GRADUATE PROGRAM IN APPLIED PHYSICS

Overview

Northwestern

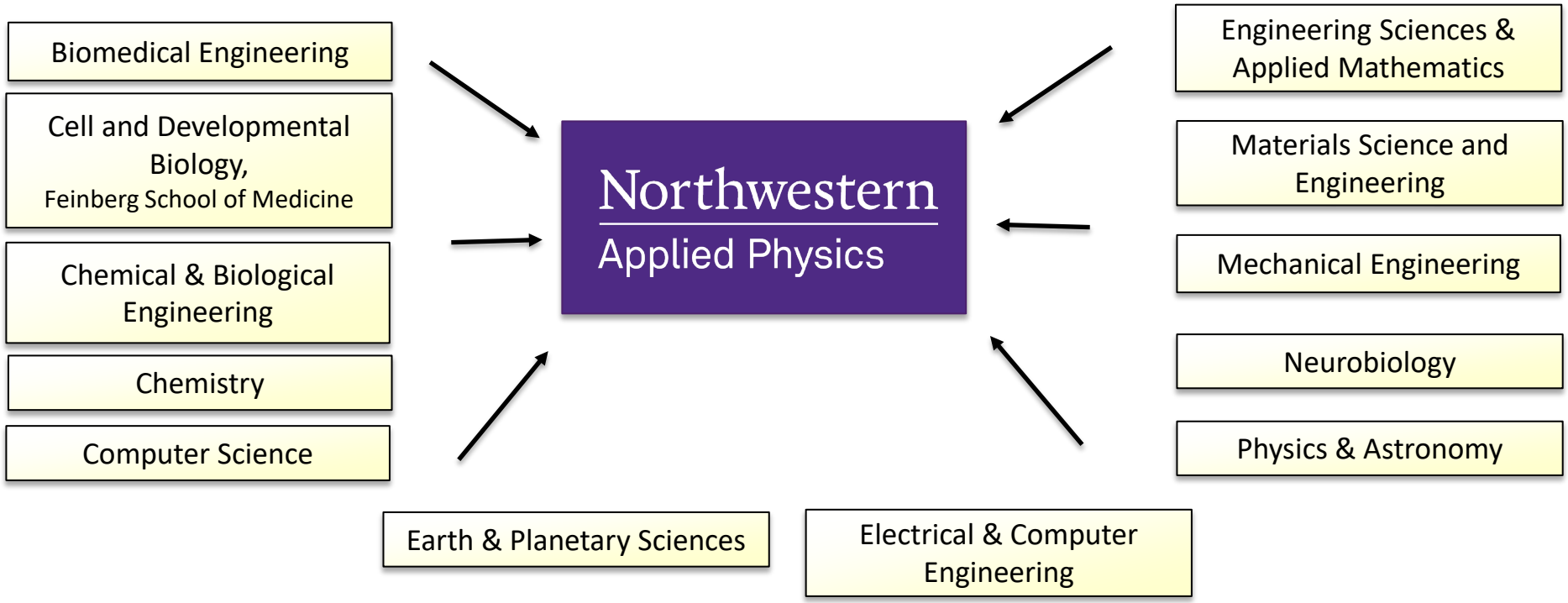
As of Sept. 2025

Northwestern
Applied Physics

Affiliation:

2 Schools, more than 10 Departments/Programs

WEINBERG COLLEGE OF ARTS & SCIENCES & McCORMICK SCHOOL OF ENGINEERING



Northwestern
Applied Physics

Program Team

Nate Stern

Weinberg
Co-Director

Pedram Khalili

McCormick
Co-Director

Michelle Driscoll

Director of
Graduate Studies

Mahdi Hosseini

Admissions
Chair

Clarence Morales

Program
Assistant

Northwestern
Applied Physics

Your contacts

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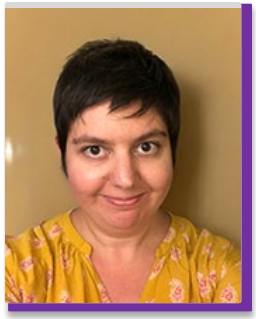
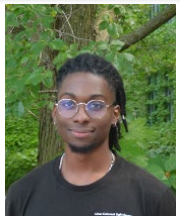


Michelle Driscoll,
Director of Graduate Studies

Mahdi Hosseini
Admissions Chair

Student Council



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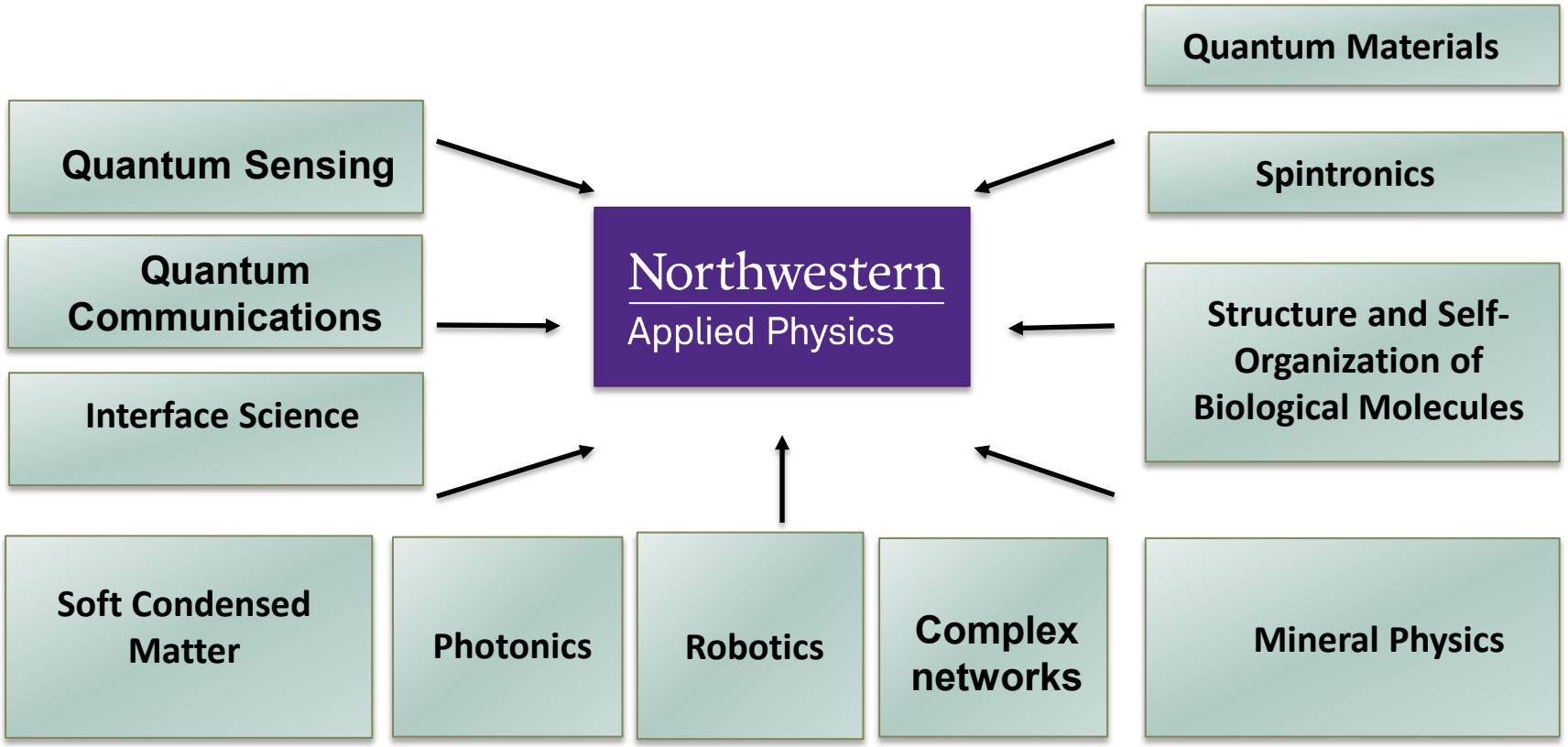
Core Disciplines



Northwestern
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Collaborative Research Centers and Institutes

Materials Research Center
Northwestern University

SQMS

Northwestern
PAULA M. TRIENENS INSTITUTE FOR
SUSTAINABILITY AND ENERGY

CMQT
CENTER FOR MOLECULAR
QUANTUM TRANSDUCTION

INTERNATIONAL INSTITUTE
FOR NANOTECHNOLOGY
Northwestern University

Fermilab

CAPST
Fermilab Northwestern
Center for Applied Physics and Superconducting Technologies

Argonne
NATIONAL LABORATORY

Chemistry of
Life Processes
Institute

NAISE
Northwestern University
Argonne National Laboratory
Institute of Science and Engineering

NUANCE
Northwestern University Atomic and
Nanoscale Characterization Experimental Center

ICET
Institute for Cellular Engineering Technologies

MATERIALS RESEARCH SCIENCE
AND ENGINEERING CENTER

Northwestern
Center for Hydrogen in Energy and Information Sciences (HEISs)

Center for
Network Dynamics

Why become an AP student at NU?

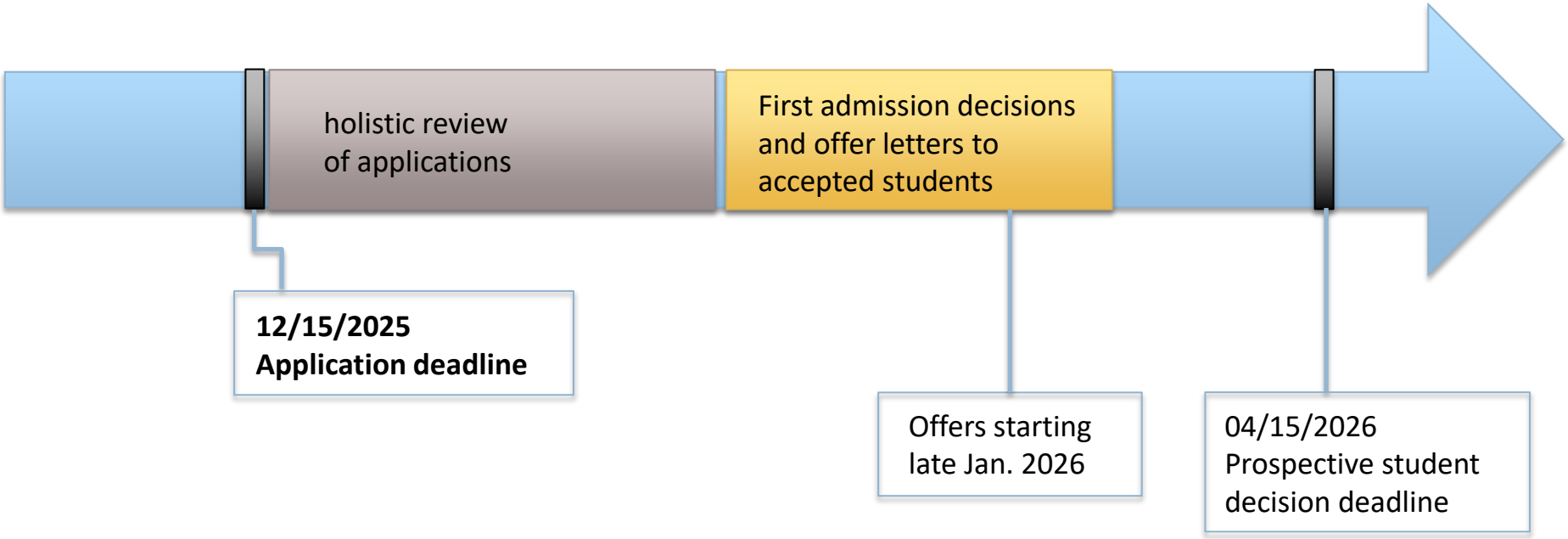
#1 **We need you:**
your skills and talent, your unique ideas and perspective

#2 **Unique Research Opportunities**
- interdisciplinary, multiple departments
- many faculty members (experiment, theory)
- new QIS centers

#3 **Start your own research early (second quarter!)**
interact with AP students and faculty doing research in a variety of disciplines

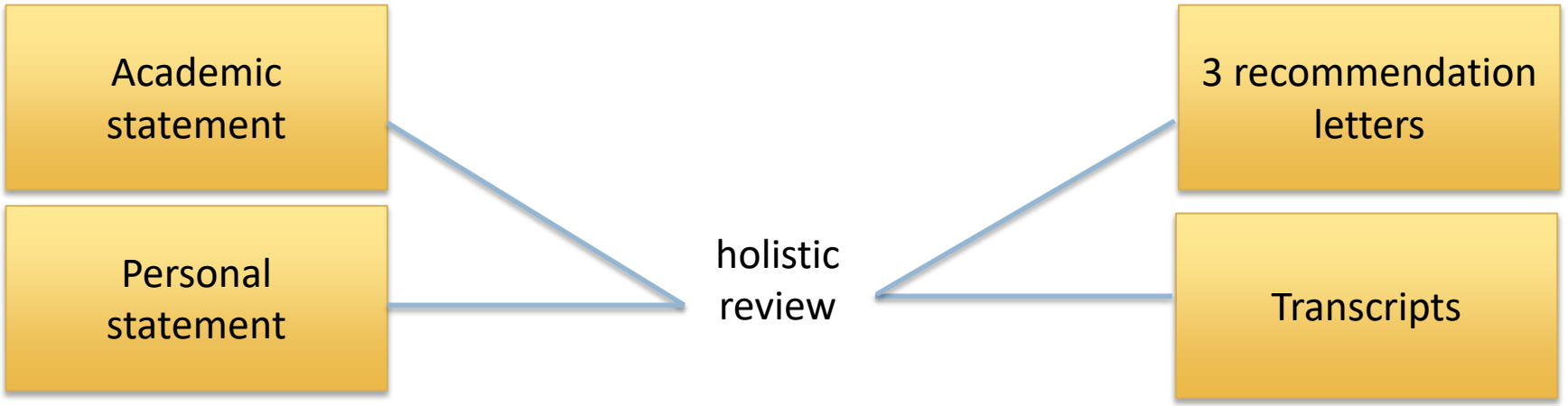
Northwestern
Applied Physics

Applying to NU Applied Physics: Timeline



Applying to NU Applied Physics: Application

Content of your application



Optional

[GRE Physics]

*Not required for applications submitted in 2025 for fall 2026 enrollment**

**If GRE Physics scores are submitted, the admissions committee will review them as part of a holistic evaluation of the applicant's academic preparation in physics*

Applying to NU Applied Physics: Academic Statement

- What are your academic interests, and why do you wish to pursue graduate studies in Applied Physics?
- How has your academic and professional background prepared you for graduate study? (Please include any research, training, or educational experiences that align with Applied Physics)
- Why is the Northwestern Applied Physics the best place for you to pursue your academic, intellectual, and professional goals?
- Please make sure to address any scholarly questions you wish to explore and name any specific faculty members whose research interests align with your own

Applying to NU Applied Physics: Personal Statement

- Pivotal experiences, opportunities, and/or challenges that have influenced your educational and professional development.
- Leadership experiences, community outreach, service initiatives, or research projects you have participated in or plan to pursue that aim to positively impact others or the broader community.
- Anything you would like to share with the admissions committee that you have yet to discuss in other areas of the application (ex: gaps in your academic and professional experience, or additional context)
- If needed, you may also use this space to expand upon the topics discussed in the essays

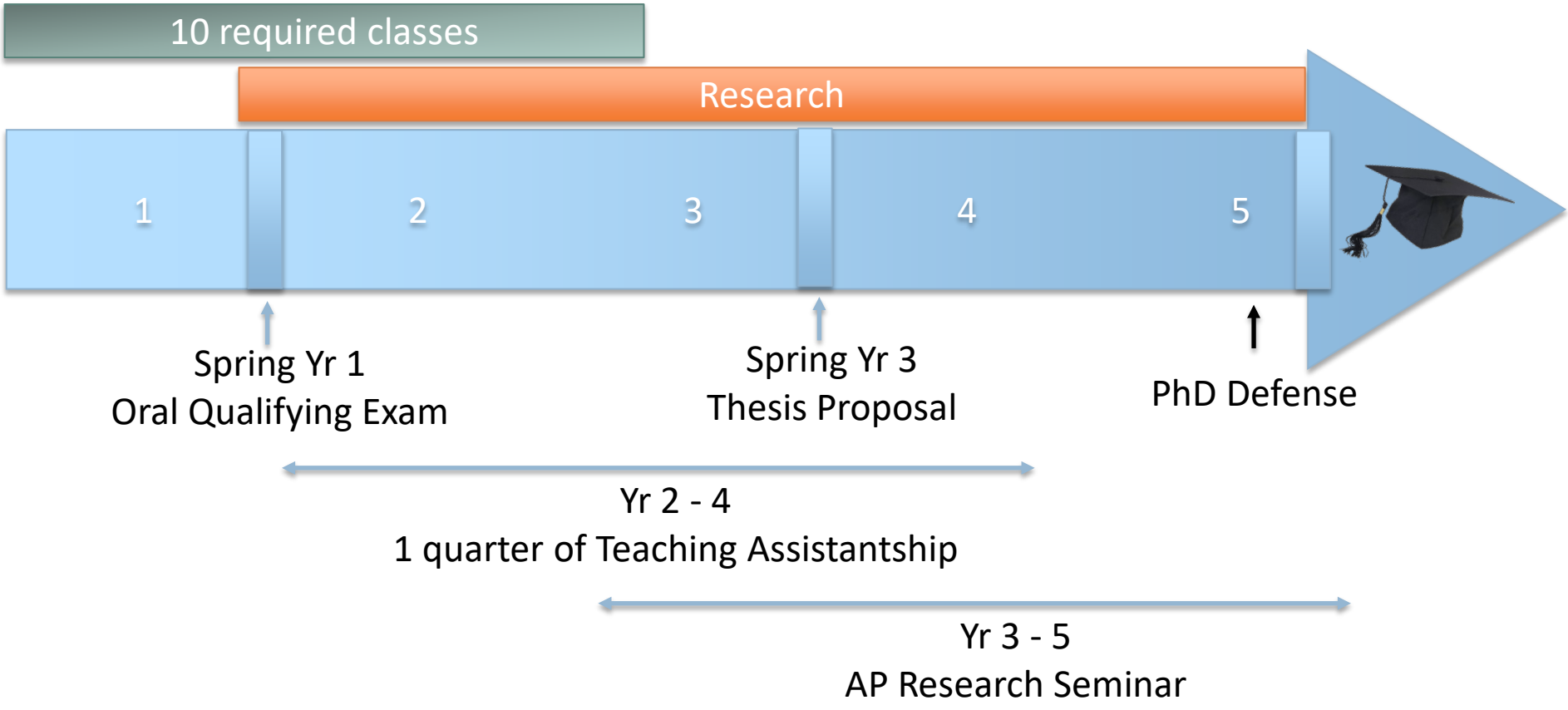
Program Components & Goals

provide you with a solid foundation in **physics**

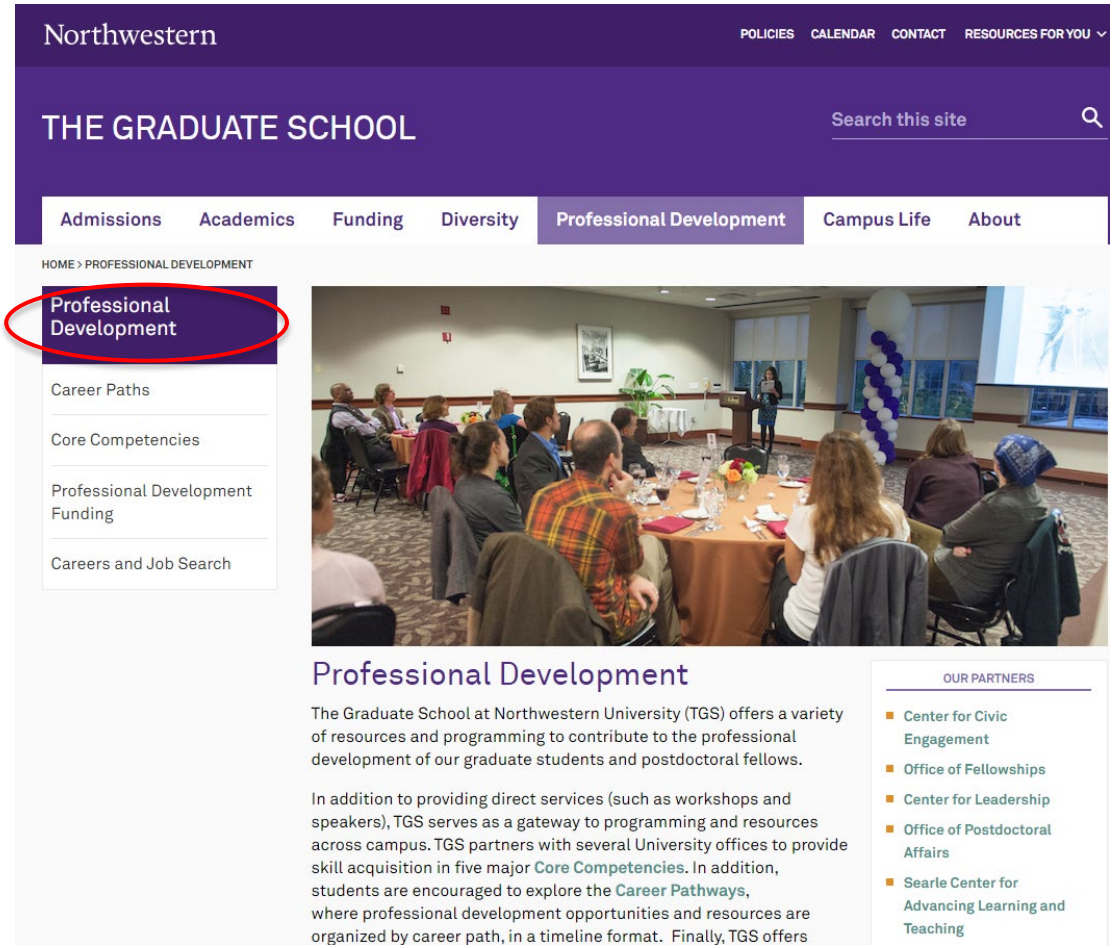
enable you to become an **independent researcher**

prepare you for and assist you in planning and realizing your career plans

PhD Timeline: 5-year program



Professional Development



- Career Exploration
- Leadership and Management
- Speaking and Presenting
- Teaching
- Writing and Research

Northwestern
Applied Physics

Applied Physics Faculty

~ 50 faculty members in:

- Biomedical Engineering
- Cell and Developmental Biology, Feinberg School of Medicine
- Chemical & Biological Engineering
- Chemistry
- Computer Science
- Earth & Planetary Sciences
- Electrical and Computer Engineering
- Engineering Sciences and Applied Mathematics
- Materials Science and Engineering
- Mechanical Engineering
- Neurobiology
- Physics and Astronomy

As of Sept. 2025

Northwestern
Applied Physics

Courses

First Year

Fall

MAT SCI 401: Chemical & Statistical Thermodynamics of Materials
or **PHYS 416**: Introduction to Statistical Mechanics (Winter Yr1)

PHYS 412-1: Quantum Mechanics

PHYS 411-1: Methods of Theoretical Physics

GEN ENG 519: Responsible Conduct of Research Training (not for credit)

Winter

PHYS 412-2: Quantum Mechanics

PHYS 414-1: Electrodynamics

PHYS 416-0: Introduction to Statistical Mechanics
or **MAT SCI 401**: Chemical & Statistical Thermodynamics of Materials (Fall Yr1)

MAT SCI 405: Physics of Solids*
or **PHYS 422-1**: Condensed Matter Physics (Fall Yr2)

Before the end of year 3

Computational Methods of Applied Physics

Experimental Methods of Applied Physics

2 Electives

Start your own research

Second Year

Fall

PHYS 422-1: Condensed Matter Physics
or **MAT SCI 405**: Physics of Solids (Spring Yr1)

**if schedule does not conflict with other required classes, otherwise Winter of year 2*

Northwestern
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Graduate Students

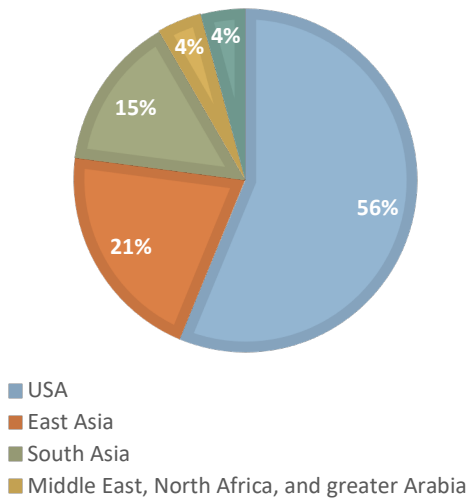
Aziz Abogoda — Sauls group
Pravan Chakravarthy — First Year Student
Junhang Duan — Wasielewski group
Swan Htun — Jacobsen group
Gilhwan (Peter) Lim — Hersam/ Dravid groups
Margaret Quinn — Rondinelli group
Madison Schwinn — Chen group
Qin Tong Wu — Swearer Group
Emmanuel Aneke — Jacobsen group
Shu Chen — Petford-Long/ Phatak Groups
Ely Eastman — Kumar group
Joseph Humphries — First Year Student
Chenguang Liu — Jacobsen/ Pankuch groups
Rohan Rajmohan — Koch group
Antara Sen — Olvera de la Cruz Group
Andre Vallieres — Koch Group
Mauricio Angelone — Jacobsen group
Tse-Min Chiang — Schatz group
Matthew Farnese — Olvera de la Cruz group
Ubaid Kazianga — Sargent group
Chen Lu — First Year Student
Lawrence Rhoads — Grayson group
Neil Shah — First Year Student
Parker Watts — Wasielewski group
Sevde Nur Arpaci — Khalili group
Gregor Dairaghi — Odom, T. group
Jennifer Garland — Petford-Long group
Samira Khan — Driscoll group
Eric Matt — Khalili group
William Rogers — Rondinelli Group
Banibrato Sinha — Khalili group
Noah Welke — Bedzyk group
Matthew Liam Beaudoin — First Year student
Arya Desai — First Year Student
Gamze Gul — Kumar group
Trevor Kling — Hosseini group
Ennis Mawas — Kamal group
Benjamin Roter — Jacobsen group
Gina Talcott — Kumar group
Joseph Yaker — Koch / Romanenko group
Matthew Capocci — Koch group
Vin San Dinh — Koch / Romanenko groups
Kara Hokenstad — Kumar group
Wing-Shun Li — Backman / Dravid group
Jasmine Panthee — Chandrase--khar group
James Rush
Yi Wang — Odom,T. group
Tianpu Zhao — Koch Group

As of Sept. 2025

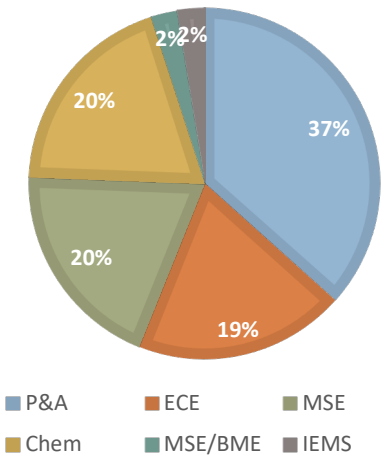
Statistics
AP Students

TOTAL: 48 STUDENTS

BY REGION

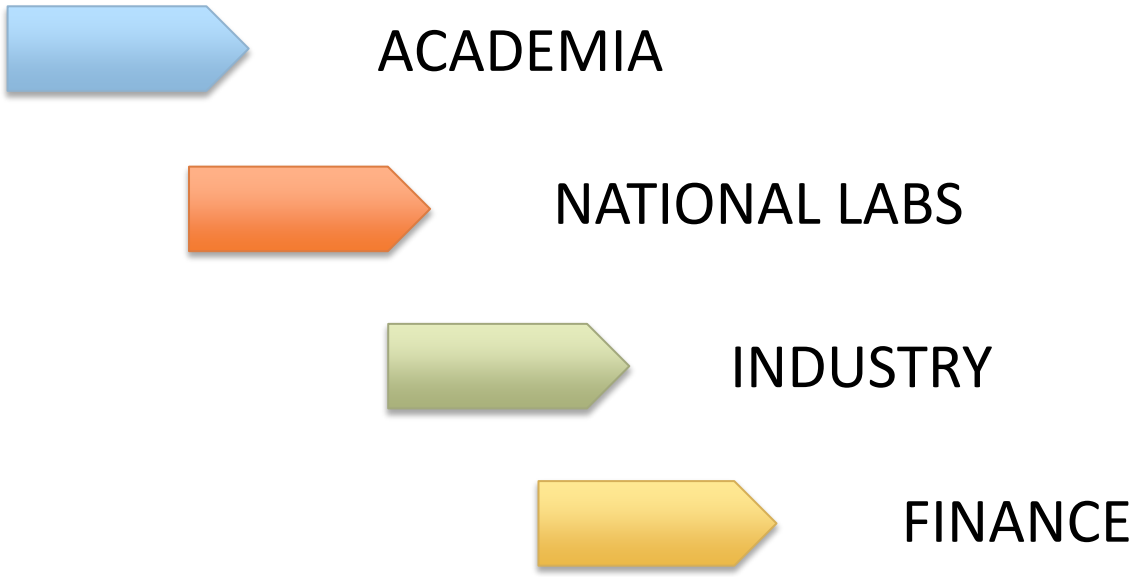


BY DEPARTMENT



As of Sept. 2025

Where do our Alumni work?



Northwestern
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Where do our Alumni work? Examples

Beyond Northwestern

City of Evanston

- Population of ~75,000.
- Convenient, quiet.
- Quick and easy connections to downtown Chicago. (Metra: ~20 mins)

City of Chicago

- Population of 2.7M
- Great museums, restaurants, sports, culture,...
- And beaches!