Chair's Colloquium: State of the Department

Department of Physics and Astronomy, August 26, 2025

Department Main Office

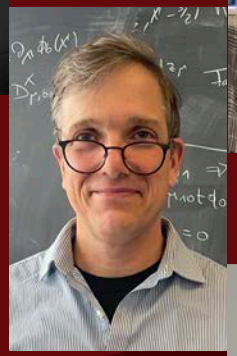
- Chair: Chang Kee (CK) Jung
- Department Administrator/Chief of Staff: Nathan Schappin

- Graduate Program
  - ¬ Director: Derek Teaney
    - Started in January 2025
  - ¬ Assistant Director: Donald Sheehan

- Undergraduate Program
  - ¬ Director: Dominik Schneble
  - ¬ Assistant Director: Diane Diaferia

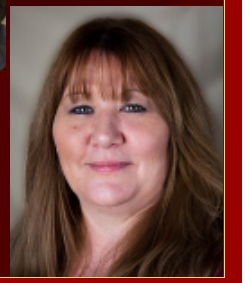

CK Jung


Nathan Schappin


Derek Teaney


Don Sheehan


Dominik Schneble


Diane Diaferia

Department Main Office

- Lead Business Officer/Grant Manager: Jin Bentley
- Grant Manager: Kacey Jashfar

Jin Bentley

Kacey Jashfar

- Director of Laboratories: Frank Chin (retired), James Eksi
  - ¬ Started in November 2024
- Building Manager: Richard Berscak

James Eksi

Rich Berscak

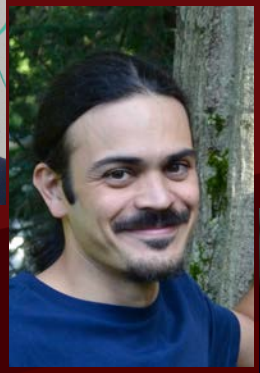
Technical Support Labs and Shops

- Instructional Labs
  - ¬Manager: Frank Chisena
    - Started in December 2024
  - ¬Manager, Senior Labs
    - On going search
  - ¬Technical Staff: Richard Lefferts
- Machine and Electronics Shops
  - ¬Manager: James Eksi
  - ¬Equipment Designers: Paul DiMatteo (retired), Jeff Thomas
  - ¬Technical Staff: Jason Visentin
  - ¬Machinist/Instructional Support Technician: Demetrios Papagermanos
    - Started in October 2024
  - ¬Electronics Engineer: Vaneet Singh

Frank Chisena

Rich Lefferts

Jeff Thomas



Jason Visentin

Demetrios Papagermanos

Paul DiMatteo's Retirement

- Joined the machine shop in January 30, 2008 as a Laboratory Equipment Designer
- Effectively retired on Sep. 6, 2024 after 16 years of service

"Paul was an excellent machinist and welder and very meticulous in his work. He helped progress the shop through the implementation of computer aided design and CNC machining. Paul enjoyed working with faculty, staff and students across campus and was a vital part of the machine shop for many years.

In our recent years working together, he helped to fabricate installation and transport fixtures for the sPHENIX TPC."

- James Eksi

Retirement of Frank Chin, Director of Laboratories

- Join the department in July 1994 as a staff in the Instructional Labs
- Became the Department Director of Laboratories in 2011
- Retired on Oct. 31, 2024 (after serving the department well for 30 years)

Dawn Huether, Assistant to Director, YITP, Receives SUNY Chancellor's Award for Excellence in Professional Service

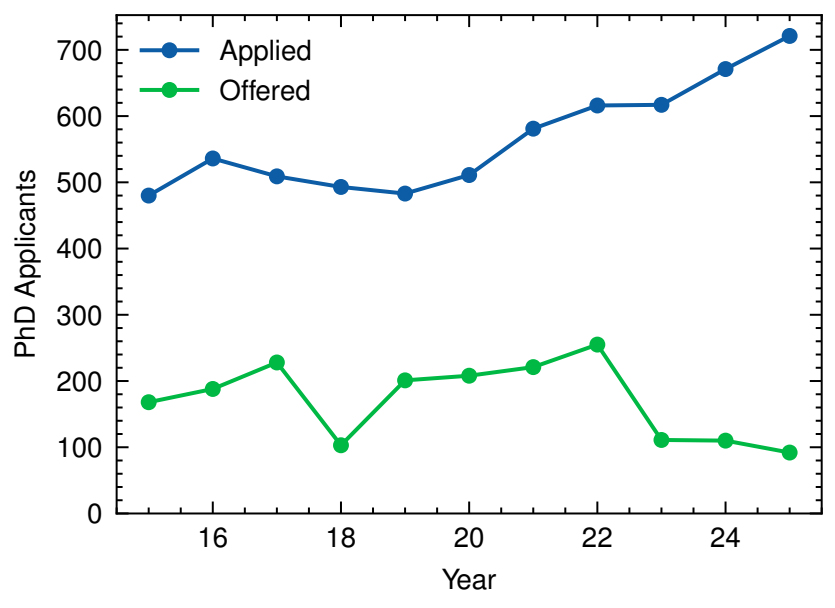
Congratulations!

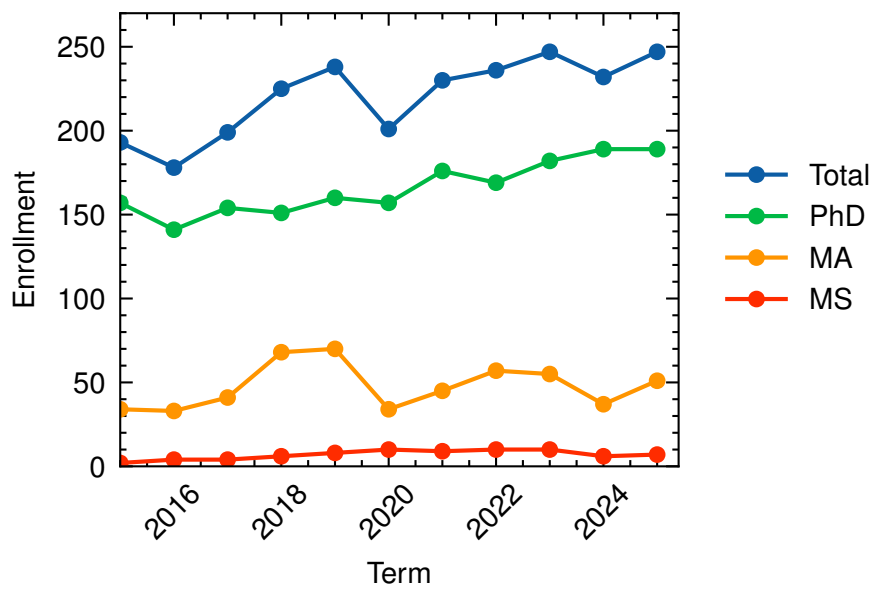
In addition, we have many outstanding support staff for each research group, institute and center.

Let's thank all who served the department with their dedication and welcome all new faculty and staff on various service positions

Graduate Program:
Incoming Graduate Students Class 2025

- Fall 2025
  - 26 PhD, 28 MA, 3 MSI
  - 29 Domestic, 28 International
  - 43 Male, 13 Female, 1 Non-Binary
- 2025 Nationalities
  - USA(29), China (21), India(3), Australia, Brazil, Nepal, South Korea





Graduate Program: New PhD Students 2025

Benjamin Drucker	Stony Brook University (MA)	United States
Cian Luke Martin	University of Cambridge	Australia
Daniel Julian	Stony Brook University	United States
Daniel Quinter	Brown University	United States
Deborah Rappoport	CUNY: Brooklyn College	United States
Edward Jansen	Adelphi University	United States
Feng Liu	University of Science and Technology of China	China
Haocheng Zhang	Shandong University	China
Hyunjun Park	Stony Brook University	South Korea
Jane Ding	University of California: Santa Cruz	United States
John Mullen	University of Memphis	United States
Mackenzie Baird	Villanova University	United States
Manas Choudhary	IIT Delhi	India
Manojna Namuduri	École normale supérieure, Paris	United States
Nathan Bailey	Bowdoin College	United States
Noah Chavez	Amherst College	United States
Pallav Pant	Ohio State University: Columbus Campus	United States
Prabesh Bista	National Central University of Nepal	Nepal
Runchen Li	Stony Brook-Anhui	China
Sicheng Liu	Stony Brook-Anhui	China
Wenhao Ya	Wuhan University	China
Yang-Yang Li	University of Science and Technology	China
Yiheng Chen	Carnegie Mellon University	China
Yitianran Wang	Southern University of Science and Technology	China
Yunfan Hu	Stony Brook-Anhui	China
Zhanyu Liu	Stony Brook (MA)	China

Graduate Program:
New Masters Students 2025

Adree Das	Purdue University	India
Anna Elizabeth Connelly	Bard College	United States
Can Xu	Stony Brook-Anhui	China
Charles Brown	Stony Brook	United States
Charles Jordan	University of California: Davis	United States
Christopher Hastings	University of Washington	United States
David Nguyen	Colorado School of Mines	United States
Dongcheng Cai	The Chinese University of Hong Kong-Shenzhen	China
Erqian Cai	Rice University	China
Ethan Fajardo	Embry-Riddle Aeronautical University	United States
Fuyuan Ding	Jiao Tong University-Shanghai	China
Haochen Tu	University of Cambridge	China
Javier Rosado	SStony Brook	United States
Jingyi Zheng	Stony Brook-Anhui	China
Julianne Yotov	Occidental College	United States
Junlan Xu	Stony Brook-Anhui	China
Mingyang Fan	Stony Brook-Anhui	China
Murilo Tibana	University of Colorado Boulder	Brazil
Reth Lopes	SUNY University at Albany	United States
Ryan Brady	Stony Brook	United States
Samuel Vasquez	Stony Brook-Carnegie Mellon	United States
Scott Liguori	Rensselaer Polytechnic Institute	United States
Sijia Li	Stony Brook-Anhui	China
Spencer Diamond	Arizona State University	United States
Veronica Janucik	St. John's University	United States
Yuanting Liu	Institute of Theoretical Physics-UCAS	China
Zahin Shahrior	Stony Brook	United States
Zifan Tang	University of California: Santa Barbara	China

Let's welcome 2025 incoming graduate students!

Graduate Program: Graduates in 2024/2025

- Fall 2024/Spring 2025/Summer 2025
  - ¬PhD: **26**
  - ¬MSI: 2
  - ¬MA: **14**
  - ¬MSQIST: **1**

Graduate School Award Winners

- Meghan Helen McDuffie working with Rouven Essig was the winner of the John Marburger III Fellowship for Science, Engineering and Mathematics.
- Megan's research is exploring various possibilities for dark matter, including searching for milli-charged particles with novel experimental techniques and investigating the behavior of spin-dependent dark matter. She is also considering models like atomic dark matter that could have cosmological implications.

Three SUNY Great Awards in 2025

The SUNY GREAT Award provides funding from the SUNY Office of Research and Economic Development to graduate students who have been recognized by prestigious federal agencies such as the National Science Foundation.

Nicole Khusid

Physics and Astronomy

Khusid analyzes gravitational waves from black hole mergers to test Einstein's theory of general relativity. Focusing on the "ringdown" phase — the final vibrations of a newly formed black hole — she uses advanced statistical techniques to probe the physics of extreme gravity and improve our understanding of the universe.

Three SUNY Great Awards in 2025

Ivy Huang

Physics and Astronomy

Huang investigates the ultrafast molecular dynamics behind biological and chemical processes. Her work seeks to reveal how matter behaves on the shortest timescales, providing insights into the foundations of life and light-driven chemistry.

Benjamin Levine

Physics and Astronomy

Levine contributes to the Rubin Observatory's upcoming sky survey by identifying and correcting measurement biases. His work will help improve the precision of cosmic data used to study dark matter, dark energy and the structure of the universe.

Master of Arts in Teaching (MAT) Program

Stony Brook University Physics Teacher Preparation

Recent MAT Physics Graduates:
2022-2023 – 9 physics teachers
2023-2024 – 3 physics teachers
2024-2025 – 7 physics teachers*
**data not yet finalized*

Goal:
Chair's 10+ Club

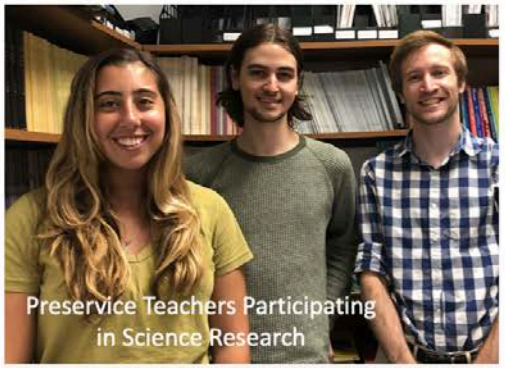
MAT Director: Angela Kelly
https://www.stonybrook.edu/commcms/grad-physics-astronomy/degrees/MAT.php

PhysTEC
Physics Teacher Education Coalition

The 5+ Club
Recognizes institutions that graduate 5+ physics teachers in a given year

2022-2023

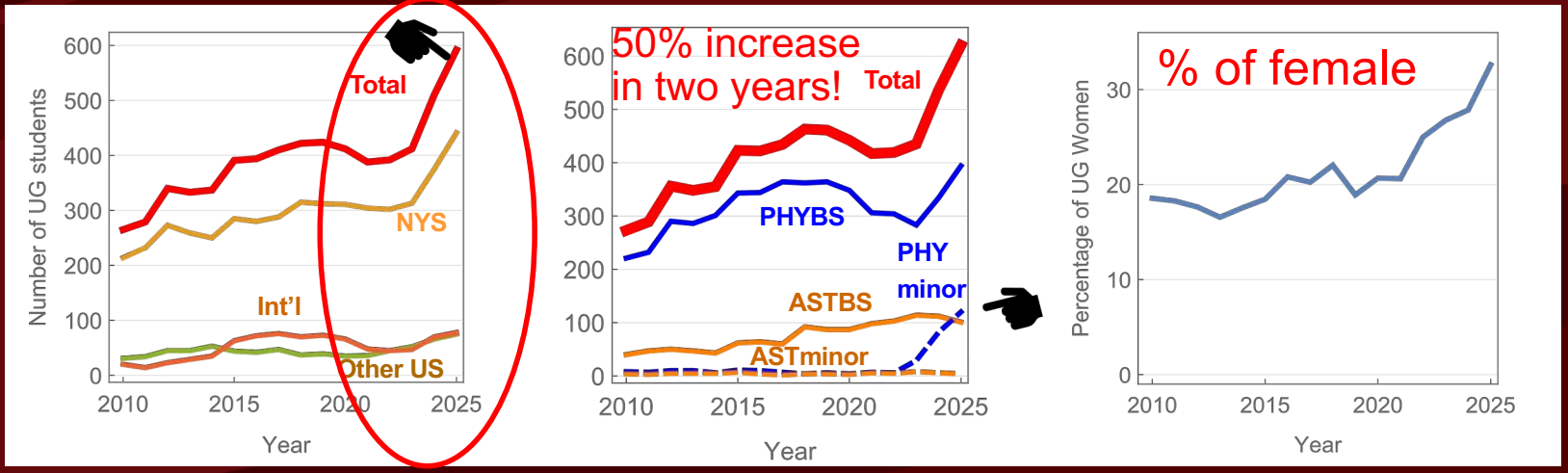
- California Polytechnic State University, San Luis Obispo
- California State Polytechnic University, Pomona
- California State University, Long Beach
- University of Colorado - Boulder
- Brigham Young University - Idaho
- Illinois State University
- Lewis University
- Bridgewater State University
- University of Minnesota Twin Cities
- Rutgers University - New Brunswick
- The College of New Jersey
- SUNY Geneseo
- SUNY Stony Brook
- University of Texas - Austin
- Brigham Young University
- Western Governors University - Utah (Main)
- University of Wyoming



Left to right, students Jennifer Sarcone, Kenneth Cortes and John Pedersen. Not pictured: Anthony Helfrich.

Undergraduate Programs in PHY and in AST

- Fall 2025 Student Body
  - ¬ 565 students (75% NYS, 13% other US, 13% international) (~60 in 1990)
  - 592 ¬ Majors: 371 PHY, 93 AST (incl. 27 double majors)
  - ¬ Minors: 123 PHY, 4 AST, 1 OPT
- Fall 2025 Diversity
  - ¬ Domestic: White 28%, Asian 40%, Hispanic/Latino 15%, African American 5%, Other 11%.
  - ¬ 32% female (up from 18% in F14)



81 PHY and **15** AST bachelor's degrees awarded in 2024/25 (10 – 15 in 1990)

Stony Brook Institute at Anhui University (SBIAHU)

- 2024 Arrival Students (14)
  - Shengze Wang
  - Zizheng Wang
  - Chenye Yuan
  - Mingyang Fan
  - Simon Xia
  - Wenlin Chen
  - Yunfan Hu
  - Sijia Li
  - Can Xu
  - Jiakang Xu
  - Chengye Yin
  - Zehao Li
  - Jingxiao Wang
  - Yongxin Wang
- 2025 Arrival Students (18)
  - Haiqing Hang
  - Taiming Liu
  - Xinyi Liu
  - Zirui Song
  - Zeqian Tong
  - Zhezhue Wang
  - Yiye Wu
  - Tianyi Xie
  - Jialing Yao
  - Chengyuan Yu
  - Haolin Yu
  - Xiaorui Li
  - Yifan Ouyang
  - Shuya Shan
  - Xiaozhen Gan Gan
  - Junjie Yi
  - Xiaonan Zhang
  - Yijan Zhu

The first 3 (2) years at Anhui and the last 1 (2) years at Stony Brook → Welcome to Stony Brook!

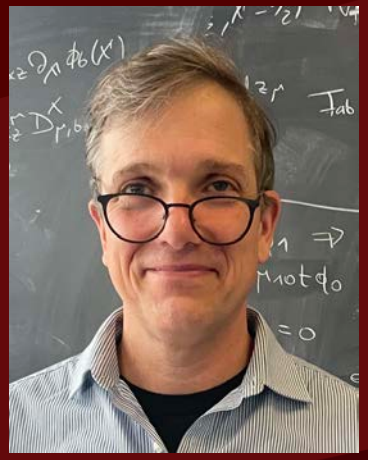
The 3rd Undergrad Research Day

- Friday, April 4, 2025 in S-240
  - ¬9:30 – 9:50 am: Breakfast
  - ¬9:50 am: Opening Remarks – Dr. David Wrobel, CAS Dean
  - ¬10:00 – 12:00 pm: 4 invited faculty talks
  - ¬12:00 – 12:30 pm: Lunch
  - ¬12:30 – 1:30 pm: Panel Discussion
  - ¬2:00 – 5:00 pm: Undergrad research poster presentations
    - Judged by a faculty panel (invited)

→Organized by the SPS and the NSBP-SBU (done an excellent job!)

The 3rd Undergraduate Research Day
Distinguished Faculty Panel Members

Dominik Schneble



Derek Teaney

Mike Zingale

The 3rd Undergraduate Research Day
Faculty Panel Discussion

- 19 questions (concerning graduate program application) submitted by the undergrads answered by the panel members
- Moderated by the Chair

The 3rd Undergraduate Research Day
Poster Presentations: Honorable Faculty Judges

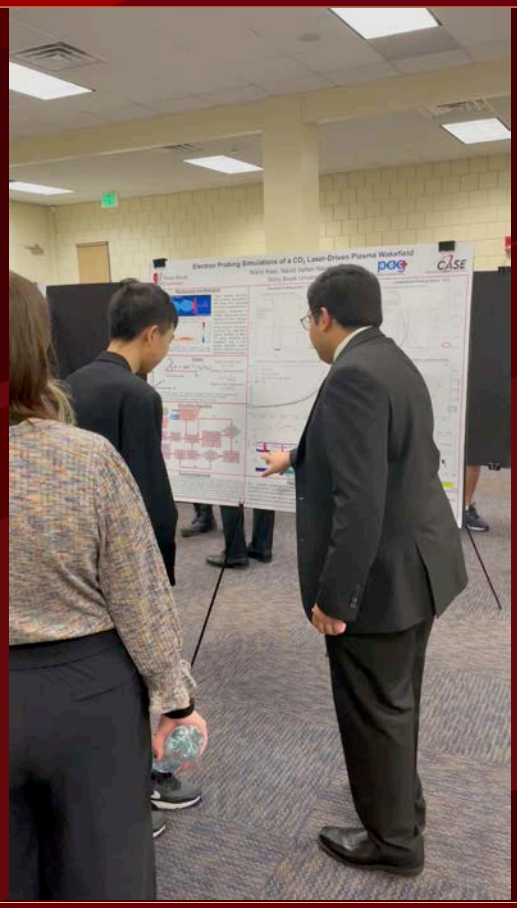
Simon Birrer

Radu Ionas

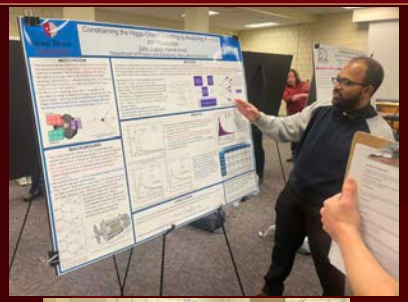
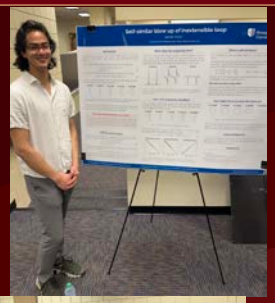
Ciro Riccio

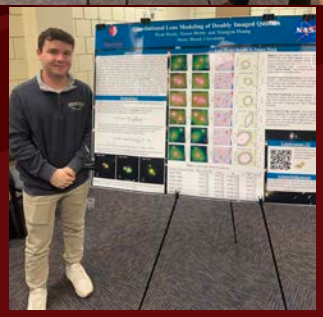
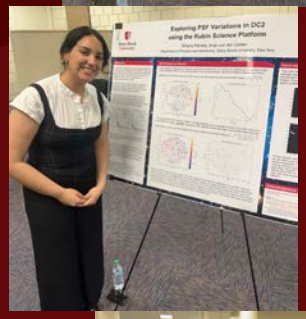
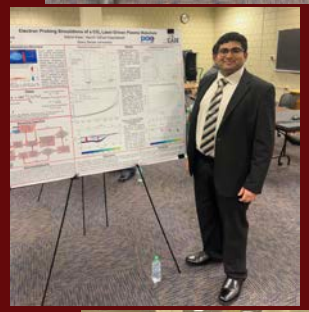
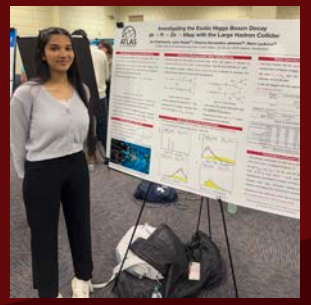
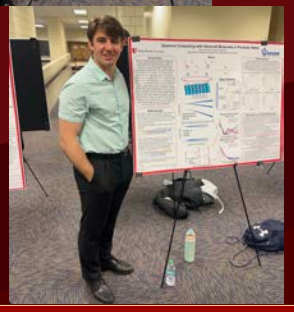
Tom Weinacht

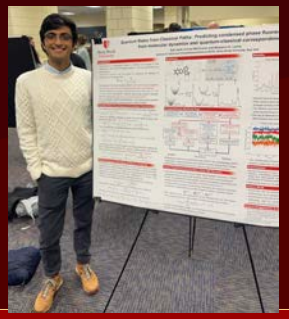
3rd Undergraduate Research Day
Poster Presentations



3rd Undergraduate Research Day
Poster Presentations

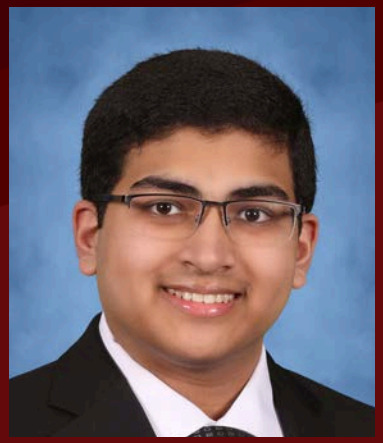





3rd Undergrad Colloquium Speakers (selected from the poster presentations)

Ryan Brady



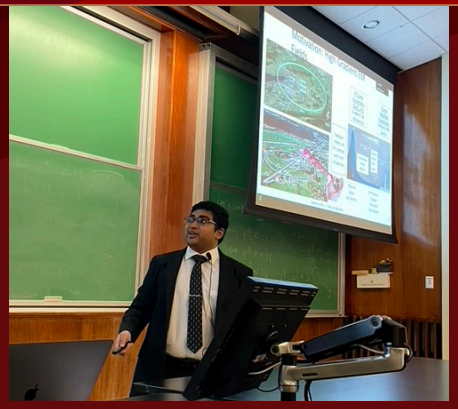
Nikhil Keer

Kevin O'Shea

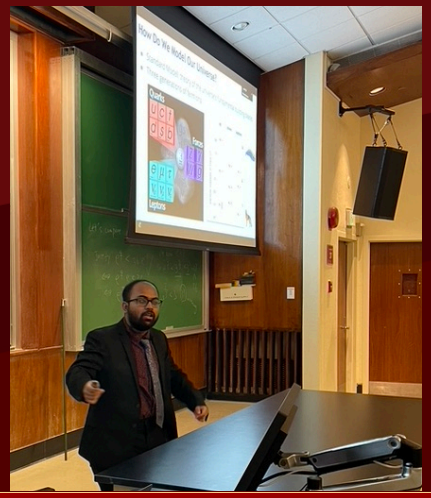
Zahin Shahrior

3rd Undergrad Colloquium

Provost



Barish Travel Awards



Undergrad Research Fair (October 11, 2024)

- Very well attended event
- It is clear that now our undergrads really understand the importance of early research involvement → buzzing w/ excitements

Prof. Barry Barish, Nobel Laureate 2017 started teaching an undergrad course at Stony Brook

- Teaches a grad course: PHY560 “Frontiers of Physics and Astrophysics”
- In addition, started teaching an undergrad course: PHY390 voluntarily in Fall 2024
  - ¬Teaches PHY390 this semester again but NOT in Fall 2026
- Resident in Stony Brook/NYC area for each fall semester
  - ¬Feel free to contact him for a chat, etc.

Emmett L. Gebb
20xx Nobel Prize?

Sheldon Glashow
1979 Nobel Prize

Barry Barish
2017 Nobel Prize

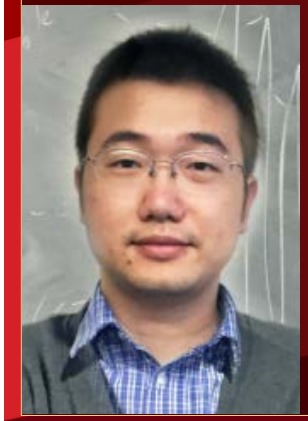
Stony Brook SPS Wins National Recognition for Third Consecutive Year!

- The National Council of Society of Physics Students (SPS) has reviewed all chapter reports and has awarded the Stony Brook University **SPS** Chapter as a **2023-24 Outstanding Chapter** continuing the streak started with the recognition two years ago for their same outstanding efforts!

Faculty Promotions

Tom Weinacht
Professor to SUNY Distinguished Teaching Professor

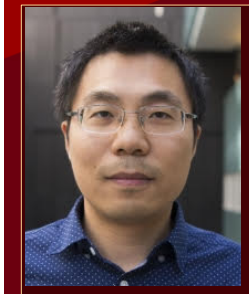
Eden Figueroa
Associate Professor to Full Professor



Menkun Liu
Associate Professor to Full Professor

Neelima Sehgal
Associate Professor to Full Professor

New Faculty Members



Yin-Chen He
Assistant Professor
Formal Theory
YITP (Jan. 2025)

Nathanan (Nat) Tantivasadakarn
Assistant Professor
QIST Theory
YITP (Sep. 2025)

Ross Corliss
Lecturer
Education
(Jan. 2025)

Han Ma
Assistant Professor
Condensed Matter Theory
(Jan 2025)

Raymond Blackwell
Assistant Professor
Condensed Matter Experiment
(Sep. 2025)

Gillian Winters
Lecturer
Education
(Sep. 2025)

Retirement of Fred Walter

- Got Ph.D. from UC Berkeley in 1981
- Came to Stony Brook in 1989
  - ¬36 years of service!
- Will retire on December 31, 2025

Thank You, Fred!

In Memoriam:
Peter Koch (1945 – 2025)

"His doctoral research under Dr. Bayfield focused on the study of highly excited atoms (often called "Rydberg atoms"). Together they performed a now historic experiment on microwave ionization of Rydberg atoms which resulted in the accidental discovery of an ionization threshold as a function of a microwave field; at the time, this result was unexpected since it had been understood that ionization thresholds were thought to appear only as a function of frequency and not global chaos. …

Prior to his return to the United States, Koch was hired as a professor of physics at Stony Brook University, where he performed experimental research, taught, and hosted postdoctoral fellows and PhD students from 1981-2020. He served as Chair of the Department of Physics and Astronomy from 2005-2009. In addition, he served in the College of Arts and Sciences administration on two occasions: as Associate Dean of the Division of Physical Sciences and Mathematics from 1995-1996 and as Associate Dean for Operations and Budget from 2003-2005."

- From the obituary prepared by his son Nathan Koch

→ For the full obituary, see P&A Department Homepage

In Memoriam:
Mike Simon (1940 – 2025)

"He arrived at Stony Brook in the fall of 1969 with his first wife Martha Nichols who took a position in Chemistry at Brookhaven Labs. Their son Dan spent his infancy sleeping in a file cabinet drawer in Mike's office in Earth and Space Sciences. Mike served as Chair of the department from 1980 to 1983. He married Anne Byrnes, Director of Stony Brook's University Counseling Center "to help him survive being Chair." From 2006 until his death Mike worked as a Research Associate in the Department of Astrophysics, at the American Museum of Natural History."

- From the obituary prepared by his wife Anne

→ For the full obituary, see P&A Department Homepage

In Memoriam:
Alfred (Fred) Scharff Goldhaber (1940 – 2024)

"In his fifty-plus years on the Stony Brook faculty, Fred Goldhaber helped build the intellectual heritage of the C.N. Yang Institute for Theoretical Physics and the Department ofPhysics and Astronomy. His creative and incisive science, coupled with generosity and kindness to faculty and student colleagues alike, continues to act as a light to his immediate colleagues, and through them to new generations. He will be missed, but his influence will live on brightly."

- From the obituary prepared by G. Sterman and the Goldhaber family

→ For the full obituary, see P&A Department Homepage

Fred Goldhaber Memorial Symposium

Fred Goldhaber Memorial Symposium
April 28, 2025, SCGP Auditorium
A Celebration of Fred in Physics

10:00 – 10:40am. George, David and Guests “Welcome“

10:40 – 11:10. **Wit Busza** (MIT)
"From quantum fluctuations to the production of particles."

11:15 – 11:40 coffee

11:45 – 12:15. **David Goldhaber Gordon** (Stanford)
“What is charge?”

12:20 – 12:50. **Stanley Brodsky** (SLAC)
“The Goldhaber Effect and New Developments in Quantum Chromodynamics”

1-2 pm Lunch break

2:00 – 2:30. **Zohar Komargodski** (Stony Brook)
"Monopoles, Spin-Statistics, and the S-Matrix"

2:35 – 3:05. **Peter van Nieuwenhuizen** (Stony Brook)
”Fred, E=3/4 m c**2 and g = 2"

3:10 – 3:40 **Chris Quigg** (Fermilab)
"Adventures with Fred & Quantum Mechanics"

3:45 – 4:05 Coffee

4:10 – 4:40: **Tzu-Chieh Wei** (Stony Brook)
"The Quantum Moment Today"

4:45 – 5:15: **Music: Colin Carr and Kyungwha Chu** (Stony Brook)

5:00 – 5:30: Closing remarks: David and/or George

5:30 Reception (Center lobby)

Fred Goldhaber Memorial Symposium

Notable Events

Quantum Networks Town Hall
Figueroa Research Group

Context

The NVQL program is intended as a national, community-driven effort supporting the integration and translation of quantum technology from fundamental science and engineering to use-inspired applications.

Overview

Our SCY-QNet project will draw together expertise and talent from a broad range of disciplines to enable the creation and application of functional long-distance quantum networks. This federated NQVL testbed, which will be developed and led by the quantum network community, is designed to enable a plethora of users to contribute to advances in Quantum Information Science and Engineering.

Purpose

In this SCY-QNet Town Hall, we will explore how to coordinate a federated quantum network infrastructure and establish mechanisms to enable members to use the SCY-QNet virtual laboratory. Our SCY-QNet Town Hall meeting seeks community input to foster open scientific dialogue, to collect baseline data to aid in the development of a diverse workforce development plan, and to ensure the broad participation of the entire QISE community. As part of this gathering, we will host the first Quantum Networking Domestic Cooperation (QNDC) meeting on the second day of the Town Hall.

Strategic Development Plan

Lastly, an important document, the **"SCY-QNet Strategic Plan,"** will be developed. This community-driven document will help our collaboration to define SCY-QNet proposed applications, the methods involved to deliver the quantum network facility, and the phased-approach engineering of the steps to deliver SCY-QNet as a virtual laboratory accessible to the entire quantum network community.

Quantum Networks Town Hall and Domestic Cooperation Workshop

Feb. 27-28, 2025
SUNY Global Center
Manhattan

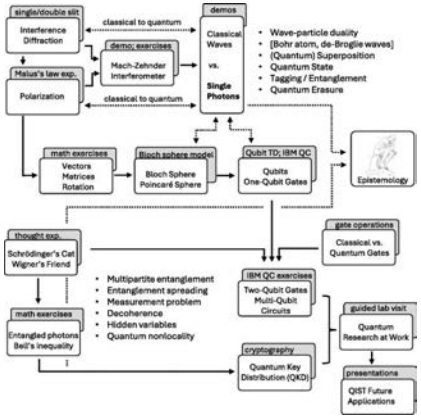
QuEST: Quantum Education for Students and Teachers

you.stonybrook.edu/quest

Home | About | Team | Upcoming | Past Activities | Products | Videos | Press | Resources | Adv. Board

IYQ Conferences

- March 2025: 154 attendees (K-12 school district leaders)
- June 2025: 77 attendees (middle and high school STEM teachers)
- Kelly, Schneble, Wei. (2025). Outcomes of an International Year of Quantum K-12 Educational Leadership Conference. *IEEE Quantum Science and Engineering Education Conference.* ‡***Best Paper Award***



Team

A. Kelly

D. Schneble

T.-C. Wei

students and Dr. Zijian Song (2025-)

Teacher Workshops (2023-24)

- 53 teachers at Stony Brook
- 15 teachers at NY Hall of Science

Summer Camps (2023-25)

- 97 students at Stony Brook
- 133 students at NY Hall of Science

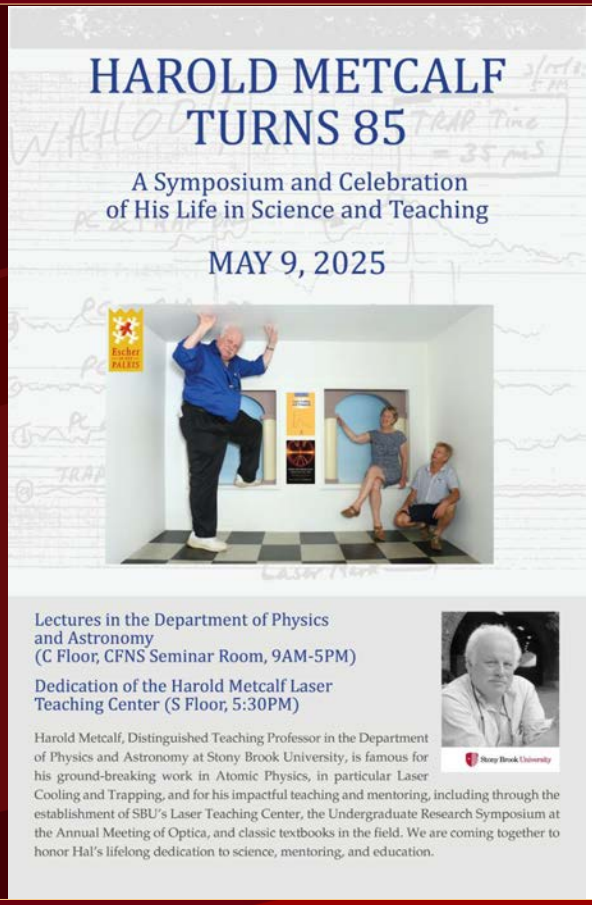
1-Day Field Trips (2023-25)

- 118 students at Stony Brook
- 62 students at NY Hall of Science

Stony Brook

nysci

Hal Metcalf Symposium

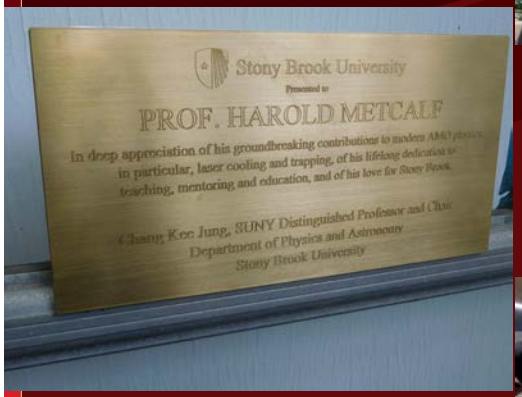


May 9, 2025
CFNS Seminar Room, C-120, Physics Building

8:30-9:00	*Arrival & Coffee*
9:00-9:10	Introduction and welcome (Tom Weinacht & Dominik Schneble)
9:10-9:30	Chang Kee Jung, Chair of SBU Physics and Astronomy
9:30-9:50	Willliam D. Phillips
9:50-10:10	David E. Pritchard
10:10-10:30	Phillip Gould
10:30-10:45	Frederick J. Raab
10:45-11:20	*Coffee*
11:20-11:40	Peter van der Straten
11:40-12:00	Edgar Vredenbregt
12:00-12:20	Herman Batelaan
12:20-2:00	*Lunch*
2:00-2:15	Robert Ryan
2:15-2:35	Enrique J. Galvez
2:35-2:50	Kunal K. Das
2:50-3:30	*Coffee*
3:30-3:50	Dieter Meschede
3:50-4:10	Arno Rauschenbeutel
4:10-4:30	Nicholas Bigelow
4:30-4:50	Luis A. Orozco
4:50-5:10	Samir Bali
5:10-5:30	*Break*
5:30-5:45	Dedication of the Harold Metcalf Laser Teaching Center Introduction of the new LTC director, Gillian Winters *(Location: S-202, Physics Building)*
6:00	*Dinner* *(Location: Simons Center Café)*

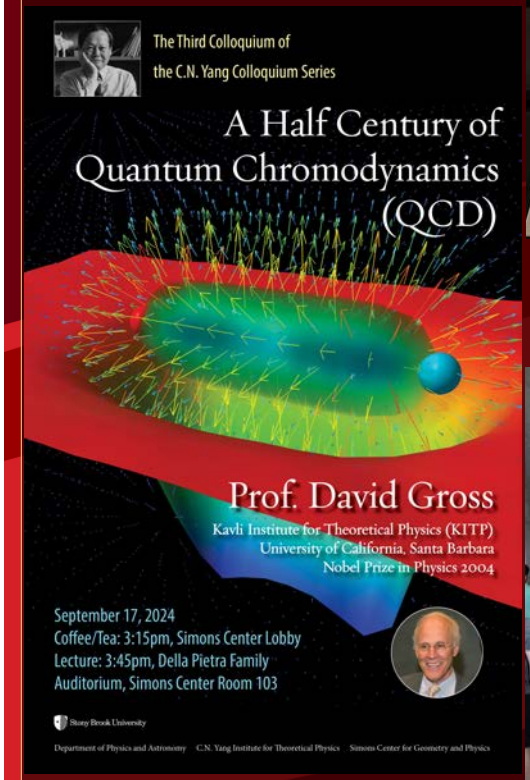
Dedication of Harold Metcalf Laser Teaching Center

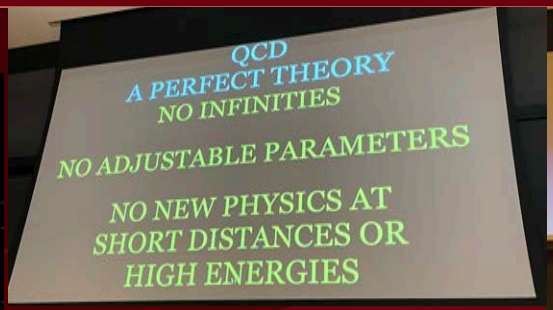
Stony Brook University



"In deep appreciation of his groundbreaking contributions to modern AMO physics, in particular, laser cooling and trapping, of his lifelong dedication to teaching, mentoring and education, and of his love for Stony Brook."

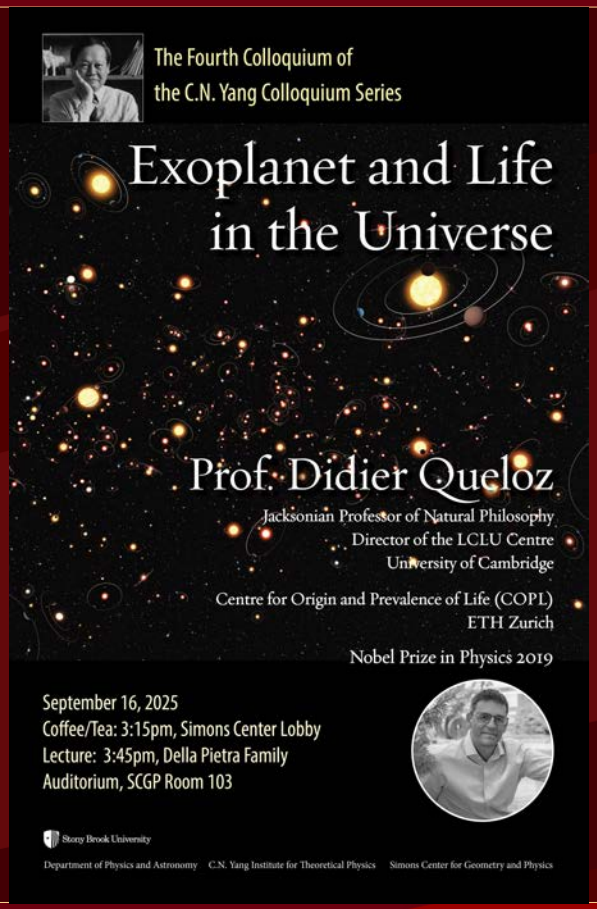
The 3rd C.N. Yang Colloquium
September 17, 2024





The 3rd C.N. Yang Colloquium
September 17, 2024

The 4th C.N. Yang Colloquium
September 16, 2025



The 4th C.N. Yang Colloquium by Didier Queloz, Nobel Laureate 2019

"He is one of the originators of the "exoplanet revolution" in astrophysics. In 1995, as part of his PhD, he and his supervisor announced the first discovery of a giant planet orbiting another star, outside the solar system."

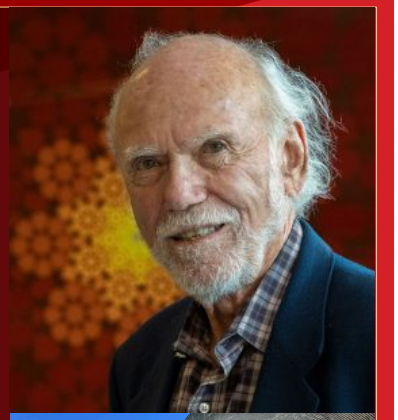
Faculty/Staff Honors:
Prizes, Awards and Significant Recognitions

The 2025 Breakthrough Prize in Fundamental Physics, HEP ATLAS Group

2016 Breakthrough Prize, HEP NN group

Barry Barish elected a member of the American Philosophical Society (APS)

- The APS is the oldest learned society in North America, co-founded by United States Founding Father Benjamin Franklin with John Bartram, for the "promotion of useful knowledge."
- Barish is one of 38 new members elected this year. Since APS was founded in 1743, there have been only 5,854 members elected over 282 years.



"Of all the numerous accolades Barry received, this could be one of the coolest," said Chang Kee Jung, "The prestige of an honor is shaped by the people who also receive the honor and Barry has exceptional company in this society, especially C.N. Yang, who was elected in 1964. In physics, we call C.N. Yang "Frank," his chosen American name for his admiration of Ben Franklin that Barry shares. In my opinion, the discovery of gravitational waves emanating from two merging black holes, for which Barry played a critical role, is one of the greatest triumphs of humanity. So, this recognition is very fitting. We are truly lucky to have Barry at Stony Brook teaching both graduate and undergrad students."

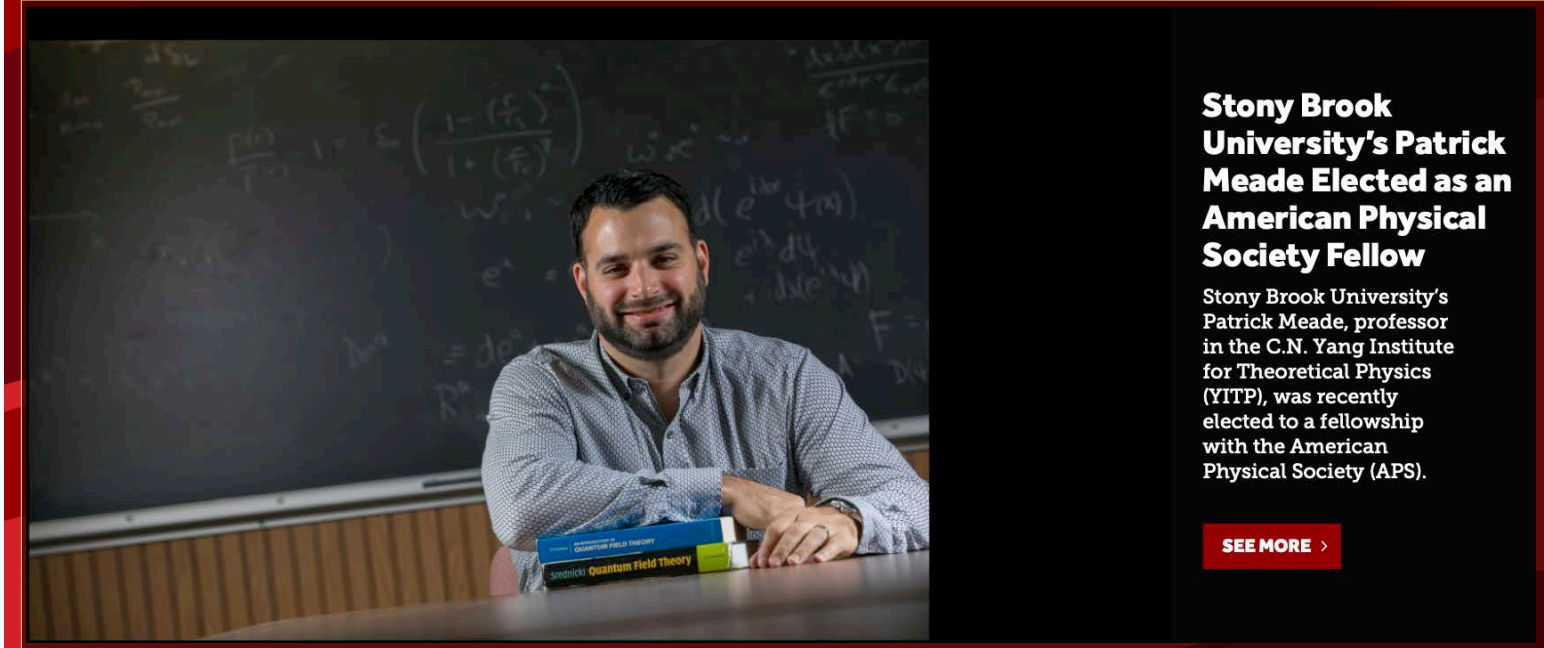
Congratulations!

Barry Barish receives the "IUPAP-TIFR Homi Bhabha Award 2025

- IUPAP: The International Union of Pure and Applied Physics
  - ¬ founded in 1922 (after World War I) to promote international cooperation in physics. It is one of the scientific unions under the International Science Council (ISC).
- TIFR: The Tata Institute of Fundamental Research
- The prize is awarded to an active scientist who has made distinguished contributions in high-energy cosmic-ray physics and astroparticle physics over an extended academic career.
- The recipient is selected by the IUPAP Commission on Astroparticle Physics (C4) along with a senior astrophysicist nominated by the Director of TIFR.
- Barish: Named the 2025 awardee for pivotal leadership in developing LIGO (gravitational wave detection) and the MACRO detector, plus major contributions to multi-messenger astrophysics

Congratulations!

Patrick Meade, 2024 APS Fellow



APS physics FELLOW

Division of Particles and Fields (DPF)

"For pioneering research and leadership in particle theory and phenomenology, including signatures of gauge-mediated supersymmetry, top partners, long-lived particles, Higgs sectors, phase transitions of the early universe, and the science capabilities of proposed facilities."

Eden Figueroa elected a member of the National Academy of Inventors (NAI)

Paul Goldbart elected APS Presidential Line

APS Vice President

The 2026 APS vice president will serve as APS president in 2028. The vice president is an officer of the Society and a member of the APS Board of Directors, which is responsible for the overall governance, affairs, and financial well-being of APS.

Congratulations!

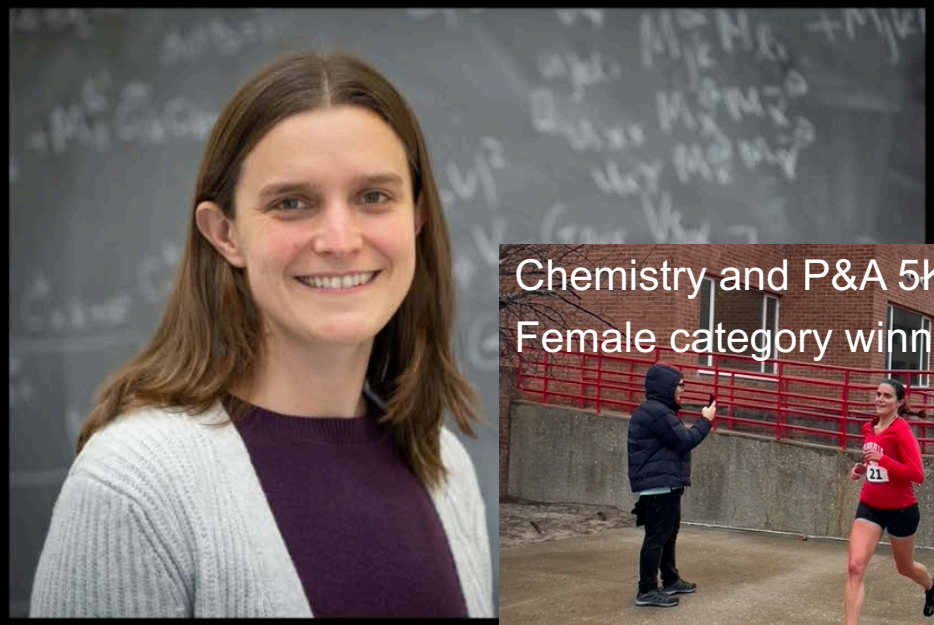
Marivi Fernandez-Serra Receives SUNY Chancellor's Award for Excellence in Scholarship and Creative Activities

Congratulations!

Jen Cano Wins the SBU Discovery Prize!

Jen Cano Receives SUNY Chancellor's Horizon Award

Congratulations!



SBU Professor Jennifer Cano Receives SUNY Chancellor's Horizon Award

This award honors early career tenured and tenure track faculty whose scholarly or creative activities have already achieved significant recognition and crucially, hold strong promise for field-defining impact in the future.

Two Faculty Members Named 2025 Outstanding Referees by APS

Congratulations to faculty members Jennifer Cano and Angela Kelly for being named Outstanding Referees by APS for 2025!

The Outstanding Referee program was instituted in 2008 to recognize scientists who have been exceptionally helpful in assessing manuscripts for publication in the APS journals.

The highly selective Outstanding Referee program annually recognizes a small percentage of the roughly 50,000 referees who have been asked to review one or more papers in the last twelve months.

This year, 160 Outstanding Referees were selected.

Honorees are selected based on the quality, number, and timeliness of their reports, without regard for membership in the APS, country of origin, or field of research.

Vivian Miranda Wins a 2025 Stony Brook Trstees Faculty Award

Prof. Vivian Miranda Wins a 2025 Stony Brook Trustees Faculty Award

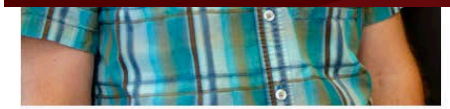
We are delighted to share the news that Prof. Vivian Miranda's application, entitled "Braving the Dark Sector of our Universe with the Roman Space Telescope" has been selected for a 2025 Stony Brook Trustees Faculty Award.

Jim Lattimer: A 2024 Clarivate Highly Cited Researcher

Seven Stony Brook Professors Honored as 2024 Clarivate Highly Cited Researchers

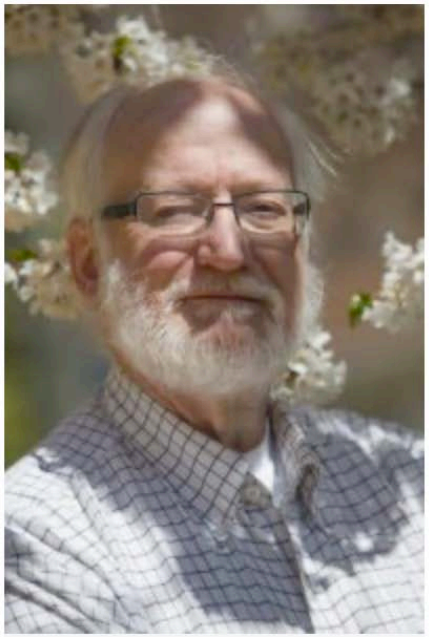
November 26, 2024 4 min read

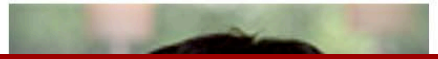
Seven faculty members from Stony Brook University have been recognized on the 2024 Clarivate Highly Cited Researchers list, an honor that places them among the top 1 percent of researchers worldwide.



Dima Kozakov

Lattimer, SUNY Distinguished Professor in Physics and Astronomy in the College of Arts and Sciences, was celebrated in Cross-Field research for his contributions to nuclear astrophysics. His work on neutron stars, including theories on the origin of heavy elements and groundbreaking discoveries about their cores, has shaped our understanding of the cosmos.





Ling, a SUNY

2024-25 P&A Outstanding Faculty Award

Alan Calder

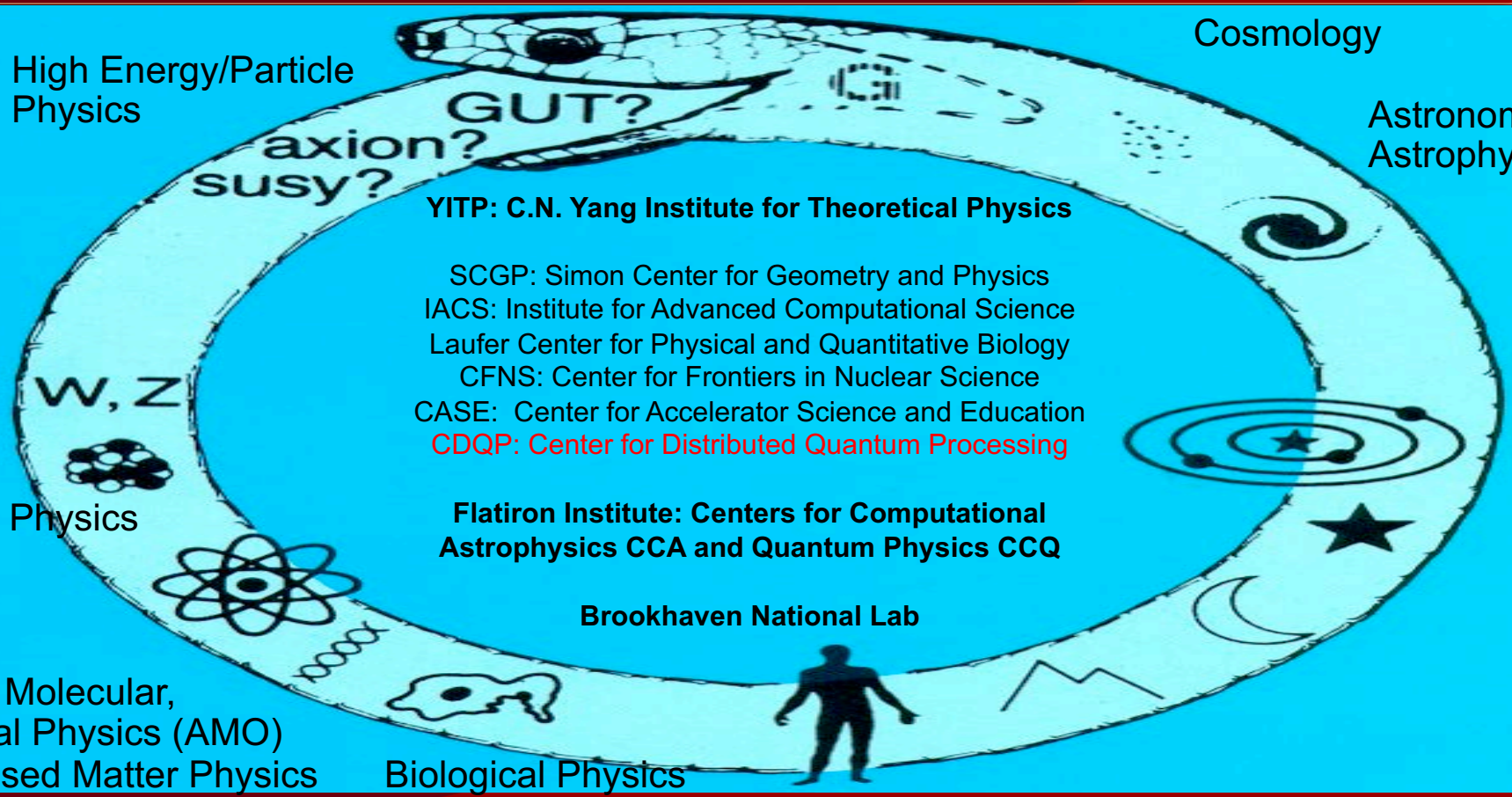
P&A Outstanding Faculty Award

Let's congratulate the faculty members for their promotions, retirements and honors, and welcome new faculty members!!!

A "Super-Compactified" Survey of Research Activities in the Department

Apologies for not being able to include all valuable contributions and possible inaccurate representation of the materials

Research Areas, Centers and Affiliated Institutions



YITP: C.N. Yang Institute for Theoretical Physics

SCGP: Simon Center for Geometry and Physics
IACS: Institute for Advanced Computational Science
Laufer Center for Physical and Quantitative Biology
CFNS: Center for Frontiers in Nuclear Science
CASE: Center for Accelerator Science and Education
CDQP: Center for Distributed Quantum Processing

Flatiron Institute: Centers for Computational Astrophysics CCA and Quantum Physics CCQ

Brookhaven National Lab

Astronomy/Astrophysics and Cosmology


Phil Armitage


Alan Calder


Simon Birrer


Will Farr


Jin Koda


Ken Lanzetta


Jim Lattimer


Vivian Miranda YITP


Rosalba Perna


Neelima Sehgal


Anja v.d. Linden


Fred Walter


Mike Zingale

Astronomy/Astrophysics and Cosmology

ASTRO GROUP: RESEARCH OVERVIEW

Overarching goal of: Understanding the origin and evolution of our Universe, and the physical properties of the objects in them.
In particular:

- Study of the early Universe with CMB observations (Sehgal, Miranda)
- Constrain Dark Matter and Dark energy via galaxy observations (von der Linden, Miranda, Sehgal, Birrer, Slosar), gravitational wave observations (Farr, Lattimer, Perna), and gravitational lensing (von der Linden, Sehgal, Perna, Birrer)
- Learn about galaxy properties and their evolution (von der Linden, Lanzetta, Birrer)
- Learn about properties of exotic compact objects (white dwarfs, neutron stars, black holes) both with observations (Walter, Lattimer) and with theoretical/computational methods (Lattimer, Zingale, Calder, Perna, Farr, Armitage, Swesty)
- Learn about the formation of stars (Walter) and planetary systems outside of our solar system (Armitage, Farr, Perna).

Computational and Nuclear Astrophysics

- Faculty / Postdocs
  - Alan Calder
  - James Lattimer
  - Doug Swesty
  - Michael Zingale
  - Rosalba Perna
  - Phil Armitage
- Research Interests
  - Supernovae
  - X-ray bursts and novae
  - Magnetars
  - Accretion disks
  - Neutron star interiors
  - Gravitational Radiation
  - Tidal Disruption Events
  - High performance computing
  - Verification and Validation
  - Open science / reproducibility
- Grad Students
  - Khanak Bhargava
  - Brendan Boyd
  - Zhi Chen
  - Josh Martin
  - Melissa Rasmussen
  - Sabina Sagynbayeva
  - Boyang Sun
  - Hoyoung Kang
  - Jake Hassan
  - Ian Johnson
- Undergrads
  - Kian Hayes (REU)
  - Isabelle McNulty(REU)

recent group meeting

Background image: merging white dwarf calculation run with our Castro hydrodynamics code.

Stony Brook Cosmology (AST, BNL, Flatiron, YITP)

Faculty

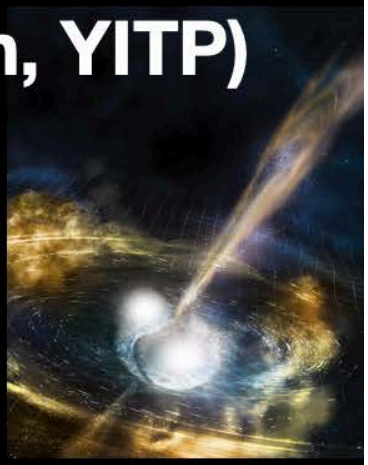
- Simon Birrer
- Will Farr
- Anja von der Linden
- Vivian Miranda
- Rosalba Perna
- Neelima Sehgal
- Anze Slosar

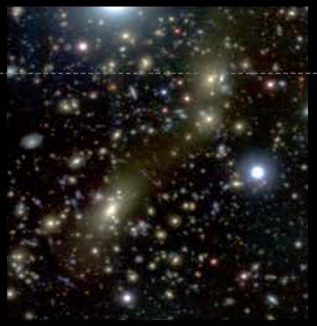
Students

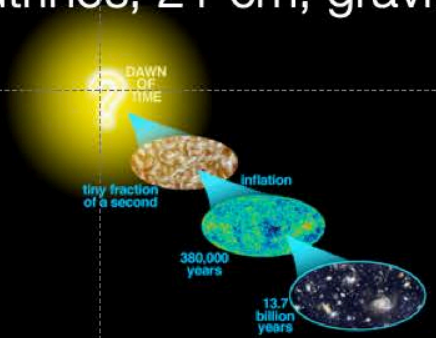
- PhD students = 9
- Masters students = 6
- Undergrad students = 10

Research

Theoretical and observational cosmology: black holes, inflation, cosmic microwave background, dark energy, dark matter, galaxies and galaxy clusters, gravitational lensing, large-scale structure, neutrinos, 21 cm, gravitational waves

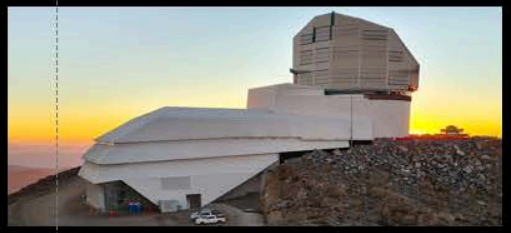






LIGO

Simons Observatory and CMB-HD



Rubin Observatory

ACADEMICS RESEARCH UNIVERSITY

SBU Physics and Astronomy Faculty and Students Prepare to Measure the Universe

June 23, 2025 5 min read

Newly Constructed Rubin Observatory in Chile Readying 10-year Ultra-Wide, Ultra-Deep Movie of the Sky

Stony Brook University professors — along with post-doctoral, graduate and undergraduate students — from the Department of Physics and Astronomy are preparing to measure the Universe with the newly constructed National Science Foundation (NSF)-Department of Energy (DOE) Vera C. Rubin Observatory in Chile.

Rubin Observatory's First Look

Faculty: von der Linden, Birrer, Miranda, Sehgal
Students: Adari, Huang, Levine, Srinivasan, Sharma

5 pages in the NYT

Astronomy/Astrophysics and Cosmology

Selected List of Papers (with SBU students)

"Benchmarking with Supernovae: A Performance Study of the FLASH Code." **J. Martin, C. Feldman**, et al. Proceedings of PEARC 24 (Practice and Experience in Advanced Research Computing), 8, 1-9, 2024. Best Student Paper Prize.

"3D Convective Urca Process in a Simmering White Dwarf." **B. Boyd**, et al. ApJ 979 216, 2025

"The Cosmological Population of Gamma-Ray Bursts from the Disks of Active Galactic Nuclei" **Hoyoung Kang**, Perna, R. et al., OJAp, 8, 23 (2025)

"Sensitivity of Simulations of Double-detonation Type Ia supernovae to Integration Methodology", M. Zingale, M., Z. Chen, M. Rasmussen, A. Polin, M. Katz, A. Smith Clark, E. Johnson, ApJ 966, 150, 2024

"CMB-HD as a Probe of Dark Matter on Sub-galactic scales", A. MacInnis and N. Sehgal, JCAP 02, 2025

"Introducing the Condor Arrary Telescope. 1. Motivation, Configuration, and Performance," K. Lanzetta, S. Gromoll, M. Shara, S. Berg, D. Valls-Gabaud, F. Walter, J. Webb, PASP 1043, id. 015002, 2023

"Introducing the Condor Arrary Telescope. II. Deep Imaging Observations of the Edge-On Spiral Galaxy NGC 5907 and the NGC 5866 Group: Yet Another View of the Iconic Stellar Stream," K. Lanzetta, S. Gromoll, M. Shara, S. Berg, J. Garland, E. Mancini, D. Valls-Gabaud, F. Walter, J. Webb, MNRAS 529, 197, 2024

"Compiled properties of nucleonic matter and nuclear and neutron star models from nonrelativistic and relativistic interactions," B. Sun, S. Bhattiprolu, J. M. Lattimer, Phys. Rev. C 109, 055801, 2024

"Galaxy Clustering with LSST: Effects of Number Count Bias from Blending", B. Levine et al., OJAP, 8, 38, 2025

"Cosmology with Binary Neutron Stars: Does Mass–Redshift Correlation Matter?", Soumendra Kishore Roy, Lieke van Son, Anarya Ray, & Will M. Farr, ApJL, 985, L33, 2025.

"GW231123: a Binary Black Hole Merger with Total Mass 190-265 MSun", LIGO, Virgo, and KAGRA collaborations, including Nicole Khusid and Soumendra Kishore Roy, arXiv:2507.08219

"Spectral evolution of Population III Stars", Jake Hassan, Perna, R., et al., arXiv:2505.21463

Atomic, Molecular and Optical (AMO) Physics Group

Stony Brook AMO

Jesus Pérez Ríos — Theory

Thomas Weinacht — Ultrafast

Thomas Allison — Ultrafast

Harold Metcalf — Ultracold atoms, Quantum Information

Eden Figueroa — Ultracold atoms, Quantum Information

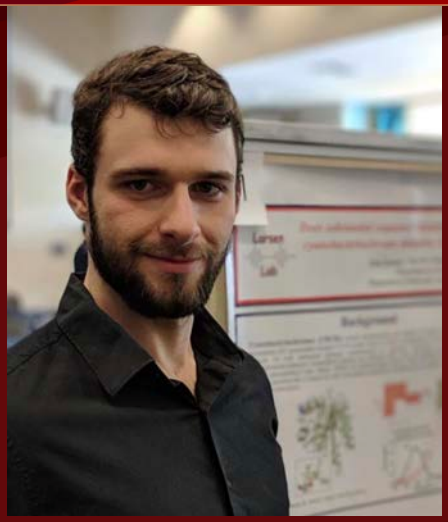
Dominik Schneble — Ultracold atoms, Quantum Information

Ash Kumar — Ultracold atoms, Quantum Information

Several positions are available for Ph.D. and Masters students

Welcome Adam Jenkins, LASER Scientist, AMO Labs

Adam Jenkins, Ph. D.: a Laser Scientist working in the AMO Physics Research Laboratories

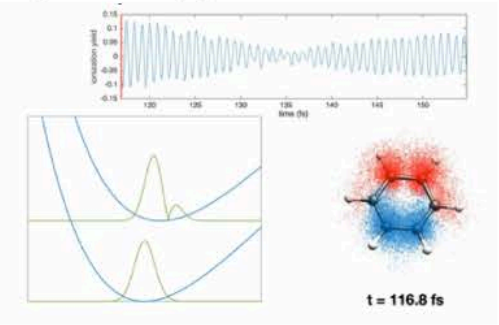


Adam earned a B.S. in Chemistry (2016) at University of California, Davis and studied the photodissociation and charge transfer dynamics of small gaseous diatomic molecules using vacuum ultraviolet methods. He then continued at UC Davis as a Physical Chemistry graduate student and studied the photoinduced dynamics of synthetic and biological photoswitches. After earning his Ph.D. in 2021, he moved to The Ohio State University where he completed two postdoctoral appointments. First, he utilized a wide array of spectroscopic and theoretical methodologies to study metalloproteins. Later, he joined the NSF National eXtreme Ultrafast Science (NeXUS) Facility leading the design, building, and validation of the solid and solution phase X-ray absorbance capabilities of the facility.

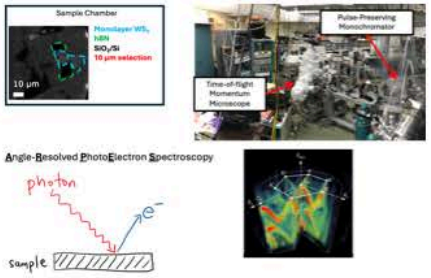
AMO Physics Group: Research

Pérez Ríos group:
Theoretical AMO physics

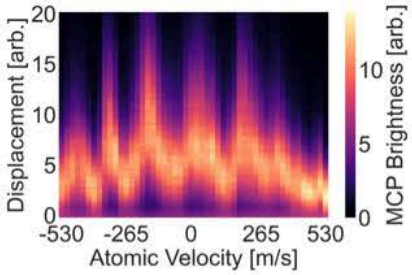
Weinacht group: **Ultrafast spectroscopy and coherent control**



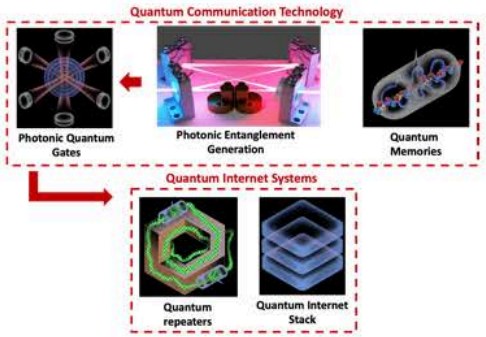
Allison Group: **Frequency combs and ultrafast dynamics**



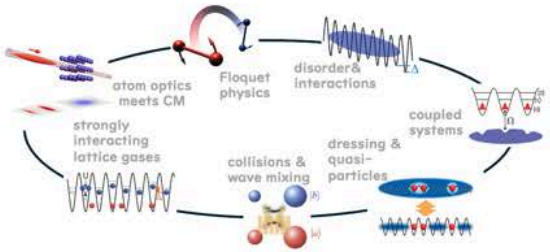
Metcalf group: **Optical forces and laser cooling**



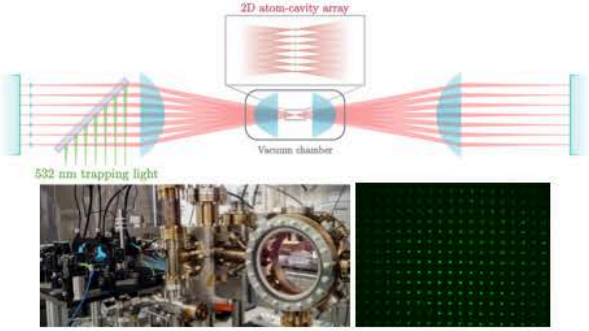
Figueroa group: **Quantum information technology**



Schneble group: **Ultracold atoms and quantum gases**



Kumar group: **Cavity QED with atom arrays**



AMO Physics Group: Research Highlights

A new ultracold Rydberg molecule predicted

communications physics
A Nature Portfolio journal
Article
https://doi.org/10.1038/s42005-025-02162-6

Ultracold long-range van der Waals Rydberg trimers

Mateo Londoño, Vanessa C. Olaya-Agudelo, Felipe Herrera & Jesús Pérez-Ríos

Article | Published: 18 November 2024

Super- and subradiant dynamics of quantum emitters mediated by atomic matter waves

Youngshin Kim, Alfonso Lanuza & Dominik Schneble

Nature Physics **21**, 70–76 (2025) | Cite this article

3502 Accesses | **1** Citations | **88** Altmetric | Metrics

PHYSICAL REVIEW D **110,** 092012 (2024)

Measuring the molecular Migdal effect with neutron scattering on diatomic gases

Yonatan Kahn[1,*] and Jesús Pérez-Ríos[2,3,†]

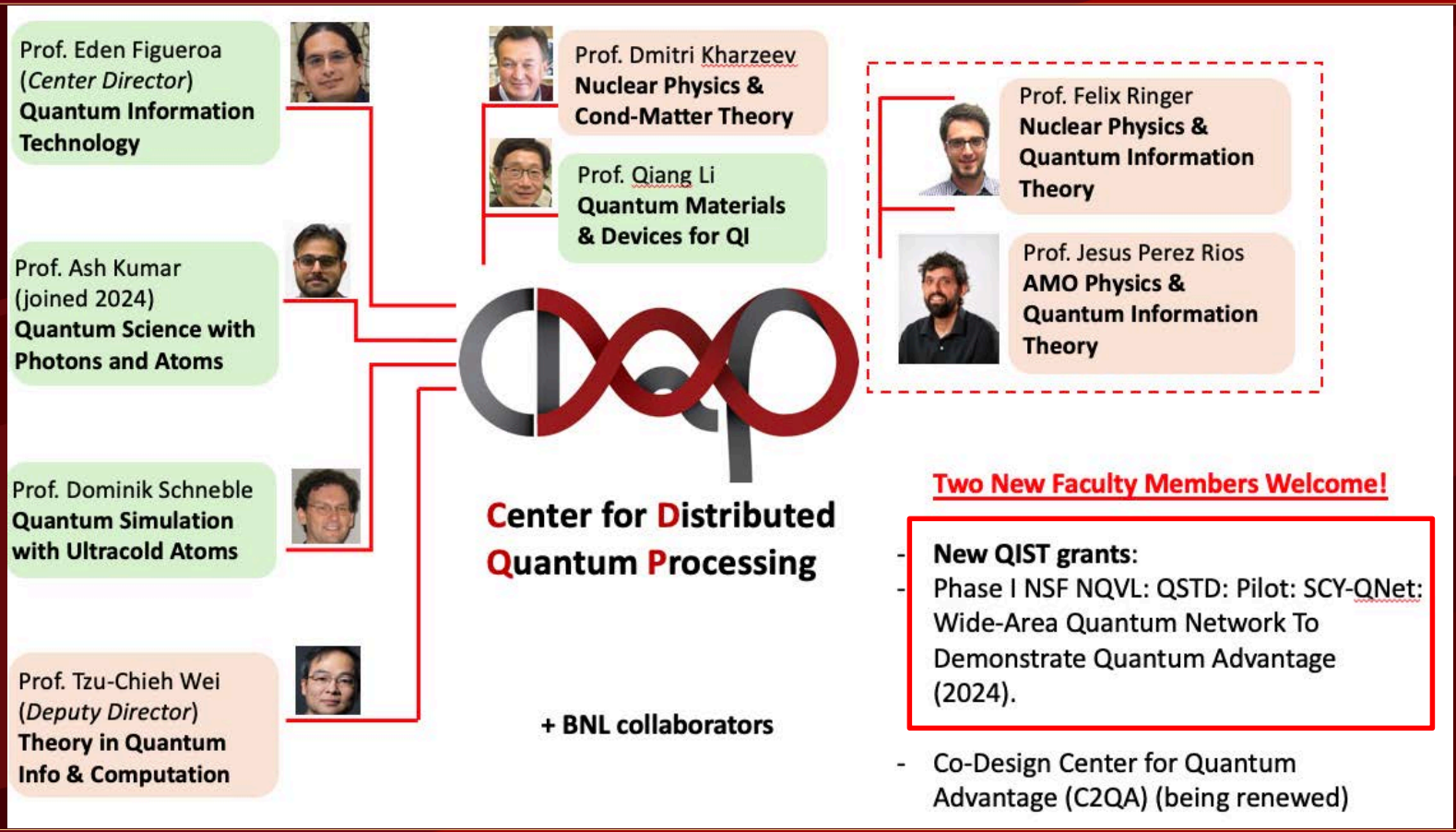
Reaction dynamics of glycolaldehyde: formation and dissociation

AMO Physics Group: Publications

14 publications including 1 in Nature Physics, 1 in Science Advances, several in Phys Rev. A, D and Research

- **Super- and subradiant dynamics of quantum emitters mediated by atomic matter waves,** Youngshin Kim, Alfonso Lanuza, Dominik Schneble, *Nat. Phys. 21, 70 (2025)*
- **Long-lived electronic coherences in molecular wave packets probed with pulse-shape spectroscopy,** Brian Kaufman, Philipp Marquetand, Tamas Rozgonyi and Thomas Weinacht, *Phys. Rev. A 110, 033118 (2024)*
- **Machine-learning models for atom-diatom reactions across isotopologues,** R. Koots, G. Brown and J. Pérez-Ríos, *Phys. Rev. A 110, 032811 (2024)*

Center for Distributed Quantum Processing



Center for Distributed Quantum Processing

CDQP Graduate Fellows (Fall 2023)

Edoardo Buonocore

Dounan Du

Chase Wallace

David Frenklakh (graduated summer 2024)
→ postdoc @ BNL

Anh Nghiem

Zhixiang Hu

Youngshin Kim (graduated spring 2024)
→ postdoc @ Harvard

CDQP Graduate Fellows (Fall 2024)

Hongyi Huang

Luke Dyer
(MA QIST student)

Ivy Huang

Leonardo Castillo

Jacky Chen

New CDQP Graduate Fellows Cohort (Summer-Fall 2025)

Shuyu Zhang (TCW)

Gloria Tedor Garcia (FR)

Eliana Marroquin (DK)

Mahmoud Ibrahim (JPR)

Abhishek Cherath (AK)

Ji Hoon Park (CL)

Center for Distributed Quantum Processing

Selected Publications from CDQP members

- Super- and subradiant dynamics of quantum emitters mediated by atomic matter waves, **Youngshin Kim**, Alfonso Lanuza, Dominik Schneble, Nature Physics **21**, 70 (2025).

- "Estimation of Nonlinear Physical Quantities By Measuring Ancillas," **Nhat A. Nghiem** and Tzu-Chieh Wei, arXiv:/2502.07571.

- "Local symmetries and extensive ground-state degeneracy of a 1D supersymmetric fermionic chain," **Shuyu Zhang**, Hiroki Sukeno, Kazuki Ikeda, and Tzu-Chieh Wei, Phys. Rev. B 111, 235151 (2025).

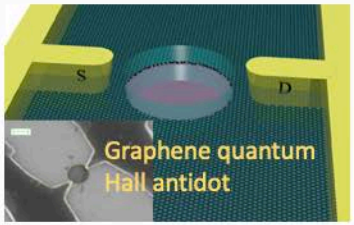
- "Quantum real-time evolution of entanglement and hadronization in jet production," A.Florio, **D. Frenklakh**, K. Ikeda, D. Kharzeev, V. Korepin, S. Shi, K. Yu, Phys. Rev. D 110 (2024) 9, 094029.

- "Bolometric Superconducting Optical Nanoscopy (BOSON)" Ran Jing, **Ji-Hoon Park**, Q. Li, M. Liu, et al Phys. Rev. X **15**, 031027 (2025).

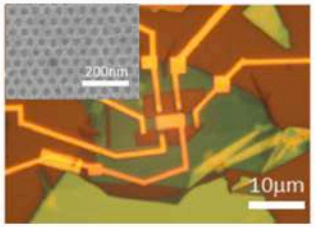
*students highlighted in boldface

Experimental Condensed Matter Group

Quantum Transport in Low Dimensional Materials (Du)



Quantum devices

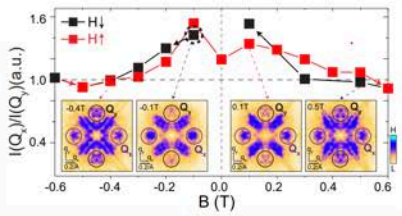


Quantum metamaterials

Spectroscopic Characterization of Correlated Phenomena in Quantum Materials (Blackwell)

Scanning Tunneling Microscope

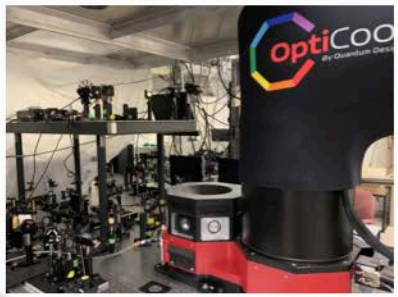
Spectroscopic imaging of superconducting film

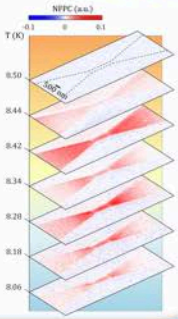


New TT assistant Prof Search

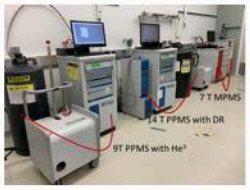
Nano-scale Optical Spectroscopy of Quantum materials (Liu)

Optical/infrared nanoimaging in high magnetic field





Theory/AI/ML Guided Discovery of Quantum Materials/Phases (Li)



Single crystal (including high pressure) & thin film growth

Characterizations at ultra low T, high m-field, P

Condensed Matter Experiment

Selected papers with students/postdocs participations (2024 fall to 2025 summer):
(Blue: SBU students, Green: postdocs, Red: CMP-exp faculties, **Bold: Lead**)

- Nano-Imaging of Landau-Phonon Polaritons in Dirac Heterostructures
  L. Wehmeier, M. Tsuneto, M. Dapolito, W. Zheng, R. Jing...X. Du, Q. Li, ... **M. Liu** ***Science Advance*** (2024).
- Signature of Correlated Insulator in Electric Field Controlled Superlattice, Jiacheng Sun, Sayed Ali Akbar Ghorashi, Kenji Watanabe, Takashi Taniguchi, Fernando Camino, Jennifer Cano, **Xu Du**, **Nano Letters**, 24, 43, 13600–13606(2024)
- "Large non-saturating Nernst thermopower and magnetoresistance in compensated semimetal ScSb" A. Laha, S. Paone, N. Aryal, and **Q. Li**, ***Materials Today, Physics***, 57, 101797, (July 25, 2025)
- "Bolometric Superconducting Optical Nanoscopy (BOSON)" R. Jing, B. Zhou, D. Kang, W. Zheng, Z. Zhou, H. Wang, X. Chen, J. Yao, B. Cheng, J. Park, L. Wehmeier, Z. Dai, S. Chen, C. D. Prainito, G. L. Carr, I. Charaev, D. Bandurin, G. Gu, Q. Li, K. K. Berggren, D. N. Basov, **X. Du, M. Liu**, DOI: https://doi.org/10.1103/f13d-dpdn, ***Phys. Rev. X*** – 15, 031027 (July 25, 2025)
- "Nernst power factor and figure of merit in compensated semimetal ScSb" A. Laha, S. Paone, A. K. Kundu, J. Yao, N. Aryal, E. Vescovo, and **Q. Li**, ***Phys. Rev. B*** 112, 045141 (July 24, 2025)
- "Photocurrent Nanoscopy of Quantum Hall Bulk" R. Jing, B. Zhou, J. Sun, S. Chen, W. Zheng, Z. Zhou, H. Wang, L. Wehmeier, B. Cheng, M. Dapolito, Y. Dong, Z. Du, G. L. Carr, X. Du, D. N. Basov, **Q. Li, M. Liu**, ***Phys. Rev. X*** 15, 021026 (April 23, 2025)
- "Magnetic Weyl semimetals as a source of circularly polarized THz radiation" J. Hansen, K. Ikeda, D. E. Kharzeev, Q. Li, K. Tuchin, ***Physics Open*** 23, 100268, (April 7, 2025)
- "Giant quantum oscillations in thermal transport in low-density metals via electron absorption of phonons" B. Bermond, R. Wawrzyńczak, S. Zherlitsyn, T. Kotte, T. Helm, D. Gorbunov, G. D. Gu, Q. Li, F. Janasz, T. Meng, F. Menges, C. Felser, J. Wosnitza, A. G. Grushin, D. Carpentier, J. Gooth, and S. Galeski, ***Proceedings of the National Academy of Science,*** 122 (10) e2408546122 (March 5, 2025)
- "Revealing the Origin and Nature of the Buried Metal-Substrate Interface Layer in Ta/Sapphire Superconducting Films" A. Anbalagan, R. Cummings, C. Zhou, J. Mun, V. Stanic, J. Jordan-Sweet, J. Yao, K. Kisslinger, C. Weiland, D. Nykypanchuk, S. L. Hulbert, Q. Li, Y. Zhu, M. Liu, P. V. Sushko, A. L. Walter, A. M. Barbour, ***Adv. Sci.*** 2413058 (Feb. 19, 2025)
- "Probing Inhomogeneous Cuprate Superconductivity by Terahertz Josephson Echo Spectroscopy" A. Liu, D. Pavicevic, M. H Michael, A. G Salvador, P. E Dolgirev, M. Fechner, A. S Disa, P. M Lozano, Q. Li, G. D Gu, E. Demler, A. Cavalleri, ***Nature Physics*** 20, 1751 (Sept. 16, 2024)
- "Imaging van Hove Singularity Heterogenity in Overdoped Graphene" **R. Blackwell**, Z. Du, T. Okugawa, A. Kundu, I. Drozdov, A. Rubio, D. Kennes, K. Fujita, A. Pasupathy, **Phys. Rev. B.** *in press*

Condensed Matter Experiment

Research opening

Liu - Nano-scale Optical Spectroscopy lab

2025 fall: PhD students (1), master students (1) undergraduate students (1)

2026 fall: PHD students (1), master students (2) undergraduate students (2)

Li – Quantum Materials Physics Lab

2025 fall: PhD students (2), master students (1) undergraduate students (1)

2026 fall: PHD students (2), master students (1) undergraduate students (1)

Du – Quantum Transport Lab

2025 fall: PhD students (0), master students (1) undergraduate students (0)

2026 fall: PHD students (2), master students (1) undergraduate students (1)

Blackwell – Spectroscopic Characterization Lab

2025 fall: PhD students (1), master students (1) undergraduate students (0)

2026 fall: PHD students (1), master students (0) undergraduate students (2)

Condensed Matter Theory Group

(openings for grad students: ~4-5 students)

Sasha Abanov

Dmitri Averin

Jennifer Cano

Cyrus Dreyer

Marivi Fernandez-Serra

Paul Goldbart

Han Ma

Condensed matter theory group

Goal: To understand and predict material properties for discovery and applications

New platforms and novel phenomena:

2D and topological materials
Superconductors
Liquid/solid interfaces
Soft random solids

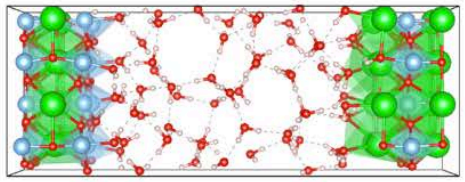
State-of-the-art computational and analytical methods:

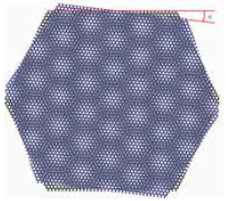
Electronic structure
Machine learning
Molecular dynamics
Many body methods
Statistical field theory

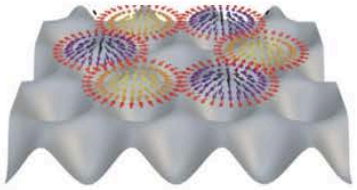
Real-world applications:

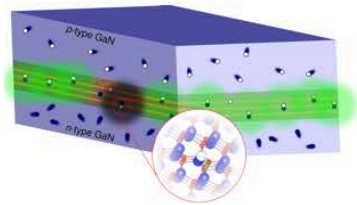
Electronic and optoelectronic devices

Dark matter detection
Quantum computing and control

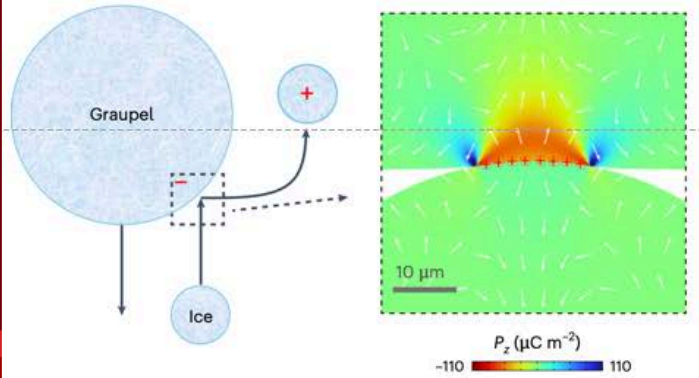






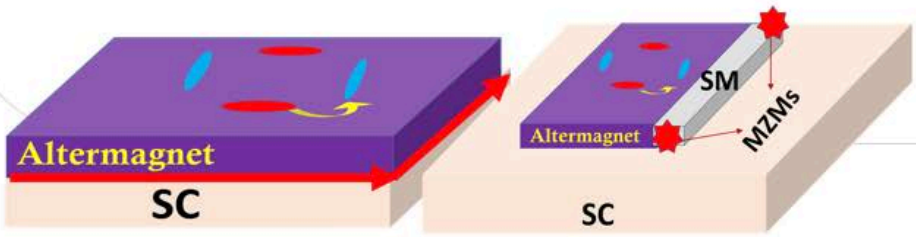


Condensed Matter Theory – Highlights



New Phase transition discovered in the surface of water ice: explains the origin of lightning in clouds is due to the flexoelectric properties of ice.

Flexoelectricity and surface ferroelectricity of water ice, Xin Wen, Qianqian Ma, **Anthony Mannino, Marivi Fernandez-Serra**, Shengping Shen, Gustau Catalan. Nature Physics, Aug 2025.



Majorana fermions in novel magnets

Altermagnetic routes to Majorana modes in zero net magnetization; Ghorashi, Hughes, and Cano, *Phys. Rev. Lett.* 2024
[Selected for PRL Collection of the Year 2024]

Condensed Matter Theory – Selected Papers

Abanov

- The density profile of a Coulomb plasma on a cylinder: boundary oscillations, J. Phys. A: Math. and Theor., 2025; **G. Cardoso,** J-M Stéphan, and A. G. Abanov.
- Emptiness Instanton in Quantum Polytropic Gas, SciPost Phys. 2025; A. G. Abanov and D. M. Gangardt.
- Quantum Geometry of Data, ArXiv: 2507.21135; Abanov et al.

Cano

- Optimizing superlattice bilayer graphene for a fractional Chern insulator, ArXiv: 2505.05551; **D. Ault-McCoy**, **N. Lhachemi**, **A. Dunbrack**, **S.A.A. Ghorashi**, J. Cano
- Quantum-geometric dipole: a topological boost to flavor ferromagnetism in flat bands, ArXiv: 2506.22417; **L. Chen**, **S.A.A. Ghorashi**, J. Cano, V. Crépel
- Majoranas with a twist: Tunable Majorana zero modes in altermagnetic heterostructures, ArXiv: 2507.00119; **A. Hadjipaschalis**, **S. Ghorashi**, J. Cano

Dreyer/Fernandez-Serra

- Fully *ab-initio* all-electron calculation of dark matter-electron scattering in crystals with evaluation of systematic uncertainties, C. Dreyer, R. Essig, M. Fernandez-Serra, **A. Singal**, and **C. Zhen**. Phys. Rev. D, 2024
- First-Principles Nanocapacitor Simulations of the Optical Dielectric Constant in Water Ice, **A. Mannino**, Graciele M. Arvelos, Kedarsh Kaushik, Emilio Artacho, Pablo Ordejon, Alexandre R. Rocha, Luana S. Pedroza, Marivi Fernández-Serra. arXiv:2506.23003
- Flexoelectricity and surface polarization in water ice; Wen, Ma, **A. Mannino**, Fernandez-Serra, Shen, Catalan. Nature Physics, 10.1038/s41567-025-02995-6 (2025)

Goldbart

- Scale-dependent elasticity as a probe of universal heterogeneity in equilibrium amorphous solids; **B. Zhou**, R. Hipolito, P. M. Goldbart, J. of Stat. Phys. 192, 70 (2025)
- Universal mesoscale heterogeneity and its spatial correlation in equilibrium amorphous solids; **B. Zhou, Z. Zhou**, P. M. Goldbart, J. of Phys. A: Math. and Theor. 58, 215002 (2025)
- Proximity-measurement induced random localization in quantum fluids; **P. Mohile**, P. M. Goldbart, ArXiv: 2507.23085

Ma

- Fixed Point Stability Switches from Attractive to Repulsive at 2d Pomeranchuk/Stoner Instabilities via Field-Theoretical RG, ArXiv: 2504.07180; H. Ma

Students, **Post-docs**

Experimental Nuclear Physics

Faculty:

New TT assistant Prof Search

Jan Bernauer

Abhay Deshpande

Axel Drees

Tom Hemmick

Joanna Kiryluk

Research Faculty:
Ross Corliss,
Jaydeep Datta,
Gabor David,
Roli Esha

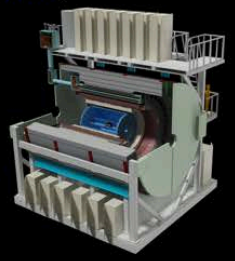
Nuclear Physics ranks #3 in US

Experimental Nuclear Physics

BROOKHAVEN NATIONAL LABORATORY

Bernauer, Corliss, David, Deshpande, Drees, Esha, Hemmick

Quark Gluon Plasma
Spin Structure of Nucleon
Nucleon & Nuclear collisions with PHENIX and sPHENIX at RHIC

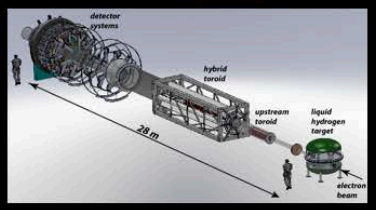


Data analysis and detector operation at sPHENIX

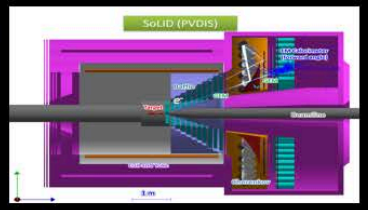
Deshpande, Datta

JL

Precision electron scattering searching for Physics Beyond the Standard Model Studies & nucleon spin structure at 12 GeV e beam at Jefferson LAb



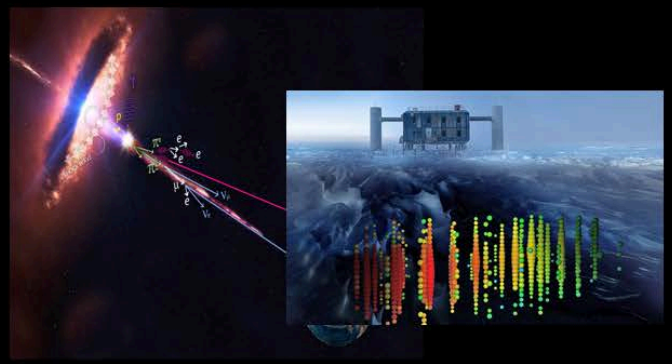
MOLLER



SoLID

Astrophysical PeV neutrinos
IceCube Experiment at Antarctica

Kiryluk

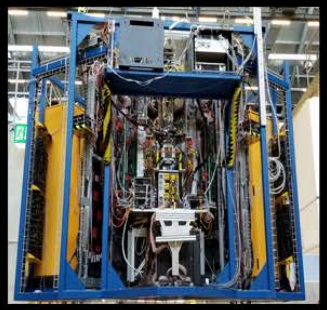


ICECUBE

Bernauer, Corliss (DL)

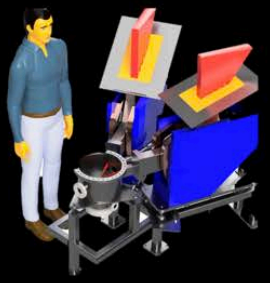
Nucleon Structure, Proton Radius, BSM physics

Lepton Scattering MAMI, DESY, JLAB, PSI, TRIUMF



MUSE experiment at PSI:
Muon-proton scattering

DarkLight experiment at TRIUMF: X17 search



Electron Ion Collider & ePIC Detector

QCD and structure of nucleons

Electron Ion Collider (EIC)

Site selected also Critical Decision 0 : January 2020

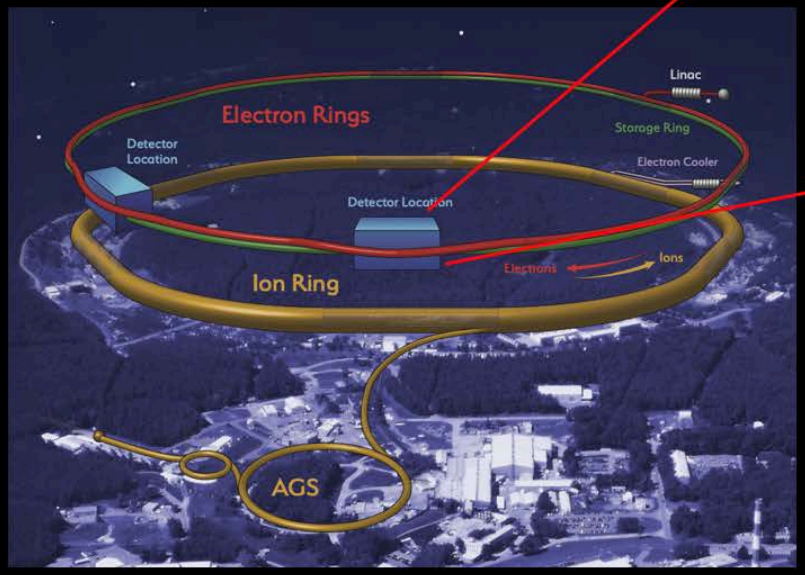
Critical Decision 1 : July 2021

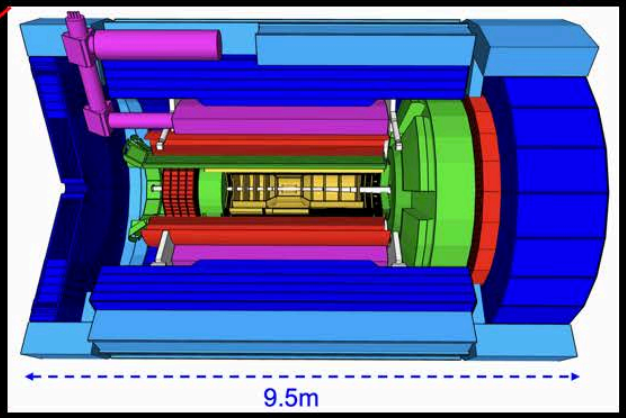
Experimental Proposal selected: March 2022

CD3A March 2023

CD2/3 2025 - Start Construction

CD4 2034





SBU is a major player in the Electron-Proton/ Ion Collider (ePIC) Detector proposal Participation in particle ID, DAQ, beam polarimetry, simulations....

Bernauer, Corliss, Datta, Deshpande, Drees, Esha, Hemmick, Kiryluk

Deshpande also serves as Associate Lab Director for Nuclear & Particle Physics and EIC Science Director at BNL

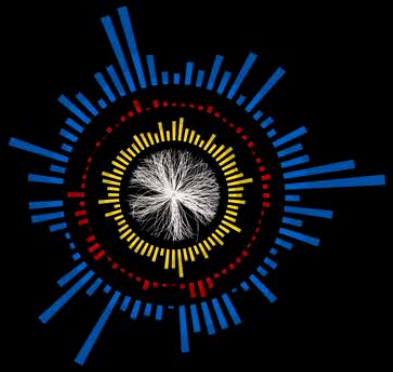
sPHENIX and MOLLER Projects

BROOKHAVEN NATIONAL LABORATORY

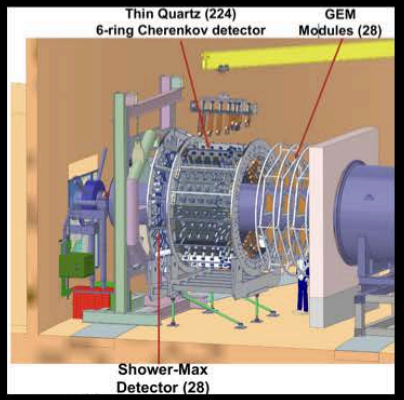
QGP Screening Length, Heavy Flavor Dynamics, Flow
sPHENIX Time Projection Chamber (TPC)
built in the Nuclear Structure Lab at SBU

TPC-only, Summer 2023

sPHENIX, Summer 2025



Flavor and CP-conserving neutral currents, BSM physics
MOLLER GEM Tracker
constructed in the Nuclear Lab at SBU



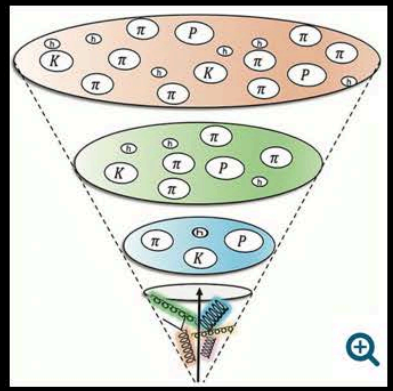
Hemmick also serves as the TPC L2 manager

Bernauer, Corliss, Datta, David, Deshpande, Drees, Esha, Hemmick

Events, News, and Collaboration with BNL

EIC- CFNS (6th) Summer School 2025
39 students from 9 countries + 21 lecturers

Prof. Deshpande appointed Associate Laboratory Director for Nuclear and Particle Physics at Brookhaven National Lab



Physicists at the U.S. Department of Energy's (DOE) Brookhaven National Laboratory and Stony Brook University (SBU) have shown that particles produced in collimated sprays called jets retain information about their origins in subatomic particle smashups. The study was recently published as an Editor's Suggestion in the journal *Physical Review Letters*.

Stony Brook University | Center for Nuclear Theory

Faculty:

D. Kharzeev

F. Ringer

E. Shuryak

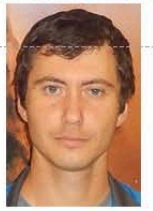
S. Syritsyn

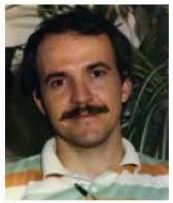
D. Teaney

J. Verbaarschot

I. Zahed



Postdocs:

D. Almaalol

S. Grieninger

F. He

F. Hechenberger





Students:

R. Amorosso

J. Bhambure

J. Leeman

E. Marroquin

N. Miesch

W.Y. Liu

S. Shalamberidze

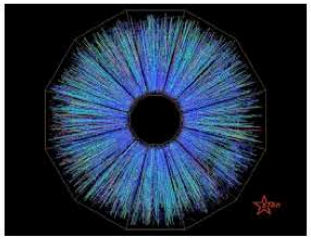
Additional info about the CNT:

www.stonybrook.edu/cnt/

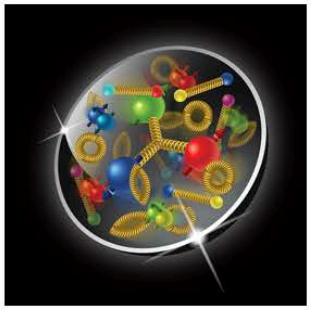
Center for Nuclear Theory

Research in all areas of modern nuclear physics:

1. Finite temperature QCD and heavy ion collisions

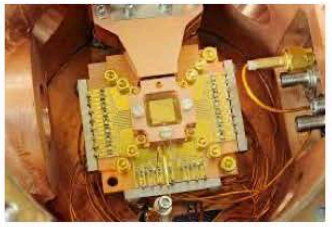


2. Non-perturbative QCD and the structure of nucleons and nuclei; the physics of Electron-Ion Collider



3. Quantum information science and AI in nuclear physics

4. Cross-disciplinary connections of nuclear physics



Research Highlights

[news media coverage]

PHYSICAL REVIEW LETTERS **134,** 111902 (2025)

Editors' Suggestion

Entanglement as a Probe of Hadronization

Jaydeep Datta,[1,*] Abhay Deshpande,[1,2,†] Dmitri E. Kharzeev,[3,4,‡] Charles Joseph Naïm,[1,§] and Zhoudunming Tu[2,¶]

[1]*Center for Nuclear Frontiers in Nuclear Science, Department of Physics and Astronomy, Stony Brook University, Stony Brook, New York 11794-3800, USA*

[2]*Department of Physics, Brookhaven National Laboratory, Upton, New York 11973-5000, USA*

[3]*Center for Nuclear Theory, Department of Physics and Astronomy, Stony Brook University, Stony Brook, New York 11794-3800, USA*

[4]*Energy and Photon Sciences Directorate, Condensed Matter and Materials Sciences Division, Brookhaven National Laboratory, Upton, New York 11973-5000, USA*

PHYS.ORG

A new approach to probe hadronization via quantum entanglement

Phys.org, 10 Apr 2025

EurekAlert! AAAS

Maximal entanglement sheds new light on particle creation

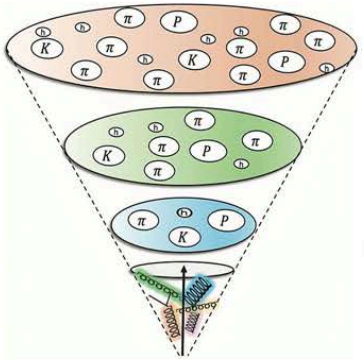
EurekAlert!, 11 Apr 2025

THE DEBRIEF

"Quantum-Level Perspective" of Subatomic Particle Sprays Are Revealing New Quantum Secrets

newswise

Maximal Entanglement Sheds New Light on Particle Creation



Selected list of papers

Names of SBU students are in bold red

W. Y. Liu, I. Zahed, Y. Zhao, "Collins-Soper kernel in the QCD instanton vacuum", Phys.Rev.D 111 (2025) 7, 074022

W. Y. Liu, E. Shuryak, C. Weiss, I. Zahed, "Pion gravitational form factors in the QCD instanton vacuum. I", Phys.Rev.D 110 (2024) 5, 054021

J. Bhambure, R. Singh, D. Teaney, "Stochastic relativistic viscous hydrodynamics from the Metropolis algorithm", Phys.Rev.C 111 (2025) 6, 064910

R. Amorosso, S. Syritsyn, R. Venugopalan, "Entanglement entropy of a color flux tube in (2+1)D Yang-Mills theory", JHEP 12 (2024) 177

D. Frenklakh, D. Kharzeev, G. Rossi, G. Veneziano, "Baryon-number — flavor separation in the topological expansion of QCD", JHEP 07 (2024) 262

A.Florio, **D. Frenklakh**, K. Ikeda, D. Kharzeev, V. Korepin, S. Shi, K. Yu, "Quantum real-time evolution of entanglement and hadronization in jet production" Phys.Rev.D 110 (2024) 9, 094029

New research openings

No new openings at present, unfortunately –

but please do check with us next year!

High Energy Physics (HEP) Group

Hadron Collider Group – ATLAS at LHC


Hannah Arnold


Valerio Dao


John Hobbs


Giacinto Piacquadio


Dmitri Tsybychev

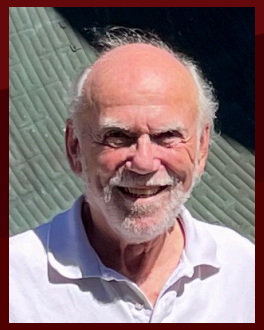
Neutrino and Nucleon decay Group – T2K, DUNE

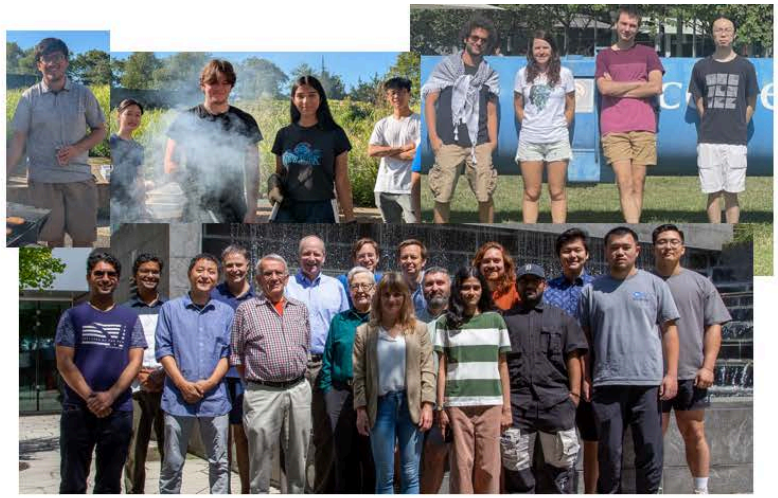
LIGO/Independent


Chang Kee Jung


Clark McGrew

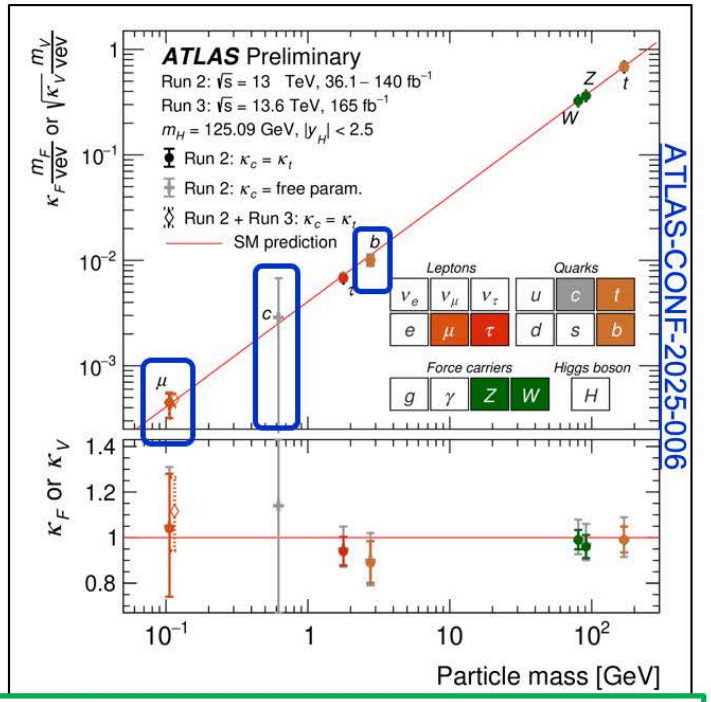

Ciro Riccio


Barry Barish



High Energy Experiment: ATLAS Group

Verify coupling of Higgs boson to fermions (bosons) is proportional to particle mass (mass^2). ***Summer '25 snapshot***



Faculty: H. Arnold, V. Dao, J. Hobbs, G. Piacquadio, D. Tsybychev

Research Faculty: P. Grannis, C. Da Via, C. Bee, D. Schamberger

Post docs: Egor Antipov, Minori Fujimoto, Yesenia Jimenez, Martino Tanasini, Fang-Ying Tsai, Yuhao Wang

Ph.D.: Neil Anderson, Keyi Chen, Storm Lin, Mars Lyukova, Chamathka Wijewardhana, Shanjia Liu, Shangke Zhou, Zhanyu Liu

Masters: Aditya Agarwal, Nirvesh Joshi, Zahin Shahrior

Undergrad: Alo Chakravarty, Will Lancer, Swaraj Pradhan, Wilson Zou, Paul Wu

Breakthrough prize 2025

Leading contributing to measurements of ***Higgs boson*** couplings to fermions:

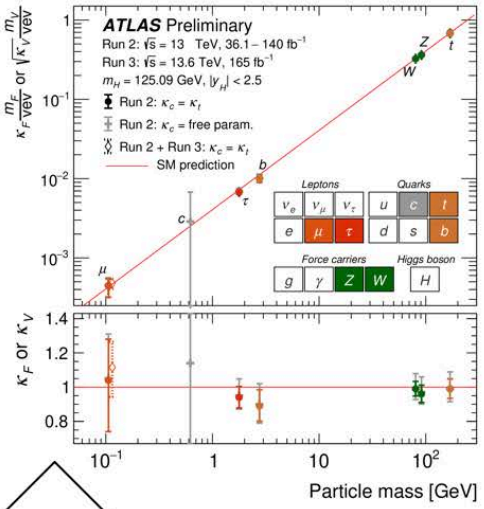
- *H→bb, H→cc,* ***H→μμ*** **[first evidence in ATLAS]**
- *HH→bbττ, HH→leptons*
- *H→ exotic particles*

Recent Physics Highlights of the ATLAS Stony Brook group (2025)

(*) ATLAS coordination roles
Students

Combined Measurements of Higgs boson Production and Decay

Most stringent constraints on Higgs interactions

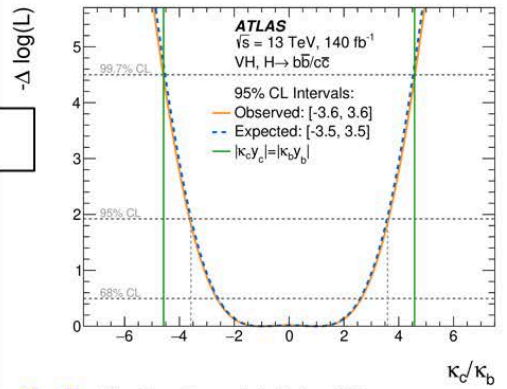


Yuhao Wang (*), Valerio Dao (*)

ATLAS-CONF-2025-006
[paper with more results in preparation]

Measurement of VH, H→bb/H→cc (2024/2025)

Most stringent direct constraints on Higgs-to-quarks interactions



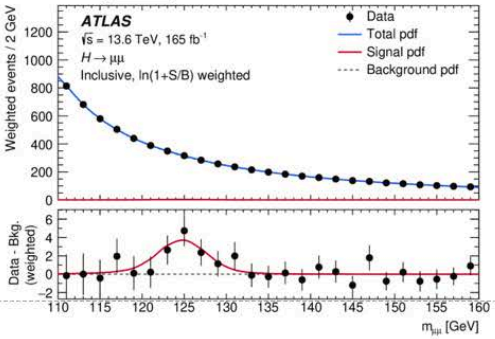
Yan Ke, Martino Tanasini, Yuhao Wang, **Hannah Arnold**(*), Giacinto Piacquadio, Valerio Dao

JHEP 04 (2025) 075

H, H→μμ (2025)

***3σ-evidence** for Higgs-muon interactions*

[2nd data point in top left plot]



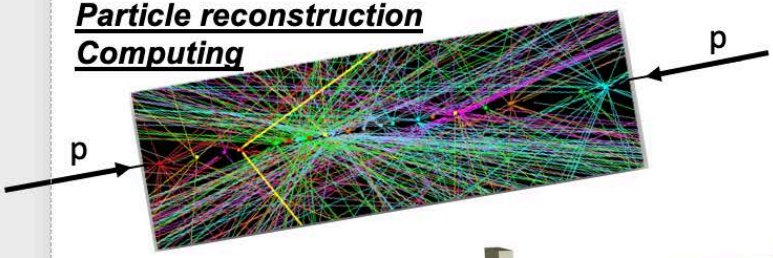
S. Liu, E. Antipov, S. Zhou

arXiv:2507.03595
[submitted to PRL]

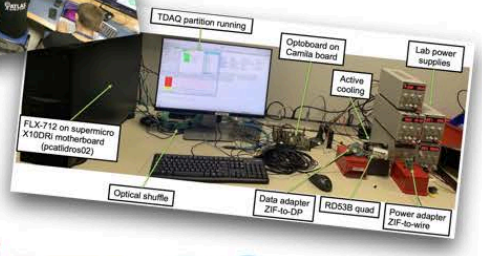
LHC Run 3 already collected more data than previous Run 2: more exciting results coming soon

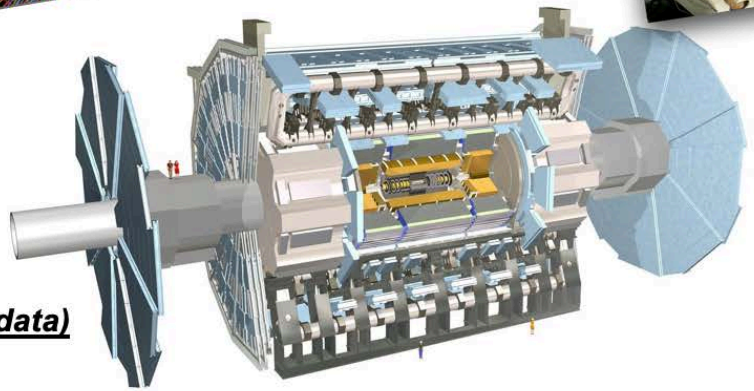
High Energy Experiment: ATLAS Group

Particle reconstruction
Computing



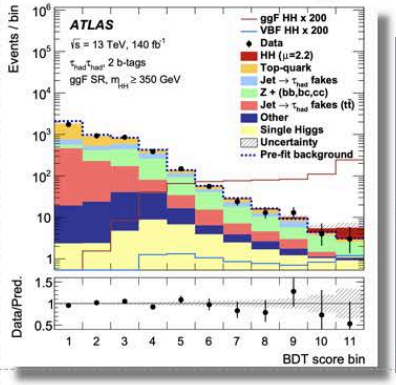
Detector operation / construction and commissioning
(Calorimeter/Si Tracker)

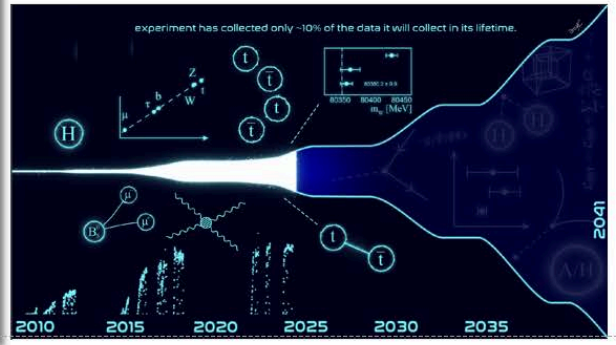




ATLAS EXPERIMENT

Physics (data) Analysis





LHC: present **FCC**: future

Only 10% of total data already collected (5% analysed)

2025 Physics Highlights of the ATLAS Stony Brook group

(*) ATLAS coordination roles

[Submitted on 4 Jul 2025] **Submitted to PRL**

Evidence for the dimuon decay of the Higgs boson in pp collisions with the ATLAS detector

ATLAS Collaboration

D. Tsybychev, E. Antipov, Shanjia Liu

JHEP

Published for SISSA by Springer
Received: October 28, 2024
Accepted: March 14, 2025
Published: April 10, 2025

Measurements of WH and ZH production with Higgs boson decays into bottom quarks and direct constraints on the charm Yukawa coupling in 13 TeV pp collisions with the ATLAS detector

Yan Ke, Martino Tanasini, Yuhao, Wang, **H. Arnold(*)**, G. Piacquadio, V. Dao

Search for CP violation in WH production in 13 TeV pp collisions with the ATLAS detector

The ATLAS Collaboration

V. Dao

ATL-PHYS-PUB-2025-018

Highlights of the HL-LHC physics projections by ATLAS and CMS

The ATLAS[1] and CMS[2] Collaborations

Yesenia Jimenez, Yuhao Wang, V. Dao, H. Arnold

Combined measurements of Higgs boson production and decay at $\sqrt{s}$ = 13 TeV using up to 140 fb^{-1} of data collected by the ATLAS Experiment

The ATLAS Collaboration

Yuhao Wang(*), V. Dao(*)

ECFA Higgs, electroweak, and top factory study

V. Dao

https://arxiv.org/pdf/2506.15390

[Submitted on 25 Apr 2025]

Future Circular Collider Feasibility Study Report: Volume 1, Physics, Experiments, Detectors

https://arxiv.org/abs/2505.00272

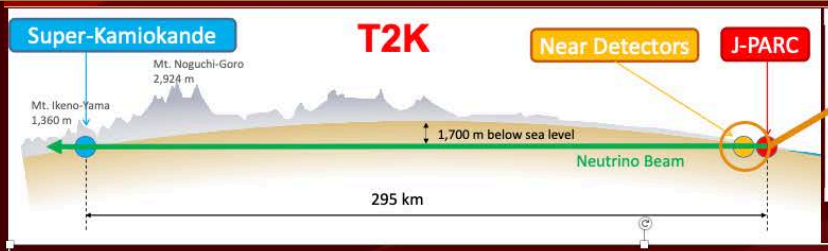
H. Arnold, J. Hobbs, V. Dao, G. Piacquadio

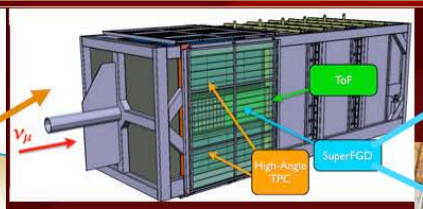
Stony Brook Neutrino and Nucleon decay (NN) Group

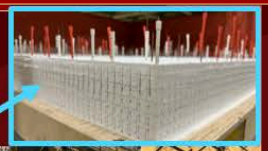
Scan me

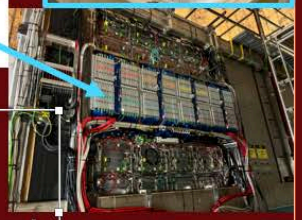
- Faculty: C.K. Jung, C. McGrew, C. Riccio
- Research Faculty: C. Yanagisawa
- Distinguished Endowed Chair in Physics Professor: B. Barish
- Adjunct Faculty: X. Qian (BNL), E. Worcester (BNL), M. Wilking (U. of Minnesota)
- Postdocs: W. Shi, U. Yevarouskaya, S. Joshi
- Graduate Students: A. Teklu, M. Jia, J. Ji, H. Zheng, K. Mahtani, R. Fanantenana Razakamiandra, A. Heindel, J. Smith
- Masters and Undergrads: H. Wolf (MA), I. Segal-Gould (M), D. Guarnieri, S. Chou

NN Group Research Overview

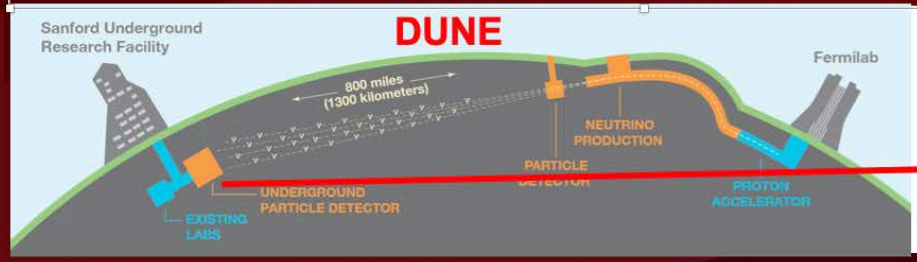


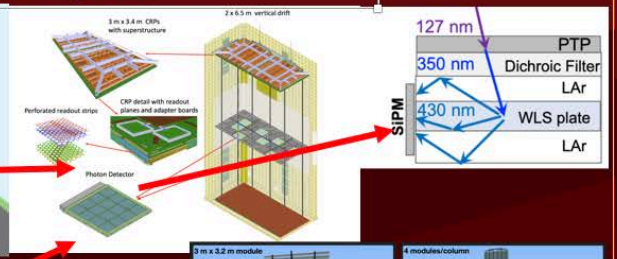


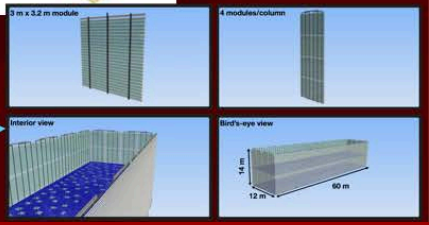




- Current generation: T2K experiment in Japan
  - Group heavily involved in every aspect of the experiment
  - ND280 upgrade first physics data June 2024 now being analyzed
  - T2K-only and joint SK+T2K and T2K+NOvA analyses

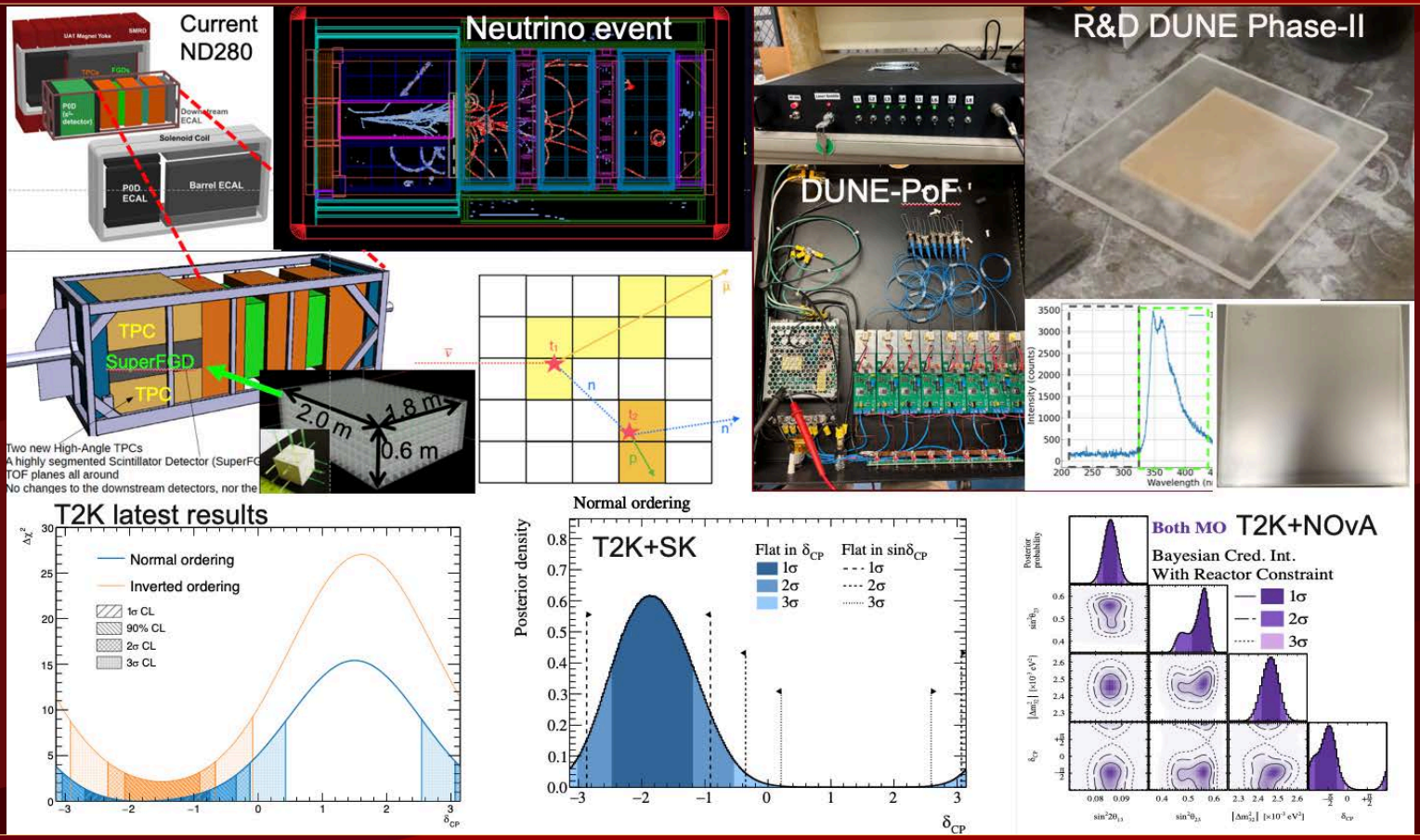






- Next generation: DUNE experiment in US
  - Photon detection system for second far detector module
  - Phase II third far detector module
  - New tool (GUNDAM) being used in Oscillation Analysis

NN Group Research Highlights



NN Group recent publications and positions open

- S. Abe *et al.* (Grad student contributing: H. Zheng) “Introducing a Markov Chain-Based Time Calibration Procedure for Multi-Channel Particle Detectors: Application to the SuperFGD and ToF Detectors of the T2K Experiment”, arXiv:2508.07846 [physics.ins-det]
- T2K and Super-Kamiokande Collaboration (Grad student contributing: J. Jiang, M. Jia), “First joint oscillation analysis of Super-Kamiokande atmospheric and T2K accelerator neutrino data”, Phys. Rev. Lett. 134 (2025) 011801
- A. Agarwal *et al.* (Grad student contributing: A. Teklu), “Total Neutron Cross-Section Measurement on CH with a Novel 3D-Projection Scintillator Detector”, Phys. Lett. B 840 (2023) 137843
- T2K Collaboration (Grad student contributing: K. Wood), “Measurements of neutrino oscillation parameters from the T2K experiment using 3.6E21 protons on target”, Eur. Phys. J. C 83 (2023) 9, 782
- DUNE Collaboration (Grad student contributing: J. Jiang, M. Jia), “Design, construction and operation of the ProtoDUNE-SP Liquid Argon TPC," JINST 17 (2022) no.01, P01005

Positions open: 2 grad students, 1 master and 1 undergrad

C.N. Yang Institute for Theoretical Physics [YITP] (I)

Broad Coverage of Theoretical Physics

Quantum information, statistical mechanics
Particle and collider physics, dark matter, cosmology
Field & string theory, mathematical physics

20+ students working in a variety of areas. Study is arranged as with other DPA faculty and research groups. SCGP Physics Permanent Members are YITP Faculty

-- Collaborating with the Department & maintaining strong ties to Brookhaven theory groups, including opportunities for student research.

The full faculty . . .


Y
Nikita
I
Concha
T
Luis
P
George
Leonardo
Zohar
Rouven
Peter
Martin
Vladimir
Nat
Yinchen
Tzu-chieh
Robert
Patrick
Vivian
Alexander
(Sasha)
JoAnne
(BNL)

YITP (III)

Examples of recent publications, many with students.

High Energy Physics, Astrophysics & Cosmology, . . .

How charming can the Higgs be?

Artemis Giannakopoulou, Patrick Meade, Marco Valli

Drell-Yan production in universal theories beyond dimension-six SMEFT

Jay Desai, Maria C. Gonzalez-Garcia, et al, Phys. Rev.

Direct constraints on strongly-interacting dark matter from the James Webb Telescope

Hailin Xu, Rouven Essig et al. Phys. Rev. Letters

Editor's suggestion

Attention-based neural network emulators . . .

Yijie Zhu, Evan Saraivanov, Artemis Giannakipoulou, Amritar Nijjar, Vivian Miranda, et al.

Cosmo group preparing:

YITP (IV)

Fields, Strings & Math-Phys . . .

The superconformal index for 4d N=4 SCFTs

Anirudh Deb, Leonardo Rastelli

Symmetric product orbifold universality and the mirage Of an emergent spacetime

Waltraut Knop et al.

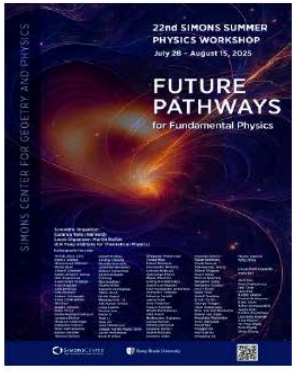
Strings and membranes from string theory five brane

Yu-Ping Wang

Chen-Simons-matter conformal field theory on fuzzy sphere

Yin-Chen He et al

22nd Simons Summer Workshop. Martin Rocek et al. bringing the world to Stony Brook each summer



YITP (V)

Quantum Information, Condensed Matter and Related . . .

Higher order topological phases protected By non-invertable and subsystem symmetries …
Aswin Parayil Mana, Yabo Li, Hiroki Sukeno, Tzu-Chieh Wei

Almost local integrable models from Supersymmetry algebras
Vladimir Korepin

Efficient preparation of solvable anyons with adaptive quantum circuits
Nathanan Tantivasadakarn, Y. Ren

+ many ongoing projects in "beyond standard model"; dark matter & astroparticles; cosmology; neutrino and QCD phenomenology; field & string theory, bootstrap and conformal, solvable models, quantum information . . .

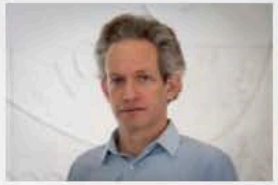
SCGP

Mission

- Research in Theoretical Physics snd Geometry, understood in general terms
- Service to the community. Organizing and running workshops and programs
- Outreach for the university and the community around it

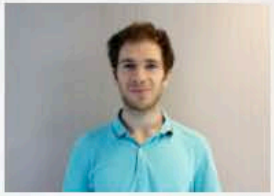
Simons Center Senior Faculty (Physics and Math)

Director: Luis Álvarez-Gaumé (Physics)

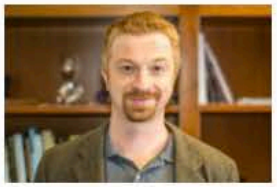


Deputy Director: Samuel Grushevsky (Math)

Zohar Komargodski (Physics)



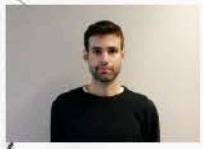
John Pardon (Math)



Nikita Nekrasov (Physics)

Simons Center - Current postdocs

PHYSICS

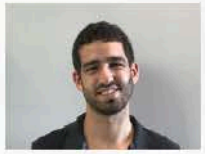


Diego Delmastro

Pietro Ferrero

Justin Kulp

Avia Raviv-Moshe



Adar Sharon

MATH

Gorapada Bera

Juan Munoz-Echaniz

Filip Zivanovic

SIMONS CENTER FOR GEOMETRY AND PHYSICS

Stony Brook University

Seminars and Events

Regular Seminars

SCGP Weekly Talk: Tuesday, 1:15pm, SCGP 102
Colloquium style talk for general audience of physicists and mathematicians

Physics Seminar: Wednesdays, 2:00pm, SCGP 313
Theoretical physics seminar

Special Events

Follow for all updated schedules and announcements of public lectures,
art and cultural events, etc

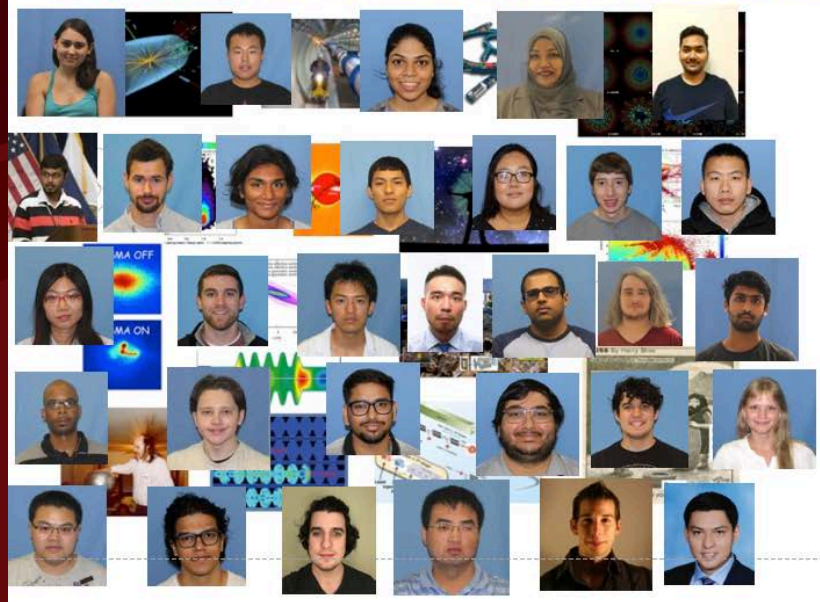
CENTER FOR ACCELERATOR SCIENCE AND EDUCATION

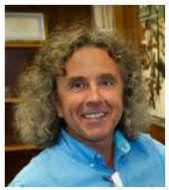
CASE
CENTER FOR ACCELERATOR SCIENCE AND EDUCATION

Ernest Courant Traineeship in Accelerator Science and Technology

https://www.stonybrook.edu/commcms/case

Renewed $2.9M traineeship award from the DOE HEP office. The program includes prestigious **"Certificate in Accelerator Science and Engineering"** and 2 years of support for qualified graduate students





Vladimir Litvinenko

Navid Vafaei-Najafabadi

Prof. Vafaei-Najafabadi serves as Chair of BeamNetUS, guiding its growth and direction.

beamNetUS
accelerating beam-based research

Accelerator Physics research

EIC, Coherent electron Cooling, Polarized Gatling Gun, Super-conducting RF system, Laser-plasma accelerators, Future Colliders, Quantum Computing

CASE grants and awards exceeded $5M

New TT assistant Prof Search

Important publications:

Plasma electron acceleration driven by a long-wave-infrared laser, R. Zgadzaj, Nat. Commun, **15**, 4037 (2024)
Efficient numerical algorithm for multi-level ionization of high-atomic-number gases, A. Cheng, Phys. Plasmas **31**, 044503 (2024)
The science case for an intermediate energy advanced and novel accelerator linear collider facility, S.S. Bulanov, J. Inst **19** T01010 (2024)
3D theory of microscopic instabilities driven by space-charge forces, V. N. Litvinenko, Phys. Rev. Accel. Beams **26**, 054402 (2023)
Linear colliders based on laser-plasma accelerators, C.B. Schroeder, J. Inst **18** T06001 (2023)
Mapping the self-generated magnetic fields due to thermal Weibel instability, C.J. Zhang, Proc. Natl. Acad. Sci. U.S.A., 119 (50) e2211713119 (2022)

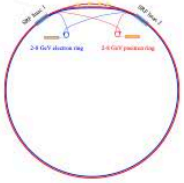
Main research projects

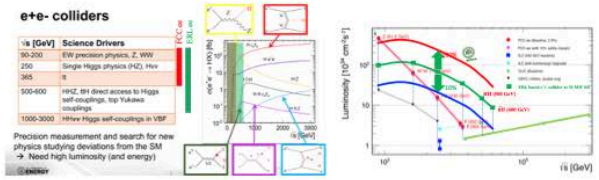
CASE
CENTER FOR ACCELERATOR SCIENCE AND EDUCATION

EIC & future colliders

- Coherent electron Cooling experiment at RHIC - demonstrating the process necessary for Electron Ion Collider to reach $10^{34}/(cm^2sec)$ luminosity

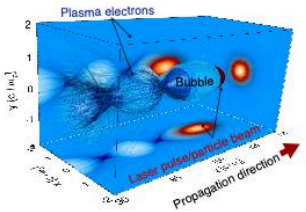
- Environmentally-friendly e^+e^- collider for Higgs and BSM physics with the c.m. energy and luminosity beating other competing proposals

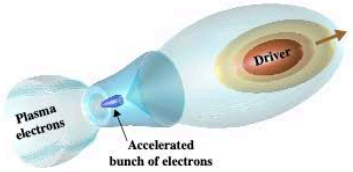




Wake-Field Accelerators

- Laser-driven plasma accelerator generated by ATF's unique high-power CO_2 laser
- Injection and acceleration sub-fs electron beams in particle-beam driven plasma waves
- Research relevant to laser-driven plasma fusion.





Join Us

CASE
CENTER FOR ACCELERATOR SCIENCE AND EDUCATION

- CASE offers outstanding research opportunities: plasma wakefield accelerators, generation of polarized and unpolarized high brightness beams, 21st century beam-cooling techniques, electron-ion collider at BNL and energy frontier e^+e^- collider, machine learning and ion-beam based quantum computers
- The Ernest Courant Traineeship offers support for qualified graduate students (currently seeking 3 MS and PhD students), and the opportunity of Certificate for highly sought-out specialties
- This semesters we are offering two courses: Intro Accelerator Physics and Cryogenic System engineering

The Laufer Center

The physics of biomolecules & cells

Chair's Col

niversity

Laufer Center questions

- *How do biomolecules achieve their functions?*

  Physics, computation & machine learning.

- *How do cells adapt to environments?*

  Physical principles of homeostasis & evolution.

- *How do networks make decisions?*

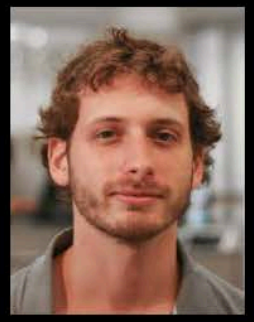
  Network flows & control in cells & brains.

Laufer Center New Faculty

David Glass (Sept, 2025)

Synthetic biology.

How multicellularity arose.



Lina Carlini

Forces, energies, flows inside cells.

Eugene Serebryany

Protein misfolding & aggregation.

Activities & Recognition

SBU Investiture

4 Endowed Laufer Center faculty

Origins of Life Meeting

Laufer Center hosted
international meeting

U.S. News and World Report Rankings

- Global Discipline Ranking
  - ¬Comprehensive Ranking
    - Publication
    - Citation
    - Reputation
    - International collaboration
  - ¬Survey, a year prior to the publication
- SBU Physics Global 2025-2026: #39
  - ¬(2024-2025: #47) (2023-2024: #77)
- SBU Physics National 2025-2026: #19
  - ¬(2024-2025: #21) (2023-2024: #27)

Source: US News and World Report
Prepared by the SBU Division of Educational and Institutional Effectiveness, Aug. 18, 2025

Year of publication	Physics Global Ranking	
	Overall	US
2015-16	59	*
2016-17	53	*
2017-18	50	*
2018-19	55	*
2019-20	61	*
2020-21	73	*
2021-22	70	*
2022-23	63	*
2023-24	77	27
2024-25	47	21
2025-26	39	19

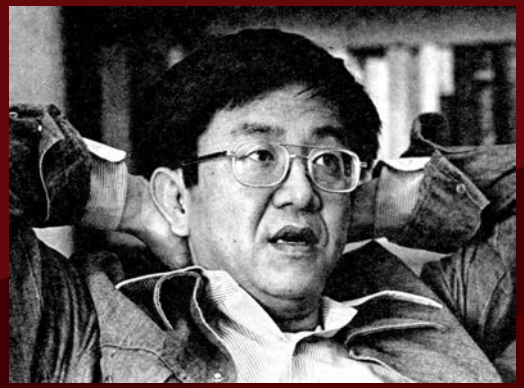
US News and World Report Global Physics Rankings: U.S. Universities above SBU P&A

- Private
  1. MIT
  2. Harvard ↑
  3. Stanford ↓
  5. Caltech ↓
  6. Chicago ↑
  7. Princeton ↓
  8. Columbia ↑
  11. Cornell ↓
  16. Yale ↓
  20. Northwestern ↑
  21. UPenn ↓
  22. Duke ↑
- Public
  4. UC Berkeley ↓
  9. U. of Washington ↑
  10. UC Santa Barbara ↓
  12. U. of Maryland ↑
  13. U. of Michigan
  14. U. of Illinois ↓
  15. U. Texas, Austin ↓
  17. UCLA
  18. Penn State ↑
  19. Stony Brook U ↑
  23. U. of Colorado ↓
  24. U. of Wisconsin-Madison ↓
  25. Ohio State ↓

The Benjamin Whisoh Lee (Ben Lee) Endowed Fund for Excellence in Physics

"*I'm writing to let you know that the fund agreement to establish the Benjamin Whisoh Lee Endowed Fund for Excellence in Physics has now been finalized with signatures from Geoff Lee (copied) and Stony Brook leadership.*" – Mike D'Ambrosio

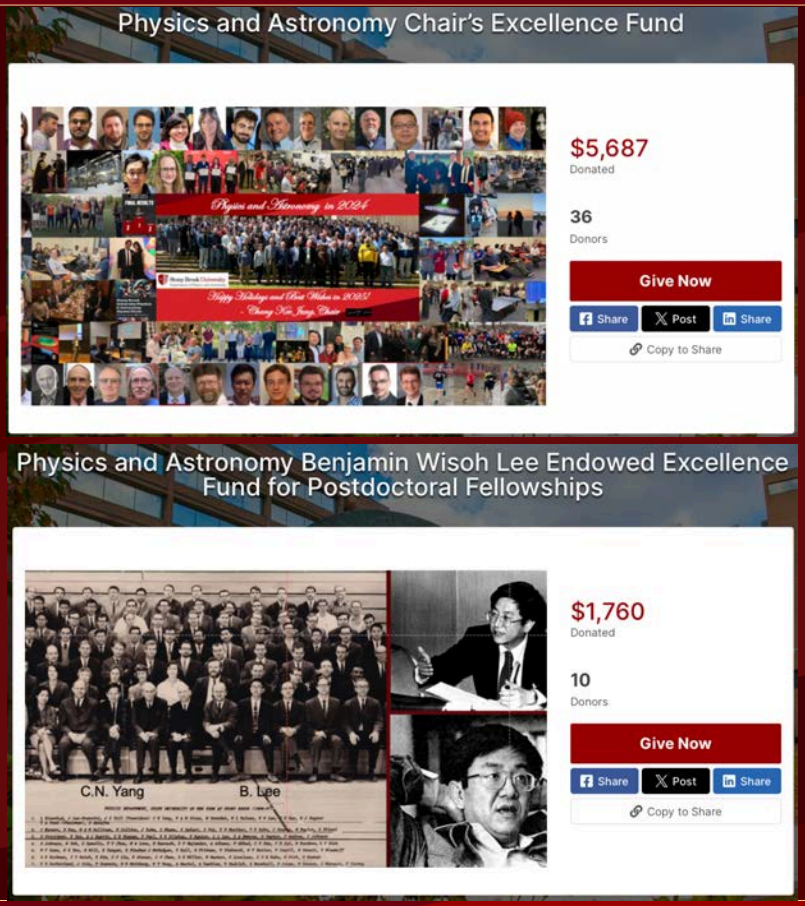
"*The Fund shall be established to cultivate, sustain and further excellence in the College of Arts and Sciences, Department of Physics and Astronomy at Stony Brook. The Fund shall provide support to the Department, for postdoctoral research awards.*"



A link for online donations will be provided so that others at Stony Brook and outside can make contributions to the fund.

I expect that the funds will be usable in 2-3 years.

Giving Day, March 26, 2025



Total Donated: $7,447

Total number of Donors: 46

Total Donors	46 total
Faculty/Staff	26 total
(unique)	23 total
Alumnus/a	7 total
(unique)	6 total
Friend	4 total
Current Student	1 total
Abroad (Korea)	2 total

Some comments:

past hospitality funds, etc.

Usage of the fund

The 2nd Annual P&A Alumni Circle Meeting

📅 Date/Time: Wednesday, March 5, 2025 | 5:30 - 8:30 PM
📍 Venue: Freemans (The Red Room) | Freeman Alley, New York, NY 10002
💰 Fee: $200 per person
📩 RSVP Now: https://forms.gle/wUzsSVbwWVL9zQct6
Seats are limited—secure your spot soon!

Featuring Special Guests:
Dr. Barry Barish – 2017 Nobel Laureate in Physics, awarded for his groundbreaking contributions to the LIGO detector and the first-ever observation of gravitational waves.
Dr. Chang Kee Jung – Department Chair and Distinguished Professor of Physics at Stony Brook University.
Dr. Eden Figueroa – Leading researcher in quantum information science and quantum internet.
Dr. Angela Kelly – Associate Director of the Institute for STEM Education, advancing quantum education through QuEST.

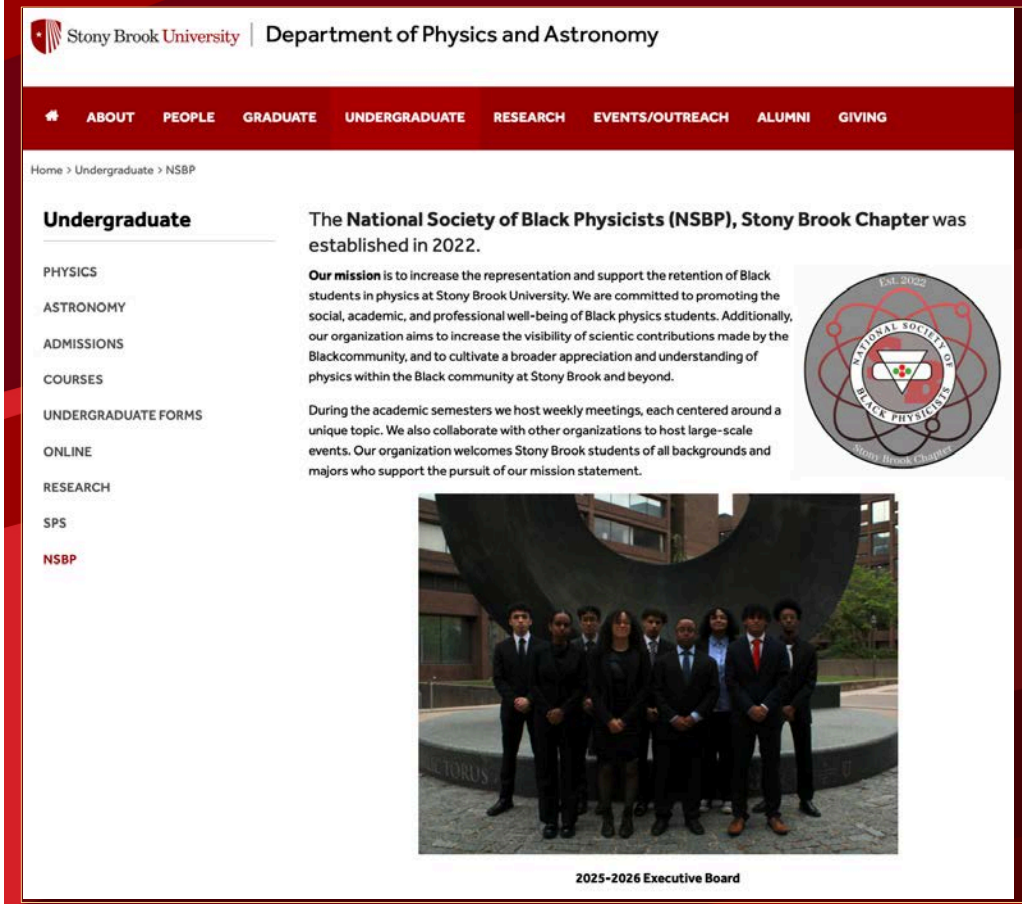
Theme: "Quantum"

2025 marks the International Year of Quantum Science and Technology (IYQ 2025), celebrating 100 years since the development of quantum mechanics. As a global leader in quantum research, Stony Brook Physics continues to advance the field, shaping the future of science, technology, and education.

The 2nd Annual P&A Alumni Circle Meeting

Next Meeting being planned at Stony Brook in Fall 2025

Department Website

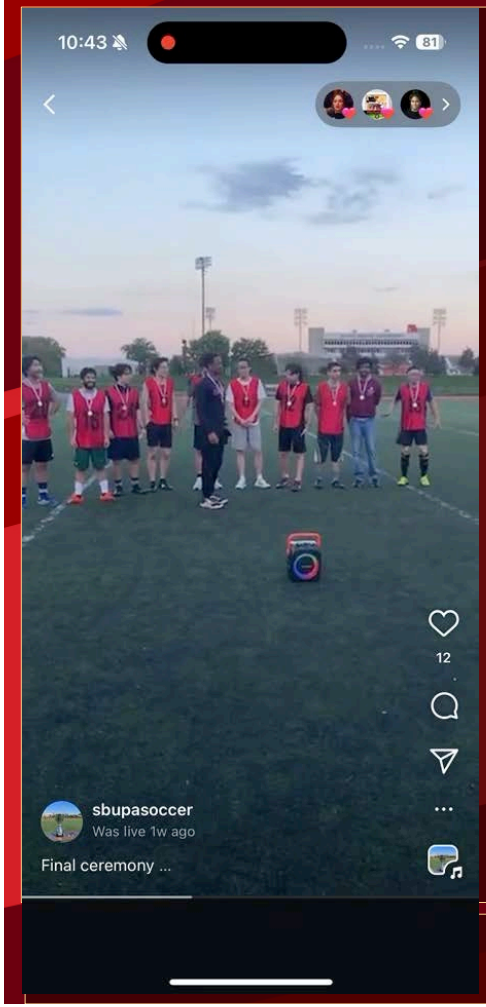


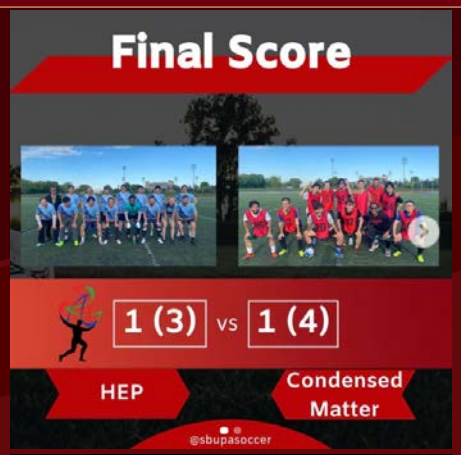
- The website is continuously updated and maintained by the Web Czar
- The contents are managed by the Department Chair
- The most visited academic website on campus other than the SBU homepage*

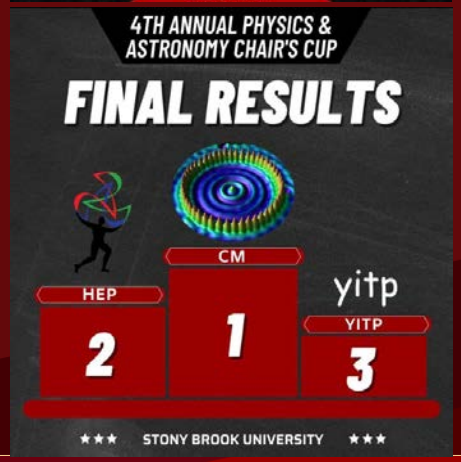
New NSBP-SBU Webpage

Anthony Mannino
Department Web Czar

4th Annual P&A Chair's Cup Soccer Tournament



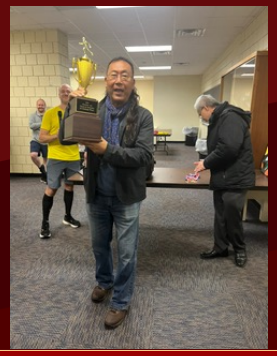




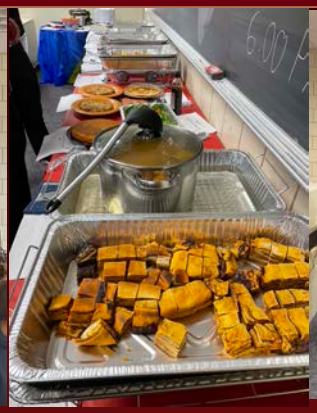
Condensed Matter wins the 4th Chair's Cup Championship beating HEP in a penalty shootout at the thriller final!

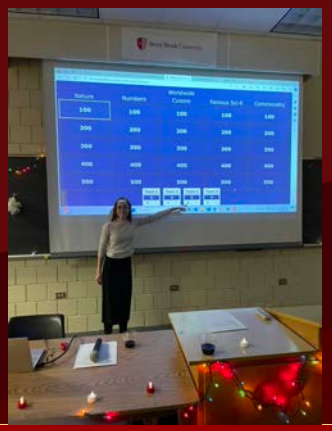
Inaugural Chemistry and P&A 5K Challenge

- Monday, December 9, 2024
  - ¬The event went exceptionally well despite the rainy weather
  - ¬About 60 participants → The winning department: P&A



2024 Department Holiday Party

Faculty Achievement Appreciation Reception

(May 2025)

→ Will become Faculty/Staff Appreciation Reception in 2026

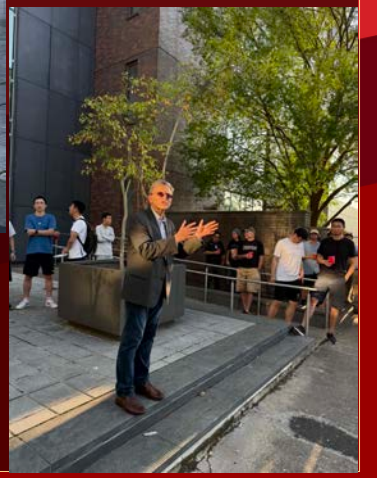
Stony Brook University

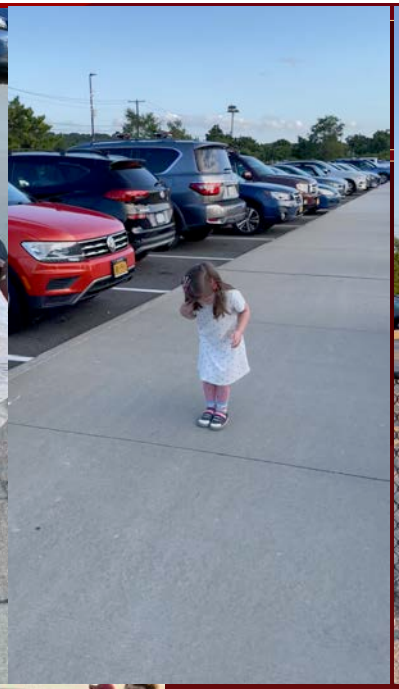
Department Summer Socials

- Accelerator Physics (AP)
- AMO
- Astronomy
- CM
- HEP
- NP-1 (CFNS)
- NP-2
- Physical Biology (Laufer)
- YITP
- SCGP
- BNL
- Chemistry

May 30 – First Social: PGSA+Chair
June 6 – NP-1 (CFNS)
June 13 – No Social
June 20 – YITP
June 27 – AP+Laufer Center
July 4 – No Social (4th of July)
July 11 – AMO
July 18 – HEP
July 25 – NP-theory
August 1 – CM
August 8 – Astronomy
August 15 – **BNL**
August 22 – Last Social:PGSA+Chair

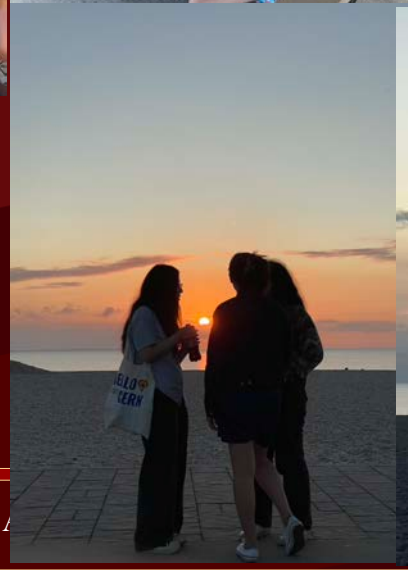
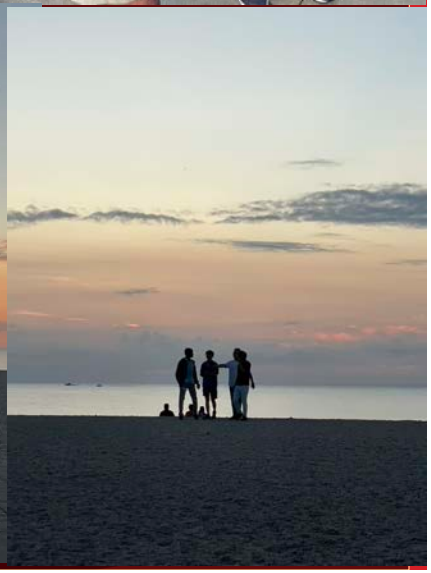
Friday BBQ Social Hosted by BNL







Department Picnic
West Meadow Beach

Chang Kee Jung Dept. of Physics and A

In closing, let's continue working together to improve the department and make it a warm, welcoming and fun place with high academic excellence, where everyone wants to come.

See you all at the P&A Department Picnic

Friday, Sep. 19, 4:30 pm

West Meadow Beach

Thank you 🙏

The End