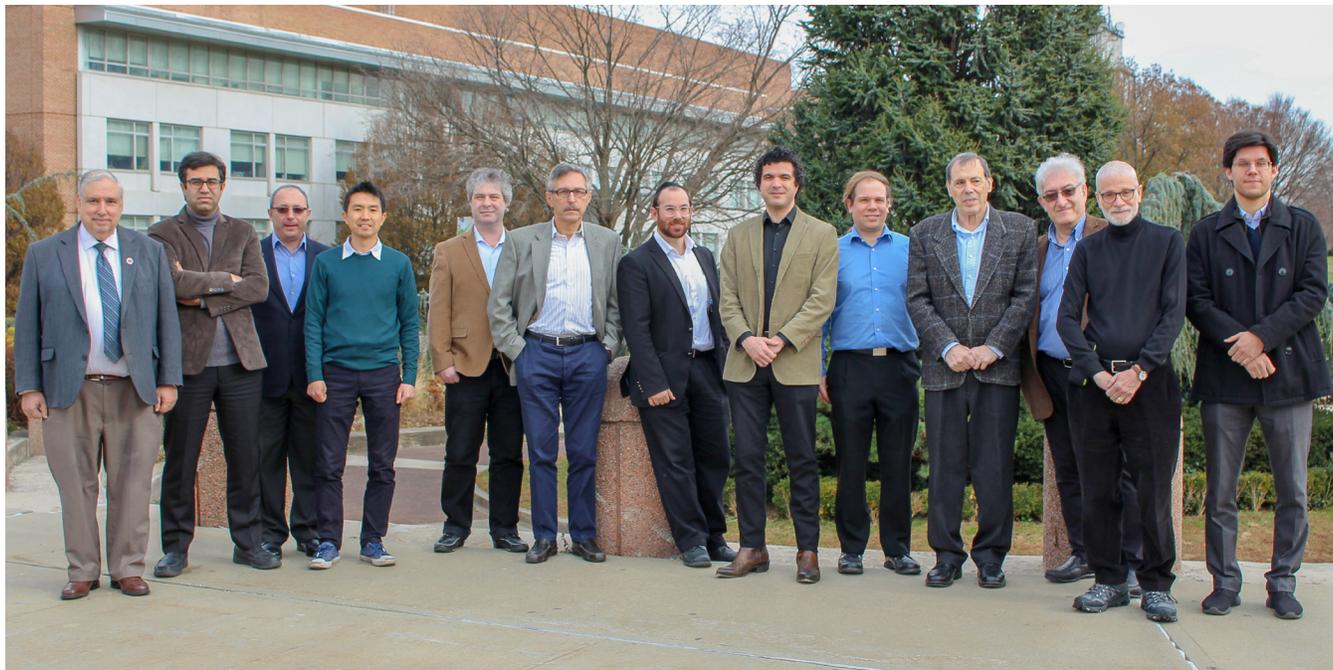


ALUMNI NEWS

QUEENS COLLEGE • DEPARTMENT OF PHYSICS • SPRING 2019



2019 Physics faculty (from left to right): Steven Schwarz (chair), Mohammad Ali Miri, Igor Kuskovksy, So Takei, Lev Murokh, Alexander Lisyansky, David Goldberg, Euclides Almeida, Timothy Benseman, Azriel Genack, Lev Deych, Larry Liebovitch, Matthew Civiletti.

A Message from the Chair



Steven Schwarz

I am delighted to provide you with our annual update on activities in the Department of Physics, and to wish you a happy and healthy 2019. The college's annual letters have a new format, as you can see, which allows us to post news about our alumni, students, and faculty. If you have news to share with us, or if you have any questions or suggestions, please send us an email at the address below. I also want to take this opportunity to thank our generous donors, and to invite donations in 2019 that will allow us to better support our students through scholarships and enhanced laboratories and classrooms.

The number of physics majors at Queens College has more than doubled in the last decade, and alumni contributions have played a major role in our growth.

Cordially,

Steven Schwarz, Chair
718-997-3350
info@physics.qc.cuny.edu

Make a Donation

To make a donation, please send a check (*designated to the Department of Physics*) to

Queens College Foundation
Kiely Hall, 9th Floor
65-30 Kissena Blvd.
Queens, NY 11367-1597

OR call **718-997-3920**

OR visit our website at
qccommunity.qc.cuny.edu/dept

Alumni and Faculty News



Fred Cadieu

After many years of dedication to the department and its students, Professor Fred Cadieu has retired—though he is still teaching astronomy and hosting our sky gazing events.

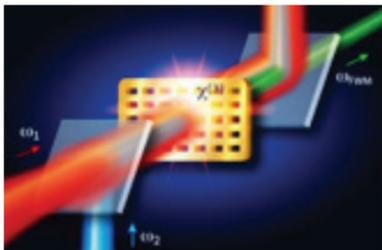


Professor Lev Deych is the author of a new textbook, published in 2018 by Springer, and titled *Advanced Undergraduate Quantum Mechanics: Methods and Applications*.

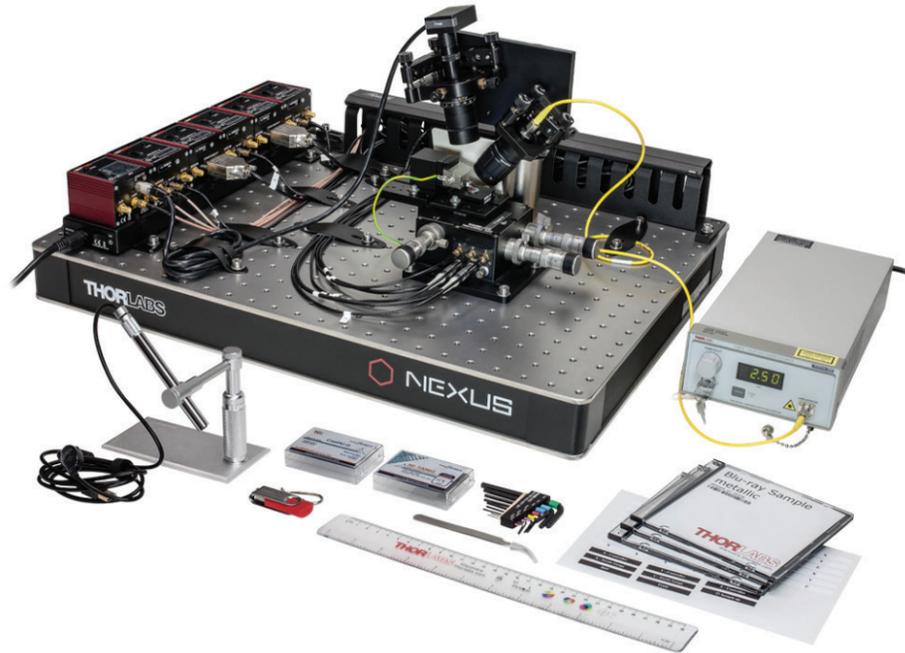
We are sad to note the passing of emeritus professor Rudy Fischer early in 2018, as well as emeritus professor Mark Miksic, who passed away a few months prior.

On a happier note, the department has hired three new faculty members in the past two years—Euclides Almeida, Matthew Civiletti, and Mohammad Ali Miri—and we describe their research interests below:

- Dr. Almeida's research interests include nanophotonics, nonlinear optics, metamaterials, and ultrafast spectroscopy. He has developed novel methods for the control of the nonlinear optical response of nanoscale systems, which may serve as building blocks of future photonic devices for use in sensing, communication, and security applications.



Dr. Almeida employs nanofabrication to demonstrate how shape control can boost non-linear frequency conversion.



Atomic Force Microscope – a new laboratory exercise in our Modern Physics Laboratory

- Dr. Civiletti's research focuses on inflationary cosmology, and more specifically, on hybrid models in the context of supersymmetry. Recently, he has become interested in fundamental questions of inflationary model building. With undergraduate students, he is researching how to more precisely and easily solve single-field and non-SUSY inflationary models.
- Dr. Miri's current research interests are in the areas of optics and photonics, applied electromagnetics, light-matter interaction, and nonlinear optics, spanning a broad range of topics including parity-time symmetry, nanophotonic devices, cavity optomechanics, semiconductor lasers, nanoparticle scattering, photonic lattices, optical metamaterials, nonreciprocal devices, and computational electrodynamics.
- We have introduced two new courses into the curriculum—a computational physics course for master's students

(with an undergraduate version coming soon), and an introductory cosmology course. We're pleased to report that all graduates of our relatively new Professional Science Master's (PSM) Program in Photonics have found employment in the field.

In alumni news, a generous donation from the Sara and Michael Craig-Scheckman Foundation made possible the purchase of an atomic force microscope (AFM) for student explorations in our Modern Physics Laboratory (pictured above). The 2018 Craig-Scheckman Award was given to senior Jane Jiang, who works with Professor So Takei and recently presented at the Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS) conference. We are also delighted to acknowledge support from the Kupferberg Family Foundation and from our many alumni donors. One of our alums, Yuri Strzhemechny is now chair of the physics department at Texas Christian University.

Remembering Mark and Rudy



In this department photo from 1997, Mark Miksic is at the top left (in front of Azi Genack) and Rudy Fischer is at the top center.

Rudy Fischer received his bachelor's degree in physics from City College of New York in 1954, and his PhD in physics from Yale University in 1960. He joined the physics faculty at Queens College in 1964 as associate professor and was promoted to full professor in 1970. His research focused on condensed matter theory, and he received numerous grants and published over two dozen papers. After retiring in the late 90s, Rudy enjoyed traveling and hiking, and climbed Mt. Kilimanjaro twice. He was a generous donor to our astronomy program, and a plaque in his honor was placed outside a physics teaching laboratory several years ago.

Mark Miksic began his tenure in our department in the 60s and was active in the civil rights movement on campus. He was perhaps best known on campus as the director of the Science Teacher Careers program, where he was a devoted mentor to many future science teachers. He also created a middle school science fair, the Investigative Science Symposium, that attracted close to 200 students annually for several years. Mark was an avid tennis player and frequently played with Jim Muyskens. He was known across campus as an exceptionally collegial and dedicated faculty member.

A selection of Recent Articles by Queens College Physics Faculty

Selectively Exciting Quasi-Normal Modes in Open Disordered Systems
Matthieu Davy and Azriel Z. Genack
Nature Communications, Vol. 9, Article number: 4714 (2018)

Highly Confined Surface Plasmon Polaritons in the Ultraviolet Region
E.D. Chubchev, I.A. Nechepurenko, A.V. Dorofeenko, A.P. Vinogradov, and A.A. Lisyansky
Optics Express, Vol. 26, Issue 7, pp. 9050-9062 (2018) <https://doi.org/10.1364/OE.26.009050>

Molecular Materials for Energy Storage
Lev Mourokh, Carine Edder, Wolfgang Mack, and Pavel Lazarev
Materials Sciences and Applications, Vol.09 No.06 (2018), Article ID:84848, https://file.scirp.org/Html/1-7702225_84848.htm

Ab Initio Computational Analysis of Spectral Properties of Dielectric Spheroidal Resonators Interacting with a Subwavelength Nanoparticle
Vladimir Shuvayev and Lev Deych
Phys. Rev. E 99, 013310 (2018)

Spin Diffusion Equation in Superconductors in the Vicinity of T_c
Takuya Taira, Masanori Ichioka, So Takei, and Hiroto Adachi
Phys. Rev. B 98, 214437 (2018)

Modeling the Dynamics of Sustainable Peace
Liebovitch L.S. et al. (2018) in:
Strawinska-Zanko U., Liebovitch L. (eds)
Mathematical Modeling of Social Relationships. Computational Social Sciences. Springer, Cham

Long Spin-Flip Time and Large Zeeman Splitting of Holes in Type-II ZnTe/ZnSe Submonolayer Quantum Dots
H. Ji, S. Dhomkar, R. Wu, J. Ludwig, Z. Lu, D. Smirnov, M. C. Tamargo, G. W. Bryant, and I. L. Kuskovsky
Journal of Applied Physics, 124, 144306 (2018); <https://doi.org/10.1063/1.5041478>

Upcoming Physics Colloquia

(Mondays at 12:15–1:30 pm)

APRIL 1, 2019
Amir Arbabi, U. Mass. Amherst
On-chip Integration of Optical Systems using Dielectric Metasurfaces

APRIL 15, 2019
Morrel Cohen, Rutgers
Cuprate Superconductivity; Chasing Quasiparticle Interactions

APRIL 29, 2019
Matthew Sfeir, ASRC, CUNY
Manipulating Exciton Dynamics for Energy Conversion Applications

MAY 6, 2019
German Kolmakov, City Tech
Optical Manipulation of Entanglement in Excitonic Qubits

MAY 13, 2019
Ed Boyden, MIT
Optical Tools for Analyzing and Controlling Complex Biological Systems

SEPTEMBER 23, 2019
Min Xu, Hunter College
Wandering Inside Random Media: Seeing Structure, Function, and Dynamics with Light

Department of Physics
Science Building, Room B334
65-30 Kissena Blvd., Queens, NY 11367-1597
718-997-3350 • www.qc.cuny.edu/Physics



Q QUEENS | Physics
COLLEGE
65-30 Kissena Boulevard
Queens, New York 11367-1597

NON-PROFIT ORG.
U.S. POSTAGE
PAID
FLUSHING, NY
PERMIT NO. 48

CUNY