

USA
BIOlympiad
2022

National
Finals



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ABOUT THE USA BIOLYMPIAD

The Center for Excellence in Education (CEE) developed and inaugurated the first USA Biolympiad (USABO) in 2002 to train future leaders in the biological sciences. In 2004, the USA Biolympiad Team was awarded an unprecedented four gold medals in Brisbane, Australia, a feat accomplished for the first time in Biology Olympiad history. The USA Biolympiad Team has continued this remarkable record of success by winning four gold medals in 2007, 2008, 2009, 2011, 2012, 2013, 2015, and 2017. Now in its twentieth year, the USABO continues to nurture young scholars to careers of excellence and leadership in science.

The USA Biolympiad concentrates on stimulating young scholars' intellectual curiosity and developing their critical thinking skills in biological reasoning. The rigorous USABO competition demands the best in practical and theoretical knowledge and includes four tiers: Open Exam, Semifinal Exam, National Finals, and the USA Biolympiad Team's participation in the International Biology Olympiad (IBO) Challenge.

2022 USABO STATISTICS

Open Exam: 11,010 students from 582 schools, 42 states and 16 International Schools registered for the Open Exam.

Semifinal Exam: 434 students representing 35 states and 1 International School were in the Semifinal Exam.

National Finals: 23 National Finalists representing 21 schools and 11 states.

2022 USABO STAFF

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Kathy Frame, USABO Advisor & Consultant,
Center for Excellence in Education

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Radiology, University of
North Carolina, Chapel Hill

John Nolley
Photographer & Naturalist

CENTER FOR EXCELLENCE IN EDUCATION PRESIDENT



Joann DiGennaro has devoted her career to advancing STEM education both at home and abroad. She established the Center for Excellence in Education (CEE) with the late Admiral H.G. Rickover in 1983. Ms. DiGennaro has represented the interests of U.S. education as a member of the delegation to the first U.S.-China Civil Strategic and Economic Dialogue in Beijing, China. She served on Purdue University's Global Affairs Strategic Advisory Council, where she also served on the Dean's Advisory Board for the College of Liberal Arts. She has also served on the Boards of Visitors at George Mason University, Shimer College, and the National Intelligence University. She serves on the Houston Methodist DeBakey Heart & Vascular Center Council and on the Advisory Board for the USA Science & Engineering Festival. Ms. DiGennaro is also proud to have served on the Board of Trustees at the Keck Graduate Institute of Life Sciences and the Advisory Board of Cyence, Inc.

In 2014, Ms. DiGennaro became one of only five civilian women to receive the Department of the Army's Outstanding Civilian Service Medal for her service as both an expert consultant and Chair of the U.S. Army War College Board of Visitors. Ms. DiGennaro's exemplary service to the Advisory Council of the National Aeronautics and Space Administration (NASA) was recognized in 2008, when she received NASA's Public Service Medal for her contributions to the organization's mission and educational programs. Ms. DiGennaro received her Bachelor of Science at Purdue University and her Master of Science at the University of Maryland. She read the law at Oxford University and received her Juris Doctor at George Mason University. She also served as a Research Affiliate at Harvard University's Program for Information Resources Policy, where she authored *Science Literacy: Essentials for Decision Making*. She also co-authored *Scholarships and Fellowships for Math and Science Students*.

2022 USA BIOLYMPIAD NATIONAL FINALS CONVOCAATION

Wednesday, June 8, 2022

Marymount University
2807 North Glebe Road
Arlington, VA 22207
6-8 p.m.

Welcome and Introduction

Kathy Frame

USABO Advisor & Consultant
Center for Excellence in Education

Dinner Keynote Speaker

Ravi Kamath, MD, PhD

Radiologist, Fairfax Radiological Consultants, PC

Presentation of Medals and Announcement of USA Biology Team 2022

Kathy Frame

USABO Advisor & Consultant
Center for Excellence in Education

Closing Remarks

Richard Zhu

2022 USA Biolympiad National Finalist

2022 USABO FINALIST BIOS



Derek Chen | Belmont High School, Belmont, MA

Derek is fascinated with biology and STEM. He is the captain of his school's Math and Science Olympiad teams and also participates in mock trial. In mathematics, he has attended PROMYS and MIT PRIMES mathematics sections. During the COVID-19 pandemic, Derek served as an instructor and a member of the management team for the initiative Belmont Free Lessons which provided free educational resources to local students. In his free time, he enjoys running, observing hibiscus flowers, playing tennis, chatting with friends, singing to musicals, and browsing *Wikipedia*. Derek is excited to meet the USABO Finalists and will be attending MIT in the fall.



Fu Xing Chen | Stuyvesant High School, New York City, NY

Fu Xing is a junior at Stuyvesant High School. He discovered his passion for biology and the USABO through watching penguin videos. Fu Xing currently serves as the co-president of his school's USABO Club (StuyBO). He is interested in molecular genetics and conducts research on the transcriptomics of COVID infected cells and NYC mycorrhizal diversity. In his free time, Fu Xing enjoys authoring poems, delivering street performances, and reading about his favorite biomolecule tyrosine in *Lamnhaj's Biology*.



Sean Fei | Lexington High School, Lexington, MA

Sean Fei is a senior at Lexington High School and will be attending MIT in the fall. In addition to biology, he is interested in chemistry and astronomy. He participates in his school's Science Olympiad team. He also is captain of his Science Bowl team, which placed top 8 at the 2022 Nationals. He qualified for USNCO Honors and as a USAAO Semifinalist. When he is not reading Klein to learn biosystematics, he likes playing video games and binge watching shows. Sean often sleeps into the afternoon without an alarm. He also loves wasting numerous hours on *Typeracer* while about his other work.



Carolina Kusumanegara | Seven Lakes High School, Katy, TX

Carolina Kusumanegara is a freshman at Seven Lakes High School. She is especially interested in biochemistry and genetics. Her favorite biology-related textbook (other than *Campbell*) is *Lehninger Principles of Biochemistry*. She is an active participant in Science Olympiad and has medaled multiple times at the national level. Carolina is also a part of her school's biology bowl team, informally named "Tux" after the Linux penguin. In her free time, she enjoys discovering recent music, drawing, reading webcomics, and hanging out with friends.



Bella Liu | Troy High School, Fullerton, CA

Bella Liu is a junior and captain of Troy Science Olympiad. Ecology and ornithology are her first loves in biology. She enjoys writing Science Olympiad tests (five are featured on the national website), coaching her middle school Science Bowl team, and holding bird conservation outreach at the Los Angeles Library and Los Angeles Zoo. In her free time, you can find her talking to her chickens, singing musical theater songs, or making friends with spiders. She would like to give a shoutout to her Science Olympiad team for having faith in her.



Lawrence Long | BASIS Independent Silicon Valley, San Jose, CA

Lawrence Long is a graduating senior from BASIS Independent Silicon Valley and a rising freshman at MIT. He is fascinated by the biology of aging. Lawrence is an acai bowl aficionado, having sampled bowls all over the country, from Hawaii to San Francisco to Boston. He has also become a fan of touching grass this past year and loves going on runs outside while identifying plant families and playing Pokemon Go. He can frequently be found playing table tennis at one of his local clubs. Lawrence is well-known for his endearing cackling laugh, which others have tried (and failed) to imitate. He accredits his biology skills to his immense appetite for bananas (an average of five per day).



Amber Luo | Ward Melville High School, Setauket- East Setauket, NY

Having discovered biology through her school's Science Olympiad team and loved mathematics since childhood, Amber is intrigued with utilizing mathematical tools to unraveling biology's complexity. Amber is the 3rd place winner of the 2022 Regeneron STS, an RSI alumna with Top 5 Oral & Written honors, ISEF Grand Prize Winner, 5-time AIME qualifier, and USNCO Honorable Mention Recipient. She founded and directed Illumina Learning, an organization that provides affordable STEM programs to students. In her free time, she enjoys learning K-pop dances and instructing her students about Pokemon genetics. Amber will be attending MIT in the fall.



Lawrence Ma | Ridge High School, Basking Ridge, NJ

Lawrence Ma is a sophomore at Ridge High School. He is passionate about biology and chemistry, especially molecular biology and organic chemistry. When he is not reading Campbell's and Atkins's, he is enjoying practicing Mix Martial Art (including muay thai, boxing, and Brazilian jiu jitsu) and playing basketball. He is also extremely interested in Art (drawing and painting) and creative writing. In his free time, he enjoys playing with his cat, a blue bicolor ragdoll named Rourou, and reading science journals.



Luke Zhang Mo | duPont Manual High School, Louisville, KY

Luke Mo is a junior attending duPont Manual High School. He received the USA Biolympiad Top 50 Distinction Award in his sophomore year. He conducts research on the health effects of particulate matter and metal nanoparticles and is a two-time Junior Science and Humanities Symposium (JSHS) National Delegate. Luke is a four-time American Invitational Mathematics Examination (AIME) qualifier and one-time USA Junior Mathematical Olympiad [USA(J)MO] qualifier. He was a two-time National MATHCOUNTS competitor, earning first place in the state and 51st place nationally. He received perfect scores on the PSAT, ACT, and SAT exams. Luke is the captain of his school's Science Bowl team and has competed in the national competition. He is also a member of his school's Science Olympiad Team, which has qualified for the national competition. Luke enjoys playing chess, playing violin, and listening to music. He was selected for the All-State Orchestra twice.



Peter Pu | University of Chicago Laboratory Schools | Chicago, IL

Peter became hooked by biology at the beginning of the coronavirus pandemic when he read about molecular biology and watched Animal Kingdom lectures. After struggling with animal dissections last year at National Finals, he led dissections of earthworms, crayfish, sea stars, clams, and even a shark, at his school biology club. Outside of biology, Peter dedicates his time to watching Hikaru Nakamura on YouTube, WFMT on the radio, and biking or unicycling by the Chicago lakefront. Peter plans to study bioengineering at the Massachusetts Institute of Technology in the fall.



Greycen Ren | Adlai E. Stevenson High School, Lincolnshire, IL

Greycen Ren is a recent graduate of Adlai E. Stevenson High School and will be attending MIT in the fall. He is a dedicated member of his school's Science Olympiad team, having first begun participating in sixth grade. He looks forward to getting more involved as a test writer and event supervisor in the coming years. One of Greycen's passions is the growing potential of biotechnology in medical fields to prevent, mitigate, and eliminate certain diseases. In his free time, Greycen watches many YouTube videos about cooking foods that he cannot make himself. He enjoys watching soccer games and providing his poor analysis and commentary to his friends. Most importantly, he is proud to have finally gotten an autograph from his statistics teacher.



Aditya Sivakumar | Mira Loma High School, Sacramento, CA

Aditya Sivakumar is a rising senior at Mira Loma High School. His curiosity about life and its meanings drew him to study biology and philosophy. Aside from USABO, Aditya plans to participate in the COSMOS summer program at UC Irvine studying genomics and muscular dystrophies. He is also an AIME qualifier and a member of his school's Science Bowl and Quiz Bowl team. In the latter, he placed 12th in the country. In addition to academics, one of his favorite activities includes indoor gardening. Aditya also enjoys playing Minecraft, even though he will never be good at bedwars.



Olivia Tang | Windsor-Plainsboro High School North, Plainsboro, NJ

Olivia is a member of the species *Homo sapiens* and exists as a hunter-gatherer in the dense forest that is Plainsboro. She is a junior at West Windsor-Plainsboro High School North. When she is not running from insects, Olivia loves studying biology, particularly her favorite subjects of botany and genetics. She also enjoys competing in Science Olympiad, Science Bowl, Ocean Bowl, and having fun in her school's Biology Fun Club. In her nonexistent leisure time, Olivia succumbs to her bubble tea addiction, fangirls over Scarlet Witch, plays the cello, and listens to music.



Julianne Wu | University High School, Irvine, CA

Julianne Wu is a sophomore attending University High School and a 2021 USABO Finalist. She is a contributor to her school's science competition teams and a writer and event supervisor at national Science Olympiad invitationals, including YaleSO and BirdSO. She is a two-time AIME qualifier, a two-time International History Olympiad invitee, and a National History Day state qualifier for her historical research paper which received the Chuck Stanearth Award. As a co-founder of the NextGen program for MLBA, a nonprofit that helps people in need around the world, she leads students to protect the environment within their local communities. In her spare time, Julianne enjoys music, scuba diving, skiing, and traveling. As a student researcher at UC Irvine, her research in chemical and biomolecular engineering focuses on cell adhesion on nanopatterned surfaces. This summer, she looks forward to exploring biochemical research at UC Santa Barbara.



Andrew Van Dusen | West Windsor-Plainsboro High School South, West Windsor, NJ

Andrew is a junior attending West Windsor-Plainsboro High School South in New Jersey. He enjoys all aspects of biology, but is particularly fascinated by genetics and cell biology. Andrew is a proud captain of his varsity tennis team, a four-time AIME qualifier, and contributes to the camaraderie and success of his school's Science Olympiad, Science Bowl, and Ocean Bowl teams. He also shares his love for biology with others by teaching online science classes. In his free time, Andrew can be found on the tennis court, playing frisbee with his friends, and feeling far too excited about birds that visit his feeder.



Jason Wang | Marriotts Ridge High School, Marriottsville, MD

Jason Wang is a returning USABO Finalist this year and a 2021 USABO Finals Silver Medalist. Jason is also a co-founder and DMV Regional Director for the American Regional Biology Competition (ARBC), an organization whose mission is to make learning biology accessible and fun. He is a four-time AIME qualifier and is proud to have represented his school by medaling at several Science Olympiad competitions. When the weather is nice, Jason likes playing soccer and enjoying everything the Chesapeake Bay has to offer. In true Marylander fashion, he enjoys nothing more than fishing and crabbing with his friends in the summer. Aside from his love for nature, Jason is also intrigued by the prospects of evolutionary genetics. He hopes it may finally explain his particular aversion to parsley.



Sophie Wang | Fossil Ridge High School, Fort Collins, CO

Sophie Wang, a junior, is a first-time USABO participant. She is known for her fascination with aquatic animals as well as leafy specimens. She has been to National Science Bowl four times and National Science Olympiad three times. Currently, she is researching transcriptional bursting at Colorado State University. As an avid event planner, she has also helped raise \$14,000+ through school events including Trivia Night and Calculus Bowl. Day-to-day, she can be found attempting to memorize Wikipedia, planking through Raven Biology of Plants, adding to her anthology of haikus with a reader count of one, or singing during her yoga sessions.



Jonah Xu | duPont Manual High School, Louisville, KY

Jonah Xu is a junior attending duPont Manual High School. He loves a good genetics challenge and learning about the intricacies of the human body (physiology is superior). Jonah participates in Biology Bowl and in Science Olympiad where he competes in events like Anatomy and Cell Biology. He also likes crafting interesting questions for invitationals, the most beloved being BirdSO! In his free time, Jonah enjoys biking and tinkering with Legos. When he is not paging through Alberts or Saladin, he can be found running around in Minecraft and hanging out on Discord.



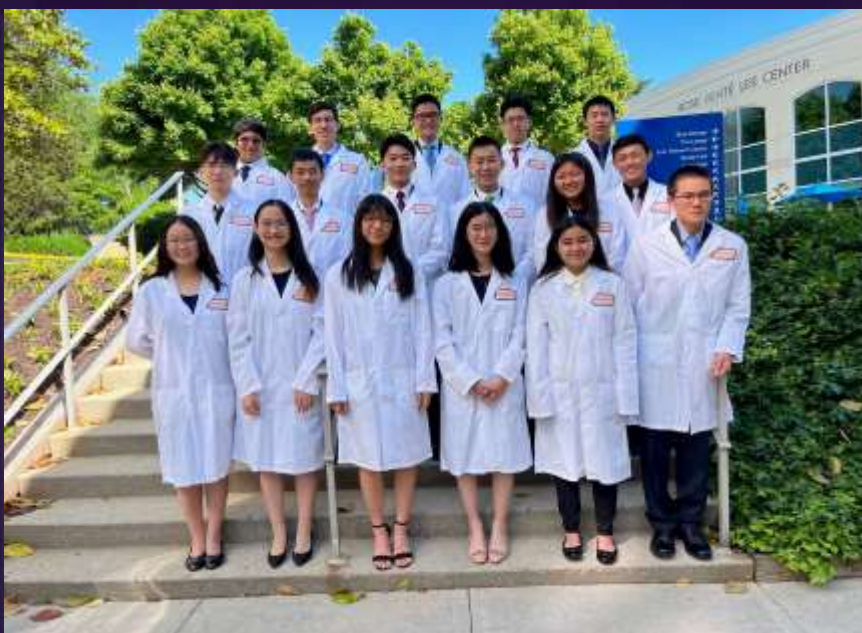
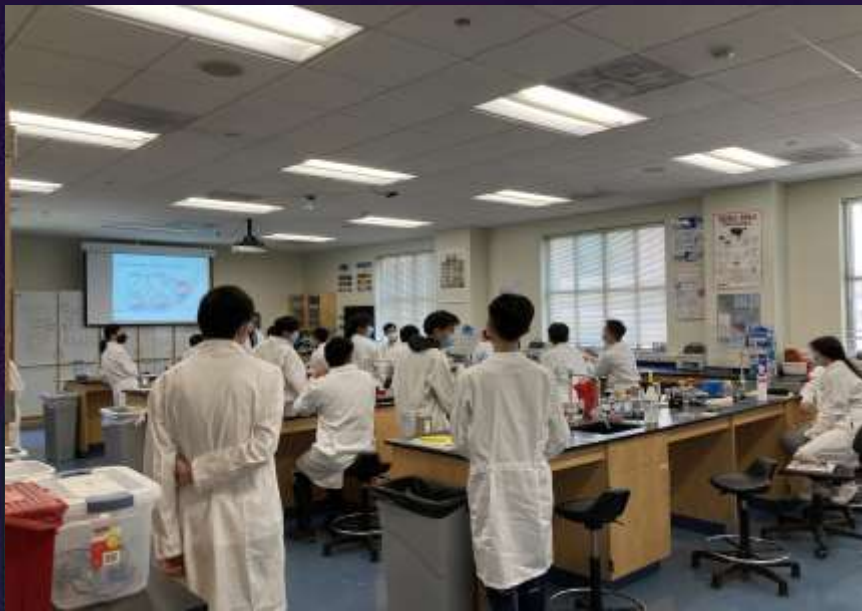
Richard Zhu | North Hollywood High School, CA

Richard Zhu is a junior at North Hollywood High School. His interest in biology stems from a love for living things and an eagerness to explore nature's innovation. From cellular biochemistry that stabilizes our daily activities to community interactions that characterize the environment around us, he finds the concept of biological systems to be a particularly promising approach. As the co-captain of his school's science bowl team, Richard has found shared interests with his peers in several areas, as an AIME qualifier and USNCO qualifier. Richard also enjoys hitting drop shots with his tennis racquet and plummeting his bughouse rating on chess.com by accidentally playing the bongcloud.



Richard Zhu | The Peddie School, Hightstown, NJ

Richard Zhu is a senior at The Peddie School. Due to his habits of swimming in chlorinated pools and wading through oceans of poetic verse, it is probable that he possesses the soul of a shark. He likes to roam the kelp forests of society, perusing poetry submissions as an editor of literary magazines, and dissecting bacteria-prophage relationships through research. His inner great white loves to chomp on many things, including fantasy novels, Chinese historical dramas, and the hidden waterfalls of Iceland. As a keystone species, he would be remiss if he did not use this space to celebrate sustainability, decry the millions of human-caused shark deaths each year, and encourage everyone to embrace nature. Richard previously studied and swam his way to USABO National Finals in 2020. He is also an alum of the Research Science Institute and the Iowa Young Writers' Studio, and he will be attending Harvard this fall.



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The Center's mission is to nurture high school and university scholars to careers of excellence and leadership in science, technology, engineering and mathematics, and to encourage collaboration between and among scientific and technological leaders in the global community.

For additional information about CEE and its programs, visit www.cee.org.

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