

October 6, 2026

Greetings Alumni and Friends

Every year in October, NDSU's Homecoming comes with a parade, which the Physics Department had pretty much always ignored. Until last year. Thanks to an ingenious idea from our beloved faculty member Mila Kryjevskaia, in the guise of Sir Isaac Newton and clearly visible in the image below, we decided to "alienate" the parade and make an appearance with our red spaceship (which for some reason the locals call a "float"). We all agreed not to wear costumes and simply came as ourselves.



The Physics Department at NDSU's Homecoming Parade.

Yes, the fun we have every day traveling through the galaxy made a spectacular landing at the 2025 Homecoming Parade, and we are considering another visit this year.

This past year went by quickly. We have a new President and Provost and will, at some point, welcome a new Dean to our (still new) College of Arts and Sciences. NDSU is establishing a new Honors College, the College of Engineering has moved into its impressive new Offerdahl Engineering Complex, and Bison football is entering its first season at the FBS level as a football-only member of the Mountain West Conference. We have also expanded our outreach efforts, launching Science Saturday and participating in Spectacular Science Celebration Day. Our Society of Physics Students coordinated and hosted an SPS Zone 11 Meeting, attended by about 30 physics majors from our five-state region. A true highlight was the visit of Professor Larry Gladney, a particle physicist and cosmologist from Yale University. Our students continue to be successful. The recipients of the prestigious Astronaut Scholarship in 2025 and 2026 were two Mechanical Engineering and Physics dual majors, Emily Mikhail and Turner Person. One thing that has remained largely unchanged since 1907 is our old home, South Engineering. I occasionally have the opportunity to talk with alumni who studied physics there decades ago. While some former research space has been converted into offices and classrooms, the building's layout and wood-paneled hallways remain largely unchanged and are still recognizable to alumni returning after many decades.

Wherever this newsletter finds you, I hope you're healthy and enjoy life's discoveries. We'd love to hear from you.

Sylvio May,
Department Chair

College of Arts and Sciences Award



Yongki Choi

Congratulations to Dr. Yongki Choi, who received the 2026 College of Arts and Sciences Tenure-Line Research Award. An experimental biophysicist, Dr. Choi has built an internationally recognized research program at NDSU that combines physics, nanotechnology, and biology to study biochemical processes one molecule at a time. His pioneering work has advanced our understanding of enzyme function, opened new directions in biosensor technology, and holds promise for earlier disease detection. Since joining NDSU in 2014, he has secured nearly $3.8 million in competitive external funding from agencies including the NIH, NSF,

NASA, and ND EPSCoR, while mentoring students who have gone on to outstanding careers in academia and industry. His research has earned international recognition and continues to strengthen NDSU's reputation as a leader in interdisciplinary science. We congratulate Dr. Choi on this well-deserved honor and thank him for his outstanding contributions to research, education, and the broader scientific community.

Renowned Physicist Larry Gladney Visits NDSU



Larry Gladney

The Department of Physics was honored to welcome Dr. Larry Gladney, Dean of Science and Professor of Physics and Astronomy at Yale University, for a special visit to NDSU on March 17, 2026. An internationally recognized leader in experimental particle physics and cosmology, Dr. Gladney presented a seminar entitled "Illuminating Dark Energy with Rubin LSST Type Ia Supernovae," describing how the Vera C. Rubin Observatory's Legacy Survey of Space and Time will help answer some of the most fundamental questions about the universe. He also led a campus-wide "Physics, Python, and Possibility" presentation and discussion, where he reflected on his scientific career, his new book *Python for Graduate Students*, and the importance of expanding opportunities in science education. Dr. Gladney has played leading roles in landmark discoveries, including the co-discovery of the top quark, and is the author or co-author of more than 600 scientific publications. His visit provided an exceptional opportunity for our students, faculty, and the broader university community to engage with one of the world's leading physicists and scientific leaders.

NDSU Hosts SPS Zone 11 Meeting

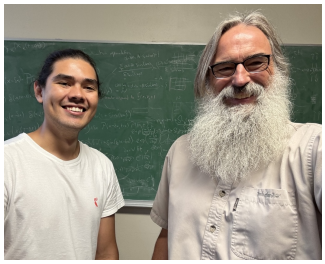
From March 27–29, 2026, the NDSU Physics Department and its Society of Physics Students (SPS) chapter welcomed undergraduate physics students from across North Dakota, South Dakota, Minnesota, Iowa, and Nebraska for the annual SPS Zone 11 Meeting. SPS is a national organization of the American Institute of Physics (AIP) dedicated to fostering the next generation of physicists through research, leadership, and professional development. The meeting, organized by NDSU's SPS chapter, featured laboratory tours, undergraduate research presentations, discussions of chapter activities, a visit to the MSUM Planetarium, and a plenary lecture by astrophysicist Dr. Wayne Barkhouse from the University of North Dakota. The weekend provided students with an opportunity to exchange ideas, build professional connections, and celebrate their shared enthusiasm for physics. Our SPS students deserve special credit for organizing a memorable event that showcased NDSU's strong undergraduate physics community.



Participants at the SPS Zone 11 Meeting

Visiting Scholar from Brazil

By VINICIUS AKYO MATSUDA



Vinicius Matsuda with his mentor, Alexander Wagner

Greetings. My name is Vinicius Akyo Matsuda. As a Ph.D. student in mechanical engineering at the University of São Paulo (USP), I recently completed a one-year research period within the Physics Department at North Dakota State University. Transitioning from engineering into a physics environment has been a valuable experience that significantly broadened my academic perspective. During this time, my work focused primarily on the lattice-Boltzmann model, which contributed to both my research project and my overall academic development. Beyond my core research, I had the opportunity to attend graduate courses, including Thermal and Statistical Physics as well as Soft Matter. I also participated in academic outreach initiatives, assisting with the organization of the 2026 North Dakota Science Olympiad and the Science Saturday program. On a personal level, I met many people and formed valuable friendships.

I am thankful to the faculty, researchers, and students at NDSU for their hospitality and collaboration, and I look forward to maintaining these academic relationships and visiting the department again.

Science Saturday with the FM Science Museum



In April 2026, the Department of Physics partnered with the Fargo Moorhead Science Museum to organize and host our first-ever Science Saturday at the Fargo Public Library. More than 200 children and their families came downtown for a fun-packed morning of demonstrations and hands-on activities.



Facilitated by NDSU Physics student and faculty volunteers, the activities included making slime, soapy science, magic magnets, and liquid nitrogen. The event featured two special attractions. Our undergraduate student club (SPS) built and demonstrated a cloud chamber to visualize particle traces from radioactive decays, and the Museum debuted a new exhibit on gravity, featuring a gravity well that simulates the pull of a black hole. We look forward to continuing the partnership with future outreach events.

Data Science Internship at IBM

By OREOLUWA ALADE



Oreoluwa Alade

In summer 2026, I interned as a Data Scientist at IBM's T.J. Watson Research Center in Yorktown Heights, working with the teams that manage data and analytics for IBM Quantum. The team tracks everything from how customers use quantum computers to how learners engage with IBM's educational platform, but much of this knowledge lived only in people's heads or in undocumented code. My main project was building a system that uses AI to automatically read through the team's code and data pipelines and produce clear, structured documentation explaining what each piece does and how they connect. I also worked on the analytics side, writing queries that helped the team measure engagement across IBM Quantum's learning platform.

Much of what made the internship successful traces back to skills I developed while working with Professor Denton, with whom I first learned to code. His emphasis on building computational tools and carefully validating their output shaped how I approach problems, a mindset that proved essential when I uncovered several hidden errors in the system. The experience reinforced my interest in working at the intersection of AI and computational science after completing my Ph.D., and I am grateful for the foundation my training at NDSU has provided.

Alumni Spotlight

By BEKELE GURMESSA



Bekele Gurmessa

My name is Bekele Gurmessa. I completed my bachelor's and master's degrees in physics in Ethiopia, then moved to North Dakota State University for my Ph.D. Looking back, my time at NDSU stands out as a key part of my academic journey. I began my Ph.D. in a computational soft-matter research group, but after a couple of years, I realized I was more interested in experimental physics. Changing research groups was a tough choice, but it became one of the best decisions I made during graduate school.

I joined Professor Andrew Croll's experimental soft-matter group and found I enjoyed designing experiments, building tabletop setups, and using physics to understand how materials behave. My Ph.D. research focused on the mechanics of nanoscale polymer thin films and layers of colloidal particles, especially how they deform and buckle under stress.

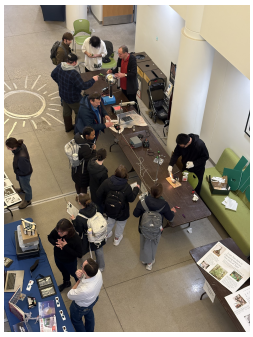
What stands out most from my time at NDSU is the people. The Physics Department was welcoming and supportive, and faculty, staff, and fellow graduate students were always ready to help. That sense of community meant a lot, especially as someone starting graduate school in a new country and culture.

Attending American Physical Society meetings also helped me. Professor Croll encouraged me to participate and often introduced me to people in his network. These experiences showed me how the wider physics community works and gave me a clearer idea of what an academic career could be.

After finishing at NDSU, I moved to California and spent about four years as a postdoctoral researcher at the University of San Diego. There, I shifted into biophysics and began studying the mechanics and structural dynamics of cytoskeletal networks. Now, I am a professor in the Department of Physics & Astronomy at Bucknell University, where I teach and lead a research

group in experimental biophysics. I am so grateful for the training, mentorship, friendships, and community I found at NDSU. These experiences continue to shape how I do science and guide my students.

Spectacular Science Celebration Day



On February 20, 2026, the Department of Physics participated in NDSU's Spectacular Science Celebration Day, an event highlighting the many ways scientific discoveries contribute to society and improve our lives. Throughout the day, students and faculty welcomed visitors to two tables filled with hands-on physics demonstrations, experiments, and toys. Physics students explained the phenomena behind the demonstrations and shared their excitement about physics with fellow NDSU students, guests, and visiting school groups. The event, held in the A. Glenn Hill Center, featured a pop-up science exhibition, science prizes, a silent auction, and a keynote lecture by evolutionary physiologist Raymond Huey of the University of Washington. The Physics Department's participation was made possible by our student volunteers, who helped set up equipment, staffed the demonstration tables, and showed that science becomes especially spectacular when physics is part of the celebration.

Nuclear Physics Summer School

By ERIC ROESCHLEIN

Although my research as a graduate student in the Physics Department at NDSU is mainly on quantum many-body physics, I had the opportunity in summer 2026 to attend the National Nuclear Physics Summer School (NNPSS) in Seattle at the University of Washington.

The summer school took place over two weeks, from June 29 to July 11, and included a series of lectures and presentations covering a range of topics relevant to research in experimental and theoretical nuclear physics. The program is sponsored by the National Science Foundation, the U.S. Department of Energy, and the National Institute for Nuclear Theory.

As one of only a few attendees not working in nuclear physics, I was able to gain some perspective on the major areas of research and the methods used in nuclear physics. My research at NDSU is focused on computational methods for studying interacting electrons in molecules, but much of what was discussed at the summer school broadly applies across many areas of physics.

In particular, effective field theory, one of the major topics of the summer school, provides a framework for describing physics at the energies of interest without requiring a complete description at higher energies. In nuclear physics, this allows low-energy nuclear structure to be modeled using pions and nucleons rather than quarks and gluons. Our research group, led by Dr. Andrei Kryjevski at NDSU, has used this approach to study the effects of atomic vibrations on the dynamics of photo-excited semiconductor nanoparticles.

Overall, the summer school gave me an opportunity to learn more about an area of physics outside of my primary field and to meet other graduate students and make friends from other universities.

Awards, Graduates, Donors

Faculty and Student Awards:

CAS Tenure-Line Research Award: Yongki Choi
Physics Scholarship Endowment Fund: Turner Person
Physics Scholarship: Kadin Schultz, Carter Erickson, Joseph Degen, Ronan Wagner
Eivind Horvik Award: Jose Nino Beltran, Dumont Jones
Sinha Family Scholarship: Mone Sasakuwa, Bergen Eklund

Graduates 2026: Matthew Schoenecker (BS Physics Education, Spring 2026), Ahmad Itani (BSME Mechanical Engineering & Physics, Spring 2026), Noah Seekins, Sakurako Tani, Faruk Hossain (Ph.D. Physics, Spring 2026).

Donors: Darrell Strobel, Dan Chen, Ping He, John Loucks, Paul Flasch, Yongli Ning, Michael Reich, and Cherish Bauer-Reich. The Department of Physics wishes to thank all donors who have contributed to our scholarship programs. You are making a significant difference in the lives of our students.



Commencement on May 16, 2026, at the Fargodome. From left: Yongki Choi, Sakurako Tani, Noah Seekins, Alexander Wagner, Faruk Hossain, and Sylvio May

Your continued support helps sustain and grow our scholarship and award programs.

Donations can also be made at `https://ndsufoundation.com/explore-giving-opportunities`. Please select "Arts and Sciences" and then choose "Physics Department Fund" from the Designation drop-down menu.

Physics Development Fund

Name:
_____

Enclosed is my gift of
$ _____.

Please detach or copy and mail with your gift to:
NDSU Foundation
1241 N. University Dr.
Fargo, ND 58102

Make checks payable to:
NDSU Foundation

Please designate your gift to one of the following:
☐ Eivind Horvik Memorial Award
☐ Sinha Family Scholarship
☐ Physics Achievement Award
☐ General Purpose Donation
☐ Darrell and Carol Strobel Endowment Fund

Payment options:
☐ Check enclosed # _____

☐ Charge my credit card
☐ Visa ☐ MasterCard ☐ Discover

Name on Card: _____

Card No.: _____

Expiration Date: _____

Billing Address: _____

_____

Phone: _____

Signature: _____

Thank you!

NDSU | PHYSICS

Non-profit Org.
U.S. Postage
PAID
Fargo, ND
Permit No. 818

North Dakota State University
NDSU Dept. 2542
PO Box 6050
Fargo, ND 58108-6050
Tel: 701.231.7047



We are eager to hear from our alumni. Please send an email or note to update us on what's happening in your world.

Email updates to:
Paul.Omernik@ndsu.edu

NDSU does not discriminate in its programs and activities on the basis of age, color, gender expression/identity, genetic information, marital status, national origin, participation in lawful off-campus activity, physical or mental disability, pregnancy, public assistance status, race, religion, sex, sexual orientation, spousal relationship to current employee, or veteran status, as applicable. Direct inquiries to Vice Provost, Title IX/ADA Coordinator, Old Main 100, 701-231-7708, ndsu.eoaa@ndsu.edu.