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<http://fermilabfriends.org>

**Fermilab Friends of Science Education supports science innovation programs at Fermilab.
Its mission is to:**

Enhance the quality of precollege science education in public and private schools.
Encourage young people to pursue careers in science and engineering.
Promote a broader public awareness and understanding of science.



Fermilab Friends' graphics incorporate an image of one of Robert Wilson's best known sculptures, Möbius Strip. Slicing a Möbius strip lengthwise results in two interlinked loops, an appropriate metaphor for the relationship between FFSE and the Fermilab Office of Education and Public Outreach: separate, yet tightly linked.



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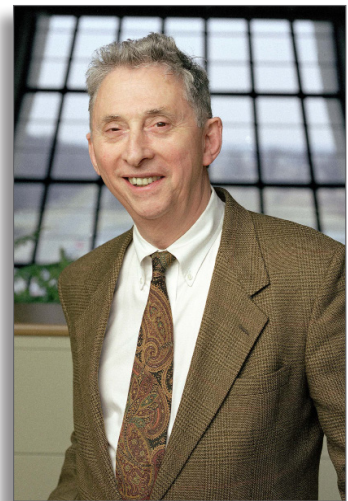
FERMILAB DIRECTORS MAKE IT HAPPEN



Nigel S. Lockyer



Leon Lederman

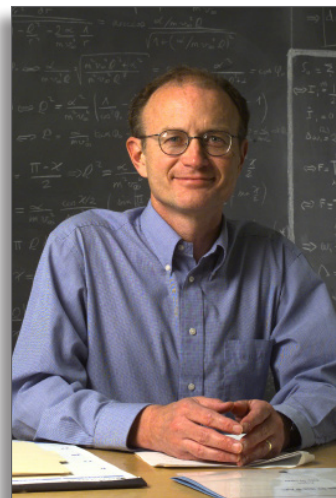


John Peoples

FERMILAB FRIENDS FOR SCIENCE EDUCATION
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Pier Oddone



Mike Witherell

FROM THE FFSE PRESIDENT

Dear Friends,

2018 was a year of ups and downs; we experienced loss and contemplate future strategies and sustainability.

Looking back on 2018 and looming large in our minds is the loss in October of our visionary director emeritus, Dr. Leon Lederman. Leon's impact will live on with the many fond memories and inspiring vision he had to share the riches of Fermilab, especially with teachers and students. He championed and founded many efforts but, more lasting, set the stage for what is possible. At the February 2019 Family Open House, we shared our memories through an exhibit codeveloped with Valerie Higgins, Fermilab archivist and Diana Brandonisio, Fermilab graphic designer. More tributes to Leon are planned for the future both at Fermilab and beyond.

Also, in Fall 2018, we concluded the PDPI program which brought together the education and public outreach program leaders, Maureen Hix and Amanda Early, with our teacher workshop program instructors. Three sessions of four days were led by Jody Bintz, associate director for strategic partnerships & professional learning of BSCS Science Learning, between July 2017 and the concluding session was held in October 2018. (See p. 11.) In March 2019, the EPO held a Sustaining PDPI session to continue to bring these leaders together on an annual basis. The PDPI sessions set the stage for consistent formats for teacher workshop agendas and evaluation and stronger coherence and articulation of grade level content between programs.

Thanks to a panel of educators from Chicago, Elgin and Mundelein, we gained increased insight into the needs of educators and students in the diverse communities we serve. Thank you to Kristin Appiah-Word, Chicago Public School, Joanne Bader, Carmel Catholic High School, and Gisselle Moreira, School District U-46, for their attendance and presentations at the 2018 FFSE Annual Meeting. These magnificent leaders in their schools also have Fermilab program experiences to share their perspectives about possibilities to better serve their colleagues and students.

We are excited to hear at the May 2019 meeting from Stacy Gates and Amanda Early about the development of the Physics through Virtual Learning: Particle Nature of Light and Modern Physics online unit developed in 2018, thanks to a contribution from the American Institute of Physics through Don Lincoln. We anticipate the PVL project will grow as we use innovative ways and state-of-the-art technologies to bring Fermilab science to educators who may find it difficult to come to Batavia.

Thanks to your continued interest and financial contributions, Fermilab Friends for Science Education can support insightful education and public outreach efforts, develop new methods of programming, and support educators, students and the public to participate in programs at Fermilab.



Susan M. Dahl
President, Fermilab Friends for Science Education

A handwritten signature in blue ink that reads "Susan Marie Dahl".

PROGRAMS IN 2018

FERMILAB FAMILY OPEN HOUSE

On a snowy, slippery February 11, Fermilab families and friends enjoyed a day of engaging activities filling the atrium, One West and the Ramsey Auditorium. Exuberant science aficionados spanning all ages delighted in activities ranging from exhibits to interactive activities. Four high schools had eight different hands-on activities for the Physics Carnival and two other high schools aided with Education Office exhibits. A new show, “Colder than Cool,” was performed twice in the auditorium. A driving tour of the Fermilab site as well as tours of the linear accelerator and the Muon g–2 experiment were offered. Capturing interest of many guests was a virtual visit of the CMS experiment at CERN in One West. The tour took place during a shutdown, and participants were able to view the CMS detector. A special session of Ask-a-Scientist/Ask-an-Engineer took place on the 15th floor, and the Barbara Lach Theater was open for visitors to view short films produced by Fermilab. Fourteen workshop instructors were recognized prior to the “Colder than Cool” shows for their contributions to Education Office programs and science education.



Representatives from the Fermilab Society of Hispanic Professional Engineers, Fermilab African-American/Black Association, Fermilab Society of Women Engineers, Spectrum, and Women’s Initiative Group volunteered their time to be part of the event.

STEM CAREER EXPO



The natural curiosity of youth frequently translates to areas of interest and even passion, forming a foundation for their life’s work. Approximately 1,100 high school students benefited from a vision of what their proposed STEM career might entail—and many discovered career possibilities they did not even know existed. The STEM Career Expo allows would-be scientists, tech wizards, engineers and mathematicians opportunities to be inspired by scientists, engineers and technicians. A total of 160 career STEM contributors from over 50 companies gave of their time and expertise to this event. At the career expo, students ask questions about specific careers, educational pathways, and emerging fields. Panel discussions and STEM career educational resources are


made available.

Inspiration is key to motivation. The FFSE STEM Career Expo inspires and motivates by revealing exciting career possibilities and helping young learners envision the STEM careers of today—and tomorrow.

OUTDOOR FAMILY FAIR

Excitement for the June 10, 2018, Outdoor Family Fair was dampened by Mother Nature herself! Due to inclement weather, only 53 participants were able to partake in the wonders of Fermilab’s natural surroundings, but much fun was had, nonetheless. Highlights of the day included the Northern Illinois Raptor organization who, with their feathered friends, delighted the families. Due to cloud cover, the Naperville Astronomical Society was not able to share in the festivities as planned.

Fermilab Natural Areas had a table to inform participants about their organization, and the Red Oaks Nature Center provided a box of animal pelts for the children to experience. Between showers, activities included animal tracks, Run Like a Bison, fossils, insect sweep, pond activity, switchgrass activity, songs by the prairie wagon, Tic-Tac-Toe scavenger hunt in the prairie, solar activity, sundial and physics playground. Seventeen docents and several volunteers contributed to the festivities.



FFSE PROGRAM SCHOLARSHIPS

PROGRAM SCHOLARSHIPS

FFSE scholarships aid teachers, students and families in their quest for STEM experiences by providing funds for teacher workshops, bus transportation and Science Adventures. Teacher workshops offer experiences in a variety of science disciplines including physics, chemistry, biology, ecology and more. As it becomes more difficult to obtain school district funding for professional development and class field trips, the FFSE program scholarships help to meet a critical need within our schools. Likewise, many families experience increased fees and other financial burdens, making Science Adventure programs a luxury. FFSE assistance brings the world of science to students and families that might not otherwise be able to participate.

The online application form is available starting in the middle of November and is due in early March. Check the FFSE website for details and specific dates. In 2018, five teachers were awarded scholarships. Included were Kimberly Singh (Phriendly Physics), Dellmarie Tritilli (Summer Secondary Biology Institute), Marie Winston (Beauty and Charm), Cynthia Zentner (Summer Secondary Biology Institute), and Nathan Zentner (Phriendly Physics). Mary Kathryn Back (The Prairie – Our Heartland) from Clifford Johnson School, Community Unit School District 200, received a transportation grant. Five families received awards.

Thanks go to the many members who increased their contributions and/or provided an additional amount with their membership renewal to support these much needed scholarships.

FERMILAB SCIENCE AWARD FOR HIGH SCHOOL STUDENTS

Every year, FFSE underwrites an award program for exceptional and promising high school students from DuPage and Kane Counties. Nominated by school faculty, each awardee receives a certificate and a book at their school's award ceremony.

This year's winners were:

Aurora Central Catholic High School: **Cameron Pedersen, Kayla Siemann**; Benet Academy: **Kevin O'Sullivan**; College Preparatory School of America: **Muhammad H. Saleemi, Sarah Syed**; Downers Grove North High School: **Claire Kovarik, Felix Liu**; Downers Grove South High School: **Ian Bales, Aoife McGivern**; Dundee Crown High School: **Andrea Conway, Mia Smiley**; East Aurora High School: **Jazmin Jefferson, Abigail Ramirez**; Elgin Academy: **Prudhvie Gudapati**; Fenton High School: **Dalia Alcantara, Gabby Molinaro**; Geneva High School: **Carolina Carbray, Brenna Finley, Kate Kilmer**; Glenbard East High School: **Elizabeth Somodji, Renee Wesling**; Glenbard North High School: **Pratek Patel, Anjan Bhandari**; Glenbard South High School: **Molly Friedman, Ali Siddiqi**; Harvest Christian Academy: **Holley Colclasure, Nathanael Strissel**; Hinsdale Central High School: **Lilja Carden, Elias Ostertag**; Hinsdale South High School: **Michael Ardovitch, Nandini Sadagopan**; IC Catholic Prep: **Ryan Kenneally, Mark Zhao**; Illinois Mathematics and Science Academy: **Gunwati Agrawal, Manuel Favela**; Lake Park High School (East Campus): **Jacqueline**

Jabines, Hugo Troesken; Larkin High School: **Justin Ave, Allison Hubbs**; Lisle Senior High School: **Terrence Lin, Michelle Osagie**; Metea Valley High School: **Priya Reddy, Shashank Vege**; Marquette Manor Baptist Academy: **Christian Guillermo**; Montini Catholic High School: **Michael "Riley" Milliken, Marissa VanDeVeer**; Naperville Central High School: **Isabel Korpas, Sanjana Ramrajvel**; Neuqua Valley High School: **Lauren Risany, Mary Yang**; St. Charles East High School: **Drew Rukavina, Klaudia Sowizral**; St. Charles North High School: **Kelsie Hoekstra, Madeline Jenkin**; St. Francis High School: **Christopher Bauer, Alex Rueth**; Waubonsie Valley High School: **Yejun Kim**; West Aurora High School: **Hannah Johnson, Sienna Rucka**; West Chicago Community High School: **Zenen Cardenas, Catherine Miller**; Westminster Christian School: **Grayson Layne, Johanna Siers**; Wheaton Academy: **Kayla Lotz, Ryan Lotz**; Wheaton North High School: **Benjamin Fefferman, Audrey Kamal**; Wheaton Warrenville South High School: **Rachel Raser, Haisong Yang**; York Community High School: **Anshul Shah, Anita Wary**.

THE YEAR AT A GLANCE: CELEBRATING SUCCESS THROUGH THE SEASONS

WINTER

- 14th Annual Fermilab Family Open House was held on February 10, 2018, with inclement weather.
- Planning for spring and summer programming glides into full speed, including inventory and ordering of supplies. This is a bustling time!
- Did FFSE have anything to do with the new signage/murals?

SPRING

- FFSE selected recipients for teacher workshops, Science Adventures and transportation scholarships. **12** scholarships were awarded.
- STEM Career Expo was held on April 17. (See mini-story on p. 6.)
- FFSE Annual Meeting was held on May 15.
- Fermilab High School Science Awards were presented to promising science scholars in DuPage and Kane Counties. (See list of recipients on p. 7.)

SUMMER

- FFSE board members and friends met summer teacher workshop participants and supplied snacks to raise awareness and promote membership in FFSE.
- FFSE Outdoor Family Fair was held on June 10, with about 50 participants.

FALL

- FFSE Membership event was held on September 15. (See mini-story on p. 11.)
- FFSE van took scientists and physics equipment for classroom presentations that continue throughout the school year.
- FFSE program scholarship applications opened on November 1.
- PDPI program concluded with 19 participants.
- Regular FFSE meeting was held on November 20.

FFSE SUPPORTS EDUCATION PROGRAMS AND OUTREACH EFFORTS DIRECTLY AND IN COLLABORATION WITH OTHERS THROUGHOUT THE YEAR.

PHYSICS AND PRAIRIE FIELD TRIPS

A total of **6,197** participants from **205** schools enjoyed physics experiences at Fermilab in 2018:

- **4,229** high school students from **169** schools participated in physics tours.
- **1,294** middle school students from **19** schools participated in the *Beauty and Charm* field trip.
- **622** elementary school students from **15** schools experienced the *Phriendly Physics* field trip.
- **52** students were also accommodated from **2** organizations for special physics tours.

A total of **3,404** students from **49** schools enjoyed a life science experience in the Fermilab prairie in 2018:

- **327** high school students from **8** schools experienced a high school prairie field trip.
- **2,231** middle school students from **20** schools experienced an *Energy and Ecosystems* field trip.
- **452** elementary students from **12** schools participated in *The Prairie – Our Heartland* field trip.
- **304** primary level students from **7** schools participated in an *Insects at Work in Our World* field trip.
- **90** students were accommodated from **2** organizations for special life science experiences.

SUMMER TEACHER PROGRAMS

81 teachers and new docents participated in workshops including:

- Beauty and Charm
- Energy and Ecosystems
- Insects at Work in Our World
- Phriendly Physics
- The Prairie – Our Heartland
- Summer Secondary Biology Institute
- Summer Secondary Physics Institute
- Summer Secondary Chemistry Institute
- TRAC

SCOUTS

698 scouts participated in **39** badge programs.

LSEC CASUAL VISITORS

3,900 visitors signed the guest book at the Lederman Science Education Center. Many visitors neglect to sign but spend time perusing the displays and interactive exhibits, many of which were procured and are maintained with FFSE support.

SCIENCE ADVENTURES

356 children participated in **40** adventures including: CSI: Careful Scientific Investigations; Earth Engineers; Junior Prairie Rangers; Lego Engineering; Nanotech Investigations; Orient Express; The Forces are with You; Nature by Numbers; Science in Star Wars; Wild and Wonderful Weather; Brilliant Butterflies; The Bugs are Back; Snow Crystals; Fireflies, Sea Monsters and Glow Sticks; Club Invention Primary and Intermediate; Design and Create: Be an Engineer; Survival Science; Dynamic Duo; Making Waves with Medical Imagery; Dinosaur Hunt; Games, Magic and the Brain; Wondering Why? Magnetic Magic; What Makes You So Special? Spiders: Spinners of Silk; Code Cracking, Cryptograms and Other Mysteries; Flight and Fashion.

CLASSROOM PRESENTATIONS

21,121 students in 172 locations enjoyed the talents and knowledge of Fermilab scientists including:

- Charge! Electricity and Magnetism
- Forces and Motion
- Space, Time and the Universe
- Light and Color
- Physics of Sports
- Physics in the Real World (career talk)
- Cryogenics Show/Mr. Freeze
- Cooler than Cool

OTHER OUTREACH

	PARTICIPANTS
• Summer Sunday Tours:	138
• Ask-a-Scientist:	990*
• Get to know Fermilab:	1,115
• Get to Know the LSC:	91
• DZero:	160
• New Employee Driving Tour:	146
• Saturday Morning Physics:	100

*Including Fermilab Family Open House

OUR TEAM

THE SUCCESS OF THE 2018 FFSE EDUCATION PROGRAMS RESTS WITH THESE OUTSTANDING PROGRAM LEADERS.

Sue-z Bruno, Gates Elementary School, Aurora • **Jill Burke**, Franklin Park School District 84 • **John Chamberlain**, Glenbard North High School, Carol Stream • **Kelly Chapman**, Willow Creek Elementary School, Woodridge • **Christopher Conley**, Downers Grove North High School • **Trudi Coutts**, Naperville Community Unit School District 203 • **Karl Craddock**, Fremd High School, Palatine • **Larry Cwik**, Seton Academy, South Holland • **Todd Ernst**, Valley View School District 365U • **Patricia M. Franzen**, Germantown Hills • **Bill Gardner**, York High School, Elmhurst • **Stacy Gates**, Fulton High School, Fulton • **Michelle Gattuso**, Carl Sandburg High School, Orland Park • **Bill Grosser**, Oak Park and River Forest High School • **Milton Harris**, Clarendon Hills Middle School • **Mike Heinz**, Downers Grove North High School • **Thomas Hekma**, Glen Ellyn School District 41 • **Idris Ibrahim**, Islamic Foundation School, Villa Park • **Mary Ann Janiak**, teacher, retired • **Randy Jones**, Glen Ellyn School District 41 • **Elizabeth Karnik**, Western Springs School District 101 • **Tanya Katovich**, Hoffman Estates High School • **Nicole Kitzmiller**, Rotolo Middle School, Batavia • **Mike Knapp**, Marquardt Middle School, Glendale Heights • **Ellen Kohlmeir**, biomedical scientist • **Ken Kohnke**, Cass Junior High School, Lisle • **Lee R. Marek**, University of Illinois at Chicago • **Mike McHale**, Byron High School, Byron • **Amy Miller**, Johnson Elementary School, Warrenville • **Jon Moore**, Valley View School District 365U • **Stefany Montgomery**, Larkin High School, Elgin • **Radomir Niewrzol**, Glenbard North High School, Carol Stream • **Mary Sue Offut**, SciTech and Field Museum volunteer • **Glenda Peck**, teacher, retired • **Jeff Pettera**, Christian Life High School, Rockford • **Marianna Ruggerio**, Auburn High School, Rockford • **Mike Runge**, West Aurora High School, Aurora • **Susan Sanders**, Glenbard School District 87, Glen Ellyn • **Katherine Seguino**, Naperville Central High School • **Darwin Smith**, Quincy Notre Dame High School, Quincy • **Marsha Stierwalt**, Alice Gustafson Elementary School, Batavia • **Dave Torpe**, James B. Conant High School, Hoffman Estates • **Tricia Warren**, Geneva High School, Geneva • **Wayne R. Wittenberg**, retired

MANY FERMILAB SCIENTISTS GIVE THEIR TIME GENEROUSLY TO EDUCATION PROGRAMS THROUGHOUT THE YEAR.

Mark Adams	Alex Chen	Angela Fava	Julie Hogan	Denton Morris	Jamie Santucci
Michael Albrow	Kathrine Cipriano	Harry Ferguson	Jeremiah Holzbauer	Duane Newhart	Lita Scott
Cindy Arnold	Penelope Constanta	Patrick Fox	Aisha Michelle Ibrahim	Dennis Nicklaus	Peter Shanahan
Maurice Ball	Lance Cooley	Bill Freeman	Cindy Joe	Lucy Nobrega	Matt Slabaugh
Alexandra Baran	Glenn Cooper	Peter Garbincius	Todd Johnson	Brian Nord	Aria Soha
Anthony Barker	Jack Cranshaw	Lynn Garren	Soon Yung Jun	Andrew Norman	Jim Steimel
Jana Barker	Cabot Anne Cristofferson	Sandra Geib-Ingram	Brendan Kiburg	Mônica Nunes	Jeny Teheran
Whitney Begner	Tom Croc	George Ginther	Mike Kirby	Marcelles Parker	Linda Valerio
Leo Bellantoni	Andrew Dalesandro	Sowjanya Gollapinni	Donna Kubik	Chris Polly	Marc Weinberg
Jamie Blowers	Fritz DeJongh	Elena Gramellini	Arthur Lee	Sam Posen	Mike Weis
Dan Bollinger	Jose Delao	Stefan Gruenendahl	Don Lincoln	Jessica Pudelek	Jeremy Werner
Mark Bollinger	Paul Derwent	Oliver Gutsche	Hugh Lippincott	Chris Quigg	Will Wester
Rodger Bossert	Roger Dixon	Dee Hahn	Adam Lyon	Jen Raaf	Herman White
Daniel Bowring	Brian Drendel	Steve Hahn	Krista Majewski	Erik Ramberg	Meiqin Xiao
Kris Brandt	Nathan Eddy	David Harding	Marco Mambelli	Bryan Ramson	Katie Yurkewicz
Dan Brommelsiek	Christopher Edwards	Elvin Harms	Kim Mazur	Kurt Riesselmann	Jim Zagel
Edith Brown	Josh Einstein-Curtis	Brian Hartsell	Elliott S. McCrory	Mandy Rominsky	Sam Zeller
Ryan Campbell	Richard Espinoza	Anne Heavey	Carrie McGivern	Rob Roser	Jerry K. Zimmerman
Tom Carter	Jessica Esquivel	Marie Herman	Petra Merkel	Jason St. John	Bob Zwaska
Brendan Casey	Juan Estrada	Leah Hesla	Alyssa Miller	Andre Salles	

EDUCATION OFFICE STAFF ADMINISTERS AND SUPPORTS FERMILAB PROGRAMS.

Ketevan Akhobadze, Educational Facilities Coordinator • **Susan M. Dahl**, Education Program Leader • **Amanda Early**, Education Program Leader • **LaMargo A. Gill**, Editor • **Lori Haseltine**, Administrative Support Assistant • **Shelly A. Helms**, Administrative Support Assistant • **Maureen Hix**, Education Program Leader • **David J. Hoppert**, Laboratory Technician • **Kimberly McDaniel**, Lederman Science Center Storekeeper • **Gayle Millman**, Administrative Support Assistant • **Spencer L. Pasero**, Manager

DOCENTS FACILITATE STUDENT FIELD TRIPS AND OTHER EDUCATION OFFICE ACTIVITIES AND SUPERVISE THE LEDERMAN SCIENCE CENTER.

Julie Albert • Janet Chaterji • Cathy Clarkin • Susan Dumford • Vida Goldstein • Jane Gravelle • Helen D. Huie • Jacqueline J. Krock • Steve Masters • Barb McKittrick • Talitha Mueller • Mary Jo Murphy • Paula Mytych • Dave Orleans • Laura Paterno • Bob Shaw • Sue Styer • Felicia Svoboda • Anne Mary Teichert • Yvonne Twomey

REVENUES AND EXPENSES

	2018 (audited)	2017 (audited)
Revenue/Contributions (\$000)		
Contributions/Foundations	\$ 37.4	\$ 32.2
Membership	21.2	5.3
Other	9.8	7.2
Total Revenue/Contributions	\$ 68.4	\$ 44.7
Expenses		
Program Services	\$ 38.9	\$ 32.3
Management & General	19.3	19.4
Total Expenses	\$ 58.2	\$ 51.7
Change in Net Assets	\$ 10.2	(\$ 6.9)
End of Year	\$ 127.9	\$ 117.8

ACKNOWLEDGMENTS

Fermilab Friends for Science Education depends entirely on contributions and grants. We thank Fermilab Friends for Science Education members, Tree of Knowledge contributors, and the following organizations for their generous support of Fermilab education programs:

United States Department of Energy
 Fermi Research Alliance, LLC
 Amazon Smile
 American Institute of Physics
 Batavia High School
 Geneva High School
 Helen Edwards Charitable Trust
 Invent Now, Inc.
 Society of Physics Students – UIUC Chapter
 Village of Montgomery
 Whitewater Foundry, Ltd. Co.

PROFESSIONAL DEVELOPMENT PROVIDER INSTITUTE, PDPI



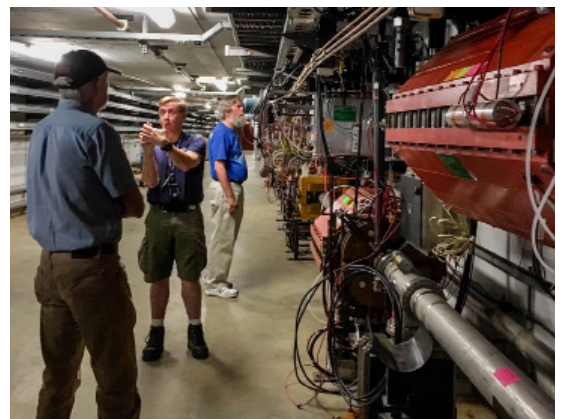
The Professional Development Provider Institute began in 2017 as a way to bring the education and public outreach program leaders, Early and Hix, together with the EPO teacher workshop program instructors. Through the PDPI training on Next Generation Science Standards and strategies for high-quality professional development, the team of teacher leaders could develop a cohesive philosophy and understanding of key strategies and standards. Jody Bintz, associate director for strategic partnerships & professional learning of BSCS Science Learning, led three four-day institute sessions through an examination of the content from the perspective of the learner, teacher and professional development provider. Creating the opportunity for all Fermilab program leaders to be together will increase consistency of approaches in the teacher workshops, prompt conversations for grade-level continuity and strengthen the team overall. This initiative can establish an outstanding foundation for years to come.

MEMBERSHIP TOUR

The annual FFSE member tour took place on September 15, 2018. This year was a very special opportunity to go behind the scenes to a place of both historic and future importance. After a talk by Brian Brendel, engineering physicist in the Muon Department of the Accelerator Division, the group toured the Linac Gallery, through the Booster Gallery, into the Delivery Ring tunnel, formally the Debuncher and Accumulator tunnel, and concluding in the Muon G-2 experimental hall. Several of these areas will no longer be available to tours.

The Muon Campus mission is to “repurpose, redesign, rebuild and upgrade the former Antiproton Source beam lines and rings in an optimal and cost-effective manner for use with future Muon Campus experiments, including Muon g-2 and Mu2e.”

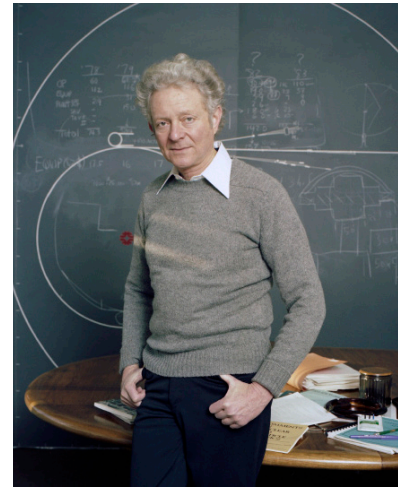
For more information on the fascinating muon, read this article from *symmetry*, <https://preview.tinyurl.com/y2uqelft>. For a 360-degree virtual tour of the Muon g-2 experiment, visit <http://muon-g-2.fnal.gov/virtual-tour.html>.



DR. LEON LEDERMAN – PHYSICIST, EDUCATOR

FFSE SAYS GOODBYE TO A VERY SPECIAL SCIENCE EDUCATOR.

Dr. Leon Lederman



The passing of our beloved Leon M. Lederman, inspiration for generations of science-minded learners, at age 96 on October 3, 2018, incites memories of a profoundly gifted scientist, teacher, friend and science education advocate. Leon Lederman was a trailblazing researcher with a passion for science education. Dr. Lederman served as Fermilab's director from 1979 to 1989 and won the Nobel Prize in 1988 for the discovery of the muon neutrino.

While his scientific feats to help understand the fundamental universe were world changing, it was Leon's passion for science education that set him apart. Dr. Lederman helped found the Illinois Mathematics and Science Academy. In 1979, his first year as director, Fermilab began the exciting Saturday Morning Physics program, which is still thriving. Back in those days, Fermilab money could not be used for precollege education opportunities, so in 1988, Fermilab Friends, now known as Fermilab Friends of Science Education (FFSE), was established. In less than 10 years, over \$2.6 million dollars from public and private sources spilled in to fund a myriad of programs. Dr. Leon Lederman's legacy lives on today within and beyond the Lederman Science Education Center.