School, IN	Indiana	Gold	32



L to R: Harrison Wang, Brendan Yap, Steven Liu, Joshua Park.

Steven Liu

When the top high school chemists from each country gather, great experiences are inevitable. At the 49th International Chemistry Olympiad, I felt exactly those. From the 4AM card games to the five hour karaoke sessions, each experience at the IChO was memorable. When I first arrived, the other teams overwhelmed me. On the surface, they seemed to only want to study, unwilling to be friendly to other teams. But, the opposite was true. By the first few hours, there were already teams racing to steal each other's mascots, teams laughing over card games, and teams intrigued in other countries' cultures. As the IChO progressed, the fun crescendoed. Each night before the exams, we were reluctant to go to sleep -- there were too many teams we wanted to talk to.

Surprisingly, the examination atmosphere was completely different from the exam atmosphere back home. Instead of a cutthroat, stressful, competitive examination room, the room felt bright and exciting. Instead of walking in worried, we walked in with exhilaration. Each student's main goal was not to score higher than everyone else, but to score to their full potential.

The sense of friendship and community continued, even after the exams were finished. Once we left the room of the theoretical exam, we were elated to have come so far and finished what we've worked at for years. Everyone was full of smiles, regardless of how they did, for the experience was what mattered for us, and the result was secondary.

Naturally, the next few days were laid back. The relationships we've made with teams developed further. Card games were played until dawn, and the hotel was filled with laughs. During these nights, we were not worried about the results very much. We were all cherishing the experiences of the IChO, and we were sad that we would have to leave each other soon.

During the closing ceremony, every team was nervous. Yet, every team was rooting for each other's successes, and it felt that the different teams united into one. As they announced the silver medalists, we were anxiously waiting for the last round of the silvers. After one of the rounds, the Vietnamese team behind us suddenly started roaring, hugging and screaming in joy. We were confused, as we anticipated that there was one more round of silver medalists. Yet, once the announcers said that that was indeed the last round of medalists, we all screamed in happiness, hugging each other and the Vietnamese team. It was a beautiful experience -- we had never talked to them, but we were now so close to them through our joy for this competition.

I am proud and fortunate to have made history at this IChO. I, nor anyone else on this team, could not have done this by myself, and have a few people to thank for bringing me here. To David Wang (IChO 2015), thanks for inspiring me to take part in this competition. I would have never competed had I not seen you compete, and I would not have come this far without your guidance and resources. To my chemistry teacher, Kavita Gupta, thanks for supporting me throughout the competition and providing me opportunities to improve. Most heartily, thank you mentors, Chrissy, Patrick, Mike, and Chris, thanks for passing to me your knowledge and challenging me. The few weeks I have spent with you all have been the best weeks of my life.

Importantly, the friends I've made here will last a lifetime. Since the IChO, I've toured Korea with the Korean team, and it's inevitable that my path and other IChO participants' paths will cross again in the future. In the end, the IChO was a beautiful experience not so much because of the great result, but because of the amazing journey.

Joshua Park

Five hour exams. Towering temples. All-nighters. From the opening ceremony to the bus ride back, the International Chemistry Olympiad was a deluge of unforgettable experiences and people.

From the moment I learned that I was a member of Team USA two weeks before the competition, I devoted my time to preparing for the approaching examinations. Taking a second pass through the Preparatory Problems and working through past IChO papers, I reinforced my theoretical base, while hours in the lab performing titrations and recrystallizations honed my practical skills. Because I gained familiarity with the necessary skills, the practical exam was not nearly as traumatic as I had feared, and was actually quite fun.



Photo by 49th IChO

Team USA with Thai Guide Meen

Interspersed between the testing and ceremonies were excursions to various Thai attractions. Ruins centuries old and modern palaces, elephant farms and floating markets were just some of the fascinating locations we visited. New experiences included haggling over souvenir prices and feeding and petting massive elephants--both which I will most likely never do in the US. The outings to the the palace and temples exposed me to Thailand's rich history--generations of King Rama's--and elegant architecture.

Outside testing and excursions, I was free to enjoy the best part of IChO - talking to others and learning about life in other countries. I don't think I ever went to bed before two in those final days, staying up with other teams. From Truth or Dare to Secret Hitler and Mafia, we played all sorts of games that were surprisingly to many different countries. Befriending people who, in some cases, live on the other side of the world and learning about their schools, homes, and culture was without a doubt the highlight of the experience. Whether we were Kiwi, Korean, or Thai, we shared many interests outside of chemistry, everywhere from music to video games. The IChO was an incredible experience that created memories I will treasure for years to come. I would not have been able to attend it without the quiet support of my parents and friends. I would also like to thank my chemistry teacher Mrs. Compton for preparing labs for me. To Catherine, thank you for showing me Shrimp and making USNCO possible. Finally, thank you to Sriram Pendyala for taking me to the next level.

Harrison Wang

A distant day ago, right after I landed, I stepped outside Bangkok International Airport. Immediately, the humid air blanketed me in a warmly comforting shroud. Though I was not prepared to be here, I knew the air would relax me into the awe of finally being at IChO.

This atmosphere would persist on our excursions, maybe not anymore in the weather itself, but in the faces and hearts of the Thai. We felt it in our guide Meen who constantly ensured that we were well-fed and taken care of (even the one time we skipped breakfast as a result of partying too late and sleeping too little), in the people on the street who provided directions and free food, and in the merchants who offered us good deals just because we were students.

Moreover, I was pleasantly surprised by the friendliness of the IChO competitors. On the second day, Josh and I started quite a large water fight in the pool. Every day after the exams, we played loud music in the back of our tour bus, and our tour guide didn't seem to care too much. And on every one of those nights, we stayed up until the early morning chilling and trying out each country's favorite card games. Anyone would expect a bunch of studious teenagers who kept to themselves, but evidently, members from even the best teams this year, like China and Korea, hyped it up. On the night of the closing ceremony, the Korean team treated us to karaoke, and it became clear that they're amazing at everything they do, not just chemistry. The motto of this year's IChO—'bonding the world with chemistry'—truly was realized. Bond formation is exothermic, and I felt the warmth.



Students at the reunion party

Our final effort was completed in just 40 hours of testing: 4 people, each 5 hours of practical, then 5 hours of theory. The practical exam's organic synthesis took us by surprise: everyone's yields, around 10 to 20%, were much lower than the 70 to 80% expected from a typical synthesis

problem. I thought I would lose lots of points on this problem, and this fear persisted even when the distribution of everyone's yields was revealed to us. Fortunately, the theoretical exam went smoothly for us except for a coordination chemistry question hinting at the Jahn-Teller effect, as well as a couple silly mistakes. So it seemed that everyone's final ranks would be decided by the one organic synthesis problem.

Right before the closing ceremony, we got hints that our results were not as good as expected, which threw us into more nervousness. Winners during the closing ceremony were called up in groups: first the honorable mentions, then the bronzes 12 at a time, then silvers 10 at a time, then golds. While anxiously waiting for each group to be called up, we realized we had to accept the possibility of getting two silvers just so we wouldn't incapacitate ourselves with concern. After a group of silvers had been called, the team behind us began to celebrate, and we asked why—the silvers aren't over; our team's silvers would be called in the next group, we thought. But they had been keeping count better than us, and that group was the last group of silvers. So we realized. And we cheered. And I hugged Josh and Brendan and Steven. And we waited for our names to be called, finally relieved, elated, released, warm.

This moment was the culmination of the efforts of countless people who spent many orders of magnitude more time. To Meen, to the Thai people, and to the IChO organizers; to our mentors Mike, Chrissy, Patrick, and Chris; to Cecilia, Dr. Kim Gardner and the rest of the individuals who provided us with solid training at the USNCO study camp; to the 2017 study camp students for their support and friendliness; to Mrs. May for introducing me to this opportunity; to Yuanwen Jiang of UChicago for his endless hours of supervision and advice, to Bozhi Tian and his lab group at UChicago; and finally, to my family, especially my father, who flew 9000 miles just to see me at the closing ceremony: thank you all.

Brendan Yap

I'm honored to have represented the United States at the 49th International Chemistry Olympiad. My two weeks in Nakhon Pathom, Thailand were unforgettable.

I like food. I will fondly remember Thai cuisine next year as I struggle to adjust to college dining halls. In particular, I will treasure the memories of eating tropical fruits: mangosteens, coconuts, pineapple, bananas, and rambutans. These were probably the juiciest two weeks of my life. There was not one fruit I tried that I didn't like, though I declined to sample the king of fruits: the mighty durian. The durian has an almost comical appearance, famous for its large size, thick and spiky shell, and pungent odor. Apart from fruits, I basked in the glory of tom yum soup, green curry, and my favorite dish from our Thai excursion: pad ka prao (minced pork with Thai chilis and rice).

Of course, IChO is more than a two-week tasting menu. There are exams to be taken! I felt extremely well-prepared for this year's practical. During the reading-only period of the practical exam, I felt relieved that we had thoroughly covered the tasks during camp. Each part went smoothly for me, including spectrophotometry in task 1A, iodometric titration in 1B, and organic synthesis in task 2. Though I would rate my lab skills as somewhat dubious, I felt at home in the IChO lab. I enjoyed the vibrant colors of the various pH indicators in task 1A. I remember the ecstatic feeling of my numbers agreeing with each other in the titration (which they never do).

Finally, I will warmly remember the moment my hood-partner asked me for extra filter paper during the synthesis. I smiled and said no.

The theoretical exam was relatively straightforward. I don't think there's much to say about it, but all four of us aced it!



Photo by 49th IChO

Sightseeing in Thailand

The recreational side of IChO provided a relaxing contrast to the stress of exams. We quickly made friends with our bus-mates: the Canadians, the Kiwis, the Aussies, and the mascot-stealing Brits. After the exams concluded, we would spend nights staying up as late into the morning as possible, playing card games with our new friends, and running to the karaoke bar next door. I am eternally grateful to my Polish friend Wojciech Jankowski for having the patience to teach us how to play Jungle Speed at two in the morning. Though I'm quite terrible at the game, it's my new favorite.

I'd like to thank the ACS as well as the UMW and USAFA faculty for creating a wonderful study camp experience for us in the past two years. Also, I would like to thank this year's IChO organizers, the liaisons (shoutout to Meen and TamTam), and finally, our mentors: Mike Danahy, Patrick Chan, Chrissy Saber, and Chris "Chillenbrand" Hillenbrand for their hard work in preparing us for this unforgettable experience!

Concentrates

Chemistry news from the week

► Highlights

Is the proton lighter than we thought?	5
Mass spec helps better train bomb-sniffing dogs	6
Growing liver tissue from seed	7
Nektar advances abuse-proof opioid	10
U.S. plans ethylene exports	11
AkzoNobel's CEO suddenly steps down	11
Tainted water is focus of U.S. legislation	14
Court backs EPA on chlorpyrifos	15

EDUCATION

U.S. makes history at olympiad

High school students score four golds at international chemistry competition

The U.S. team made history at the 49th International Chemistry Olympiad in Nakhon Pathom, Thailand, which concluded on July 15.

Winning four gold medals, the students turned out the best performance in the history of the U.S. team since it began participating in the high school chemistry competition in 1984. In 1999, the U.S. team won three gold medals, one of which was the top-scoring gold medal. That competition also took place in Thailand.

The medals were announced during the closing ceremony on July 14. Taiwan (under the team name Chinese Taipei) was the only other country to receive four gold medals. The top-scoring gold medal went to a high school student from Russia.

The U.S. team, which is sponsored by ACS, was made up of Steven Liu of Monta Vista High School in Cupertino, Calif.; Joshua Park of Lexington High School in Massachusetts; Harrison Wang of Hinsdale Central High School in Illinois; and Brendan Yap of Carmel High School in Indiana.

"We're elated," says mentor Michael Danahy. "This was the best the U.S. has done as a team ever at this competition. This is a fantastic representation for our country that we can perform well on this level. We talk a lot in our country about science education and turning out great chemists and great scientists, and these kids are that next generation of great chemists and great scientists."

Wang says it was a surreal moment

when the medals were being announced. "They started with bronze, then silver, then gold," he says. "After all the silvers

The olympiad at a glance

- **Number of students:** 297
- **Participating countries:** 76
- **Medals awarded:** 36 golds, 65 silvers, 95 bronzes
- **Top-performing countries:**
 - Taiwan, U.S.
 - China, Iran, Vietnam
 - Korea, Romania, Russian Federation, Singapore

were announced, we realized we were all getting golds. It was really exciting. Amazing, actually."

"The adrenaline rush was incredible," Park says. "I was really excited; there's no way to describe it."

Liu says part of what made the team so successful is that each member brought his individual strengths,

and their skills complemented each other. In addition, "we studied really hard,

and I think that paid off," he says.

"In the study camp, we did a lot of mock practice exams," Yap says. "When taking the test this time, we felt very comfortable because we had done it so many times already at the study camp."

Yap says that in addition to the medals, he has gained many new friends around the world. "It's an honor to represent the U.S.," he adds.

The competition consisted of a five-hour theoretical exam plus a five-hour practical laboratory exam. In the practical exam, Danahy says the students were asked to complete an organic synthesis, deduce pH using spectroscopy methods, and do titrations of saturated salt solutions to figure out the concentration of ions in an unknown solution.

Liu, Yap, and Wang will be starting college at Massachusetts Institute of Technology in the fall. Park will be a senior at Lexington High School.—LINDA WANG



Yap (from left), Liu, Park, and Wang celebrate their success.

CREDIT: CECILIA HERNANDEZ

Press Release

American Chemical Society
External Affairs & Communications



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FOR IMMEDIATE RELEASE

U.S. team brings home the gold from International Chemistry Olympiad

WASHINGTON, July 18, 2017 -- The American Chemical Society (ACS) is proud to announce that, for the first time in history, the four high school chemistry whiz kids representing the U.S. at the annual [International Chemistry Olympiad](#) (ICHO) each earned a gold medal. The competition was held in Nakhon Pathom, Thailand.

The members of the U.S. team, Alpha Kappa, are:

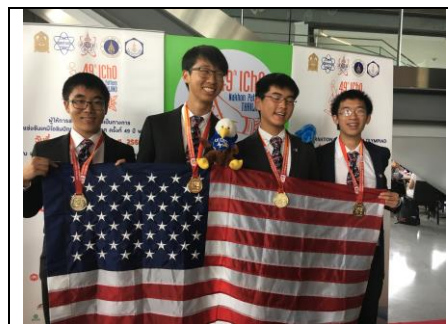
Harrison Wang of Hinsdale Central High School, Hinsdale, Illinois -- fifth highest ranking gold medal
Steven Liu of Monta Vista High School, Cupertino, California
Joshua Park of Lexington High School, Lexington, Massachusetts
Brendan Yap of Carmel High School, Carmel, Indiana

"ACS congratulates the U.S. team, Alpha Kappa, for making history with all four students winning gold medals," says ACS President Allison A. Campbell, Ph.D. "The Society is proud to sponsor the team, and we wish them continued success."

The U.S. students competed with 293 students from 75 countries from July 6 to 15. 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.

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. Principal funding is through the ACS Donald F. and Mildred Topp Othmer Olympiad Endowment, with additional support from the U.S. Air Force Academy, Department of Chemistry; Carolina Biological Supply Company; National Geographic Learning|Cengage Learning; Fisher Science Education; Flinn Scientific Inc.; Prentice Hall Publishers; Texas Instruments Inc.; University Science Books; Sigma-Aldrich Inc.; and Wiley & Sons Publishers.



Left to right: Yap, Liu, Park and Wang

Credit: C. Hernandez/ACS
[Click here for a high-resolution image.](#)

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Press Release

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FOR IMMEDIATE RELEASE

U.S. Alpha Kappa Team chosen for the 49th International Chemistry Olympiad

WASHINGTON, June 28, 2017 — The American Chemical Society (ACS) is proud to announce the team that will represent the U.S. at the 49th [International Chemistry Olympiad](#) in Nakhon Pathom, Thailand, from July 6 to 15.

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

Steven Liu of Monta Vista High School, Cupertino, California
Joshua Park of Lexington High School, Lexington, Massachusetts

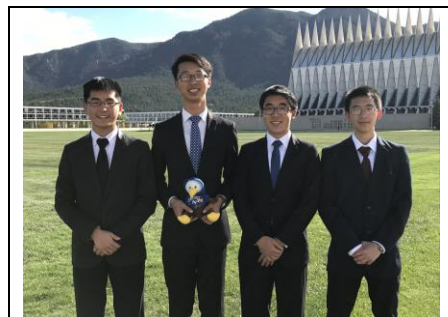
Harrison Wang of Hinsdale Central High School, Hinsdale, Illinois

Brendan Yap of Carmel High School, Carmel, Indiana

Alternates:

1st alternate: Jeffrey Shi of Marcellus High School, Marcellus, New York

2nd alternate: Aniket Dehadrai of Oklahoma School of Science and Mathematics, Oklahoma City, Oklahoma



Left to right: Park, Liu, Yap and Wang

Credit: Michael Danahy
[Click here for a high-resolution image.](#)

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 U.S. Air Force Academy in Colorado Springs, Colorado, 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.

The American Chemical Society (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 U.S. Air Force Academy, Department of Chemistry; Carolina Biological Supply Company; National Geographic Learning|Cengage Learning; Fisher Science Education; Flinn Scientific Inc.; Prentice Hall Publishers; Texas Instruments Inc.; University Science Books; Sigma-Aldrich Inc.; and Wiley & Sons Publishers.

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Press Release

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FOR IMMEDIATE RELEASE

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

WASHINGTON, May 25, 2017 — Twenty of the nation's top high school chemistry students have been chosen to compete for one of four spots on the team representing the U.S. at the 49th International Chemistry Olympiad in Nakhon Pathom, Thailand, on July 6-15.

These students emerged from a series of exams that involved more than 16,000 students across the U.S. Their next stop in qualifying for the U.S. team will be the Chemistry Olympiad Study Camp at the U.S. Air Force Academy in Colorado Springs, Colorado, June 6-21.

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 students will be named as members of the team.

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The 20 finalists – 16 boys and four girls, representing 15 ACS local sections and 14 states – are:

<u>City/State</u>	<u>Name</u>	<u>High School</u>
Ann Arbor, Mich.	Yunfei Ma	Skyline High School
Arden Hills, Minn.	Alex Li	Mounds View High School
Carmel, Ind.	Brendan Yap*	Carmel High School
Carmel, Ind.	Allen Zhang*	Carmel High School
Clayton, Mo.	Tong Zhao	Clayton High School
Cupertino, Calif.	Steven Liu*	Monta Vista High School
Hermon, Mass.	Jiwon Lee	Northfield Mount Hermon High School
Hinsdale, Ill.	Harrison Wang*	Hinsdale Central School
Indianapolis, Ind.	Andrew Wu	Park Tudor High School
Indianapolis, Ind.	Allen Zhao	Park Tudor High School
Lexington, Mass.	Joshua Park	Lexington High School
Lincolnshire, Ill.	Zachary Chin	Stevenson High School
Marcellus, N. Y.	Jeffery Shi*	Marcellus High School

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Westview High School
Pomperaug High School
West Windsor Plainsboro High School
North Allegheny Senior High School

*participated in the 2016 study camp

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Education

Stillwater students finalists in Chemistry Olympiad

Published May 10, 2017 at 7:00 am

By [Stillwater Gazette](#)

Two Stillwater Area High Schools students are among 14 in the state of Minnesota to be named Chemistry Olympiad finalists. Alex Daum and Joe Hesse-Withbroe have both been invited to participate in the U. S. National Chemistry exam. The exam is given to about 1,000 students in the county, and the top scorers can earn an invitation to the International Chemistry Olympiad.

The U.S. National Chemistry Olympiad program is a chemistry competition for high school students. The purpose of the competition is to stimulate young people to achieve excellence in chemistry. The American Chemical Society has sponsored the program since 1984.

Students Participate in Chemistry Olympiad

 veniceoarsman.com/2832/features/students-participate-on-chemistry-olympiad/

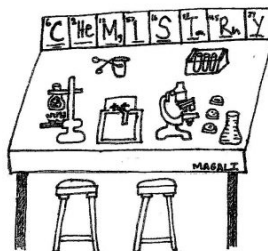
Magali Sanchez

Barbara Polesi, Reporter

March 16, 2017

Filed under [Features](#)

Venice High School students will be participating on this year's Chemistry Olympiad on March 22 and 23. For AP and Honors Chemistry students, it is a great practice test before the AP tests. Students who do well will then take a national test and prepare themselves to compete internationally at a study camp with other students from all over the United States.



The U.S. National Chemistry Olympiad (USNCO), has the purpose to stimulate young people to achieve excellence in chemistry. The American Chemical Society (ACS) has sponsored the program since 1984, according to the American Chemical Society's website

The local exam, organized by science teacher Barry Vella, is a two-hour multiple-choice test, designated to test the students' knowledge of a wide variety of topics in chemistry. Students who would like to review previous years' exams and practice may do so through the ACS website. The top 16 scorers on the local exam will be nominated to compete in the national exam, which will be held April 22.

The top 20 national scorers will go to an all-expenses-paid, two-week study camp that will be held in Colorado Springs, Colorado. At this camp, four finalists will be selected from the U.S. Team to represent the United States in the 49th International Chemistry Olympiad (ICHO), which will be held in Thailand on July 6-15. Several students in Mr. Vella's classes will be taking the test.



Missouri Student Among Top 20 Competing for U.S. Chemistry Olympiad Team

Posted Saturday, June 03, 2017 :: Staff infoZine

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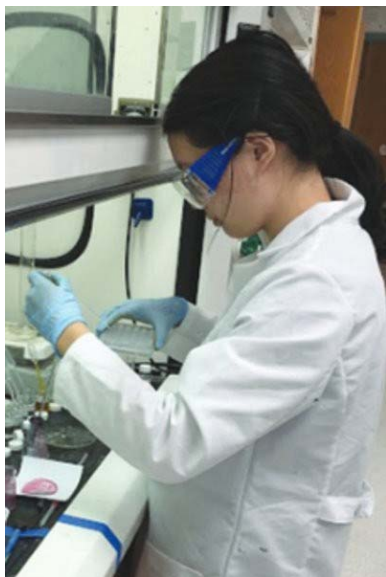


Photo courtesy of ACS

The American Chemical Society (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 U.S. Air Force Academy, Department of Chemistry; Carolina Biological Supply Company; National Geographic Learning|Cengage Learning; Fisher Science Education; Flinn Scientific Inc.; Prentice Hall Publishers; Texas Instruments Inc.; University Science Books; Sigma-Aldrich Inc. and Wiley & Sons Publishers.

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