



2023 Alumni Awards

AND TRIBUTE TO LEON LEDERMAN

Friday, October 20, 2023

PROGRAM

Opening

Katherine Mayer '23

Winston Mattson '23

Co-Hosts

Tribute to Leon Lederman

Dr. Angela Rowley

Principal and Chief Academic Officer

Dr. Erin Roche '89

Board of Trustees Chair

Musical Tribute

"Celebrated Minuet"

By Luigi Boccherini

Arranged by Charles Woodhouse

Performed by IMSA Chamber Strings Octet

2023 Alumni Awards

Dr. Evan Glazer

IMSA President and Co-Hosts

Titan Award

Dr. Angel Alvarez '98

Distinguished Leadership Award

Elizabeth Spike" Malecha '90

Musical Celebration

"Hungarian Dance No. 5"

By Johannes Brahms

Arranged by Clark McAlister

Performed by the Chamber Strings Octet

Alumni Recession

Closing

We are able to host this program and bring our recipients to IMSA from around the world thanks to the generosity of The Cathy Veal Endowment for Recognition of Alumni.

ALUMNI AWARD WINNERS



TITAN AWARD

Dr. Angel Alvarez '98

Dr. Angel Alvarez is the Director of the Stem Cell Core and a Research Assistant Professor in the Department of Neurology at Northwestern University. He has extensive experience in stem cell biology, imaging, gene delivery, and biotechnology. As the Director of the Northwestern Stem Cell Core, he establishes disease models to accelerate therapeutic development using organoid technology and patient-derived induced pluripotent stem cells. Many of the most rewarding aspects of his current position are derived from the Core's exciting collaborations in reproductive biology, neuroscience, and pathology. Beyond his lab research, Dr. Alvarez has a passion for employing his analytical skills to address inequity in education.

During his doctoral research, Dr. Alvarez investigated the development of stem cell technologies and the biology of cancer. He demonstrated the critical role of nanog in facilitating induced pluripotency and established patient-derived cell lines to characterize gene expression, cell pathway activation, and protein markers in brain tumors. During his post-doctoral research, he developed tumor stem cell lines to study oncogenic signaling and factors that mediate tumor growth, invasion, and radiation resistance, notably through Wnt signaling and exosome secretion. Dr. Alvarez has earned several competitive awards, including separate pre- and post-doctoral T32 fellowships, in addition to funding from universities, private foundations, and the NIH. His research has led to the development of exciting intellectual property in both stem cell technology and cancer, yielding 11 issued US patents as well as multiple pending and international patents. He has served as a mentor to numerous emerging scholars, including several IMSA SIR students, and is most proud of being a father to his amazing daughter.



DISTINGUISHED LEADER AWARD

Elizabeth "Spike" Malecha '90

Elizabeth Malecha is an accomplished military officer dedicated to service and leadership.

After graduating from the United States Naval Academy in 1994, she was in the first wave of women allowed to defend our nation in combat military roles. After completing flight training, she became a Radar Intercept Officer in the F-14 Tomcat. Flying missions from aircraft carriers across the world, she developed as a leader and a combat aviator in support of our national objectives and defense. Her talent and work ethic resulted in her selection for elite training at the U.S. Navy Fighter Weapons School and she became the first female graduate of TOPGUN in 2001. Elizabeth's next assignment was to instruct current and future generations of fighter aviators to train, fight and win under pressure and in hostile environments. In addition, she paved the way for other women to follow in her footsteps.

After leaving active duty, Elizabeth continued to lead and serve as a Naval Reserve Officer since 2009 in a variety of roles. She holds the rank of Captain and is currently serving in support of the Navy's Sixth Fleet home-ported in Naples, Italy.

Elizabeth is motivated by nature, advocacy, and service. Living in Stockholm, her recent activities include informational engagements with Swedish military and high school students, leading an English as a second language group for military attaché spouses, and exploring the country's magnificent landscape through the nascent Swedish sport of swimrun.

She received her B.S. in ocean engineering from the United States Naval Academy and an MBA from California State University.

Honoring the Founding Father of IMSA and Nobel Laureate

Dr. Leon Lederman

July 15, 1922 – October 3, 2018

From the very beginning, Dr. Leon Lederman was IMSA's biggest champion.

Similar to how a father feels for his own children, Dr. Lederman always had much love, affection and praise for IMSA, and high expectations for its faculty, staff, students and alumni. Since 1985, he was able to witness those successes firsthand and see the results of his tireless efforts on IMSA's behalf.

In addition to having a profound impact for decades on the national and international scientific and educational communities, Dr. Lederman had a deep and meaningful impact on the hearts and minds of thousands of past and present students of the Illinois Mathematics and Science Academy (IMSA) in Aurora, Illinois.

Because of Lederman's painstaking and tireless early efforts, IMSA alumni have gone on to become scientists, engineers, doctors, entrepreneurs and educators, fulfilling the dream Lederman had for IMSA students. IMSA was created in 1985 and opened its doors in 1986, graduating its charter class in 1989.

Lederman's IMSA Legacy

Thanks to Dr. Lederman's worldwide reputation and influence, current and former IMSA students were able to brush shoulders with great minds such as Nobel Laureates Dr. Dudley Herschbach and Dr. Jack Steinberger, U.S. Poet Laureate Robert Pinsky and Scientist Marvin Minsky, through the IMSA Great Minds Program®, launched in 1998 by Lederman.

Current and past students were fortunate to receive the once-in-a-lifetime opportunity to learn from one of the world's great scientific minds and to come to know him on a more intimate, personal level through his campus interactions in venues such as Lunch with the Laureate or the IMSA Great Minds Program.

In addition to community lectures, dialogues and interactive seminars, Dr. Lederman inspired students to take on ambitious projects that resulted in increased understanding of scientific, mathematical and technological world issues.

One such project, the book Portraits of Great American Scientists, gave 15 IMSA students the once-in-a-lifetime opportunity to publish their first book before the age of 19 and to help educate youth about the field of science as a career choice.

The book featured 15 biographies including those of astronauts Sally Ride and Story Musgrave, Nobel Laureates Dr. F. Sherwood Rowland and Dr. Charles Townes and world-renowned dinosaur hunter Dr. Paul Sereno. Just like a proud father, Lederman, who was co-editor of the book with IMSA Coordinator of Student Inquiry and Research Dr. Judith Scheppler, expressed his enthusiasm and pride about the project.



Lederman Accolades and Honors

With a career that spanned more than 60 years, Lederman became one of the most important figures in the history of particle physics. He was responsible for several breakthrough discoveries, uncovering new particles that elevated our understanding of the fundamental universe.

At Fermi National Accelerator Laboratory, Dr. Lederman became a leader in launching programs to encourage young people to pursue their scientific interests. His deep concern for the quality of science and mathematics education in Illinois, and his intense commitment to motivate students to pursue careers in science, led him to propose the concept of Illinois Mathematics and Science Academy--a place that would inspire and challenge students of exceptional talent.

Throughout his lifetime, Dr. Lederman has been honored by Presidents and Kings worldwide for his contributions to science including President Lyndon B. Johnson (National Medal of Science); President of Israel Chaim Herzog (Wolf Prize in Physics); President Bill Clinton (Enrico Fermi Award); and King Carl Gustaf XVI of Sweden who presented Lederman with the Nobel Prize in Physics.

Thanks to his life's work – his passion, dedication and contributions to science literacy, and scientific breakthroughs, the Lederman Legacy will shine brightly always.





Dr. Lederman died peacefully on Oct. 3 at a nursing home in Rexburg, Idaho. He was 96. He is survived by his wife of 37 years, Ellen, and three children, Rena, Jesse and Rachel, from his first wife, Florence Gordon. For more information on the life and work of Lederman, visit digitalcommons.imsa.edu/lederman/



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