

# GRADUATE PROGRAM IN APPLIED PHYSICS

Overview

Northwestern

# Northwestern

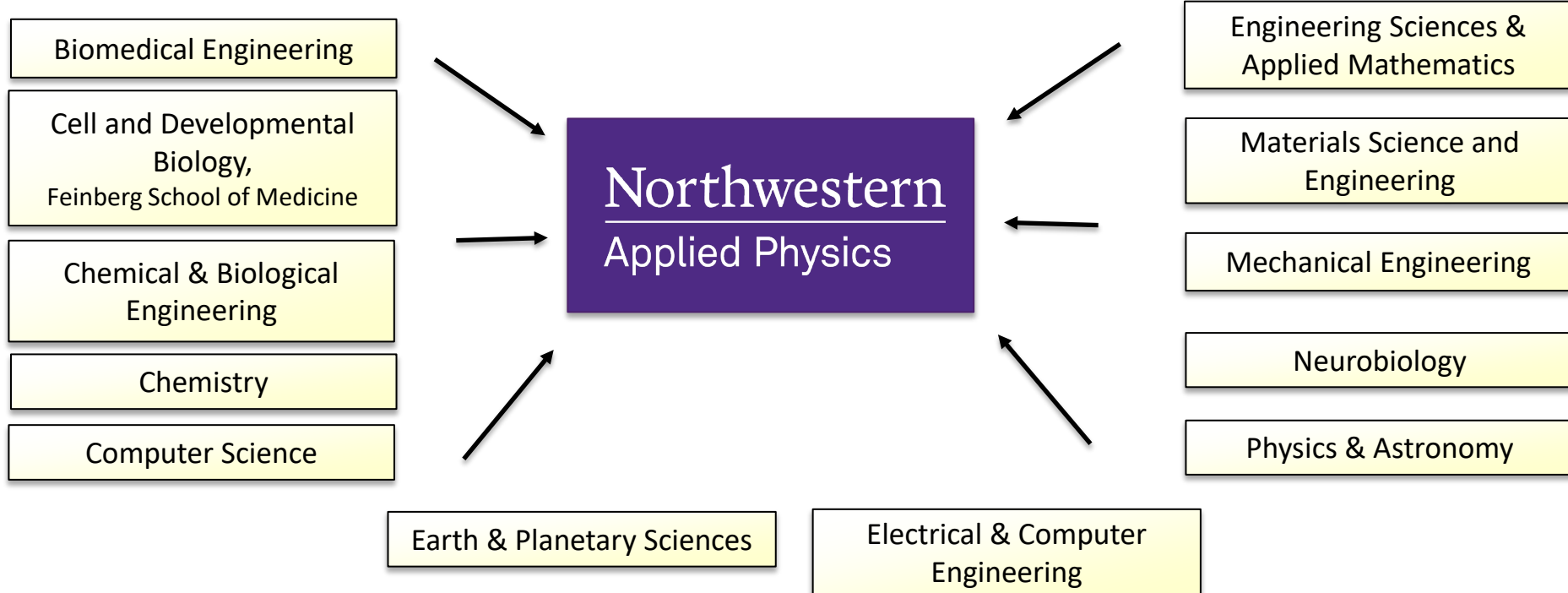
## Applied Physics

**Affiliation:**  
2 Schools, 10+ Departments/Programs

WEINBERG COLLEGE  
OF ARTS & SCIENCES

&

McCORMICK SCHOOL OF  
ENGINEERING



Nate Stern



Weinberg  
Co-Director

Pedram Khalili



McCormick  
Co-Director

Tim Kovachy



Director of  
Graduate Studies

Mahdi Hosseini



Admissions  
Chair

Clarence Morales



Program  
Assistant



**Clarence Morales,  
Program Assistant**

Tech F237  
(847) 491-5455  
[appliedphysics@northwestern.edu](mailto:appliedphysics@northwestern.edu)



**Tim Kovachy,  
Director of Graduate Studies**



**Mahdi Hosseini  
Admissions Chair**

### AY26/27 Student Council



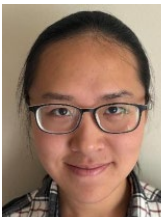
**Pravan Chakravarthy**  
[pravan@u.northwestern.edu](mailto:pravan@u.northwestern.edu)



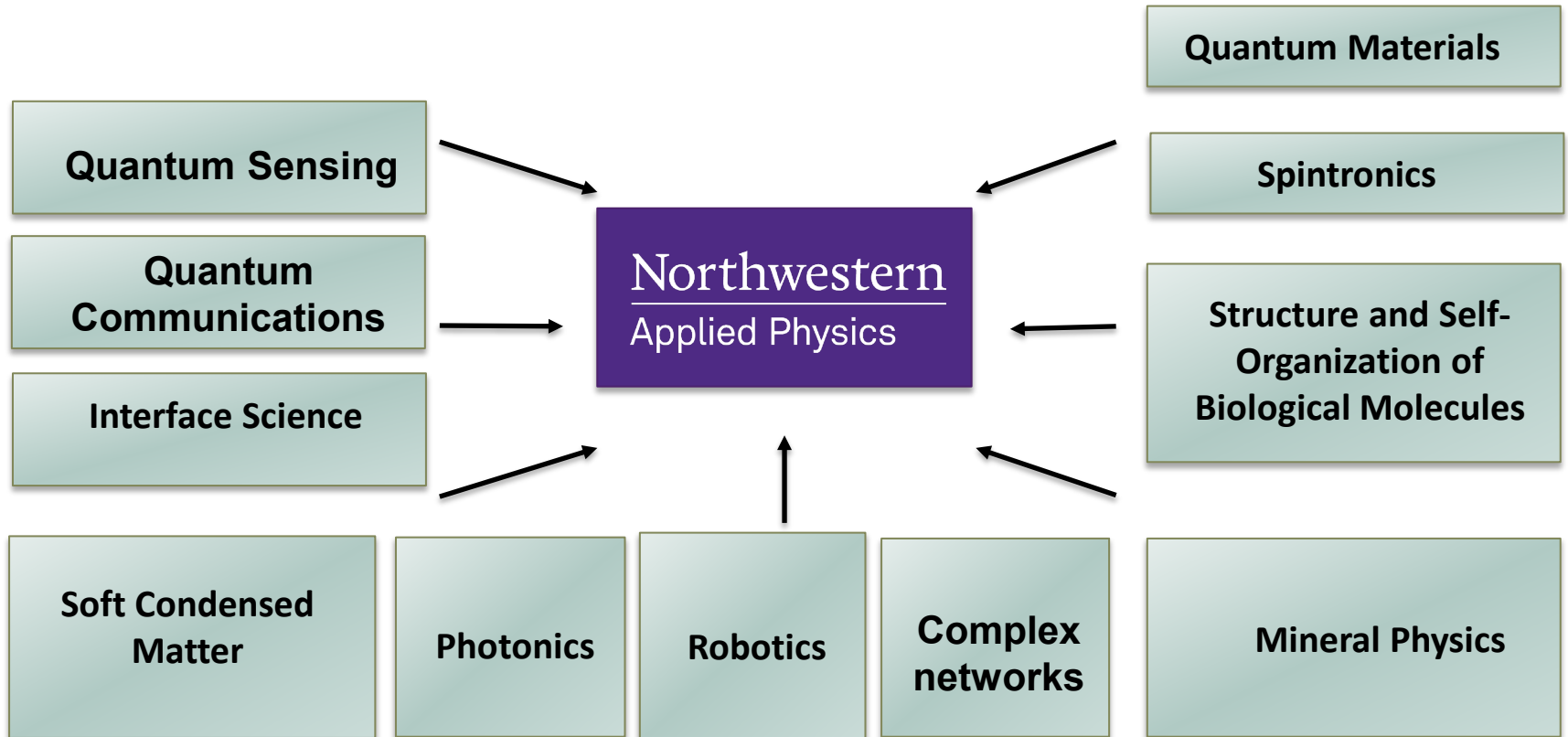
**Arya Desai**  
[AryaDesai2031@u.northwestern.edu](mailto:AryaDesai2031@u.northwestern.edu)



**Chen Lu**  
[chenlu2030@u.northwestern.edu](mailto:chenlu2030@u.northwestern.edu)

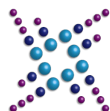


**Rong Wu**  
[qinwu2029@u.northwestern.edu](mailto:qinwu2029@u.northwestern.edu)



# Northwestern Applied Physics

# Collaborative Research Centers and Institutes



Materials Research Center  
Northwestern University



Northwestern

PAULA M. TRIENENS INSTITUTE FOR  
SUSTAINABILITY AND ENERGY

CMQT  
CENTER FOR MOLECULAR  
QUANTUM TRANSDUCTION



INTERNATIONAL INSTITUTE  
FOR NANOTECHNOLOGY  
Northwestern University

CAPST  
Center for Applied Physics and Superconducting Technologies



Argonne  
NATIONAL LABORATORY



Chemistry of  
Life Processes  
Institute



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



Northwestern

#1

**We need you:**

your skills and talent, your unique ideas and perspective

#2

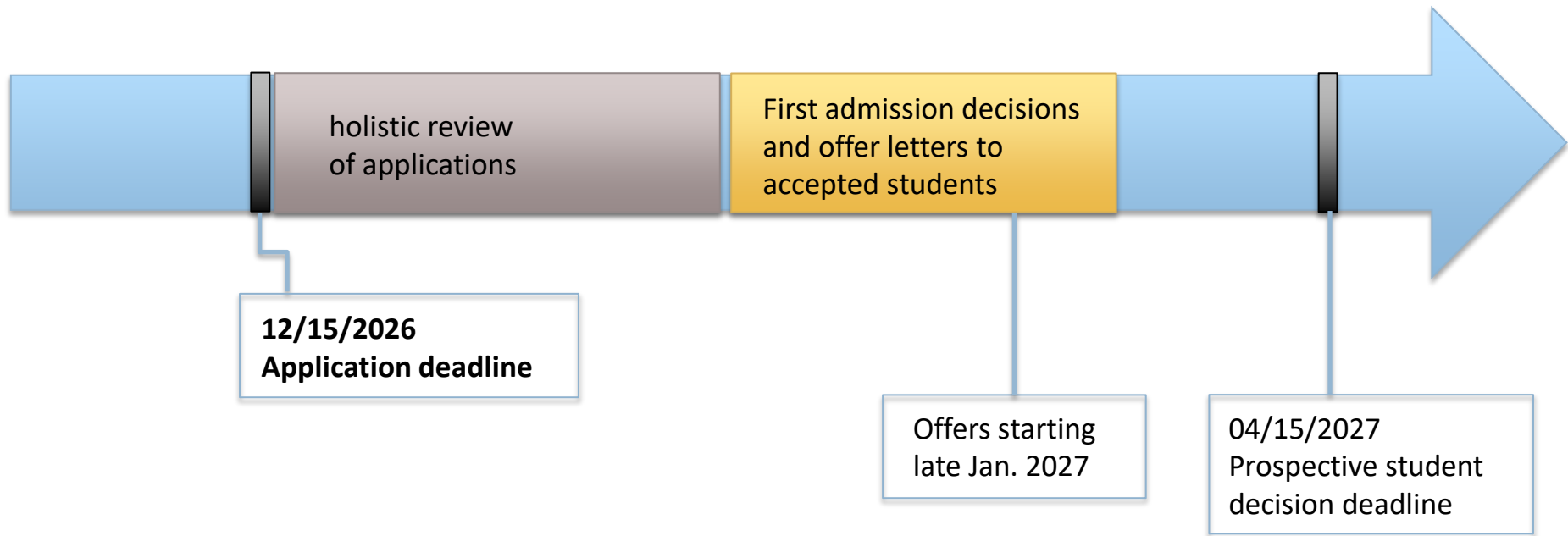
**Unique Research Opportunities**

- interdisciplinary, multiple departments
- many faculty members (experiment, theory)
- new QIS centers

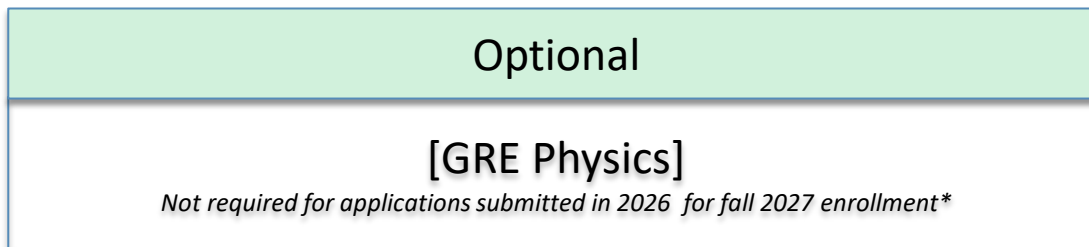
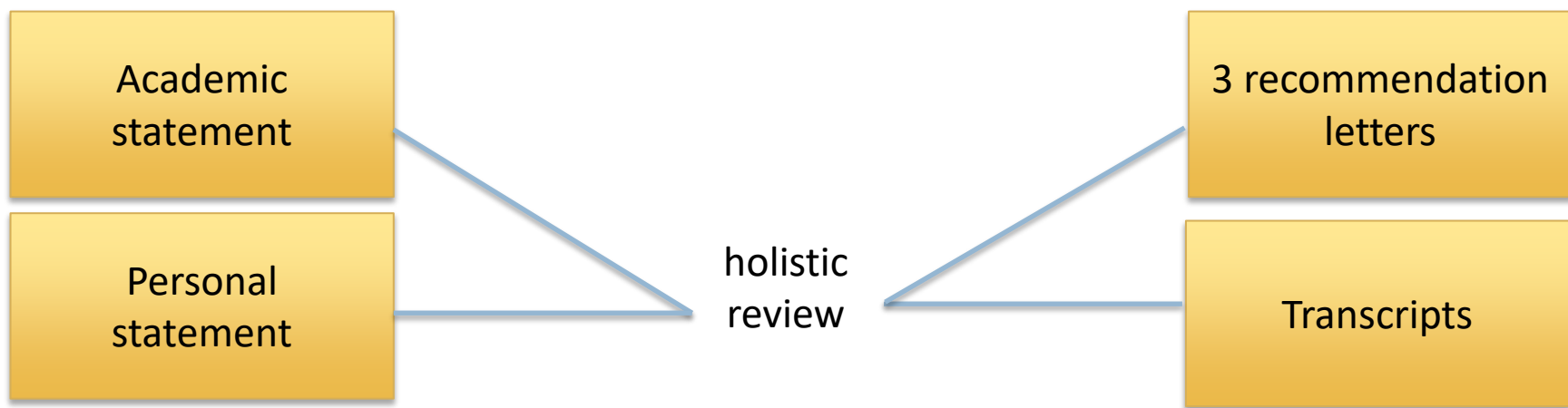
#3

**Start your own research early (second quarter!)**

interact with AP students and faculty doing research in a variety of disciplines



## Content of your application



*\*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*

- ➡ 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 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

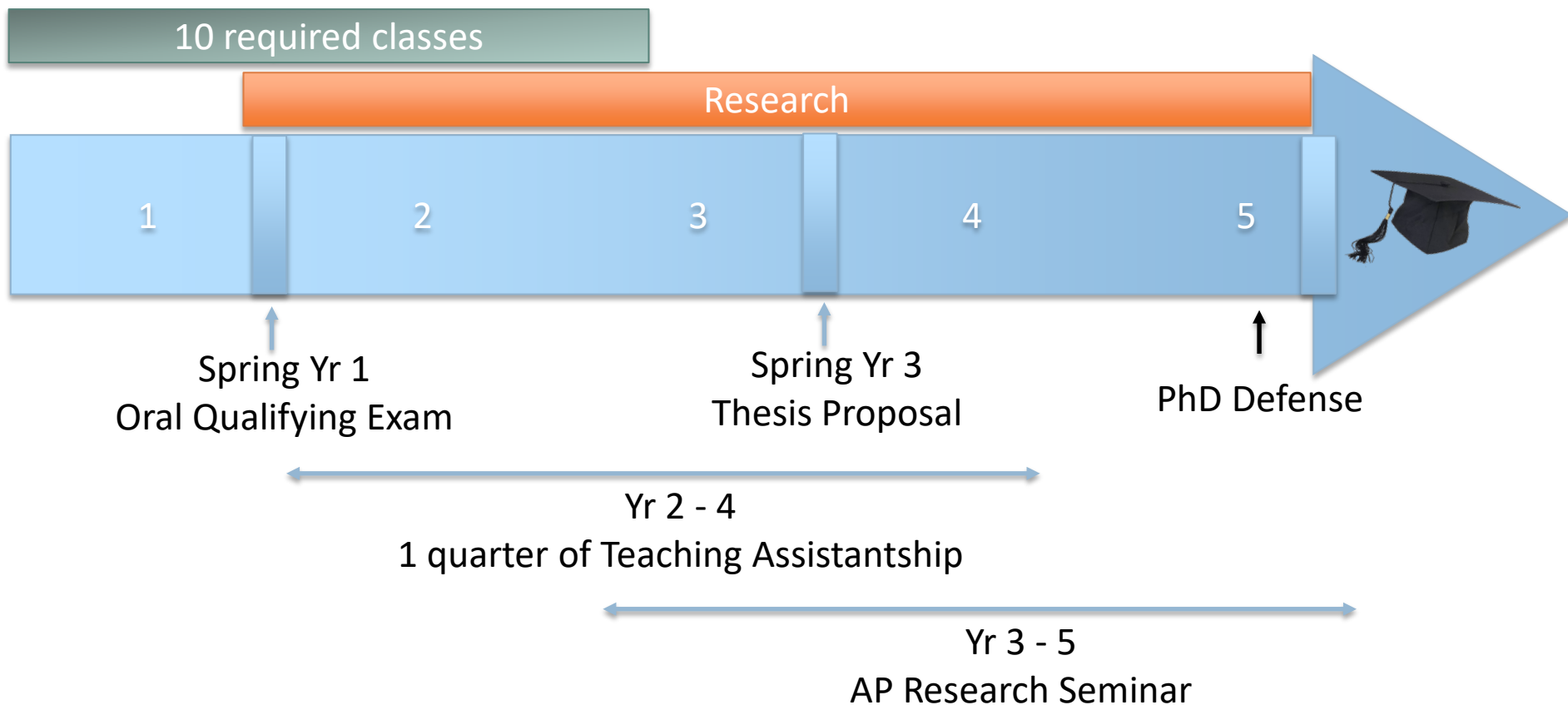
- ➔ Pivotal experiences, opportunities, and/or challenges that have influenced your educational and professional development.
- ➔ Leadership experiences, community outreach, service initiatives, or research projects you have participated in or plan to pursue that aim to positively impact others or the 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).

*\* Should not duplicate the Academic Statement*

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**



Northwestern

POLICIES CALENDAR CONTACT RESOURCES FOR YOU ▾

THE GRADUATE SCHOOL

Search this site 🔍

Admissions Academics Funding Diversity Professional Development Campus Life About

HOME > PROFESSIONAL DEVELOPMENT

**Professional Development**

Career Paths

Core Competencies

Professional Development Funding

Careers and Job Search



### Professional Development

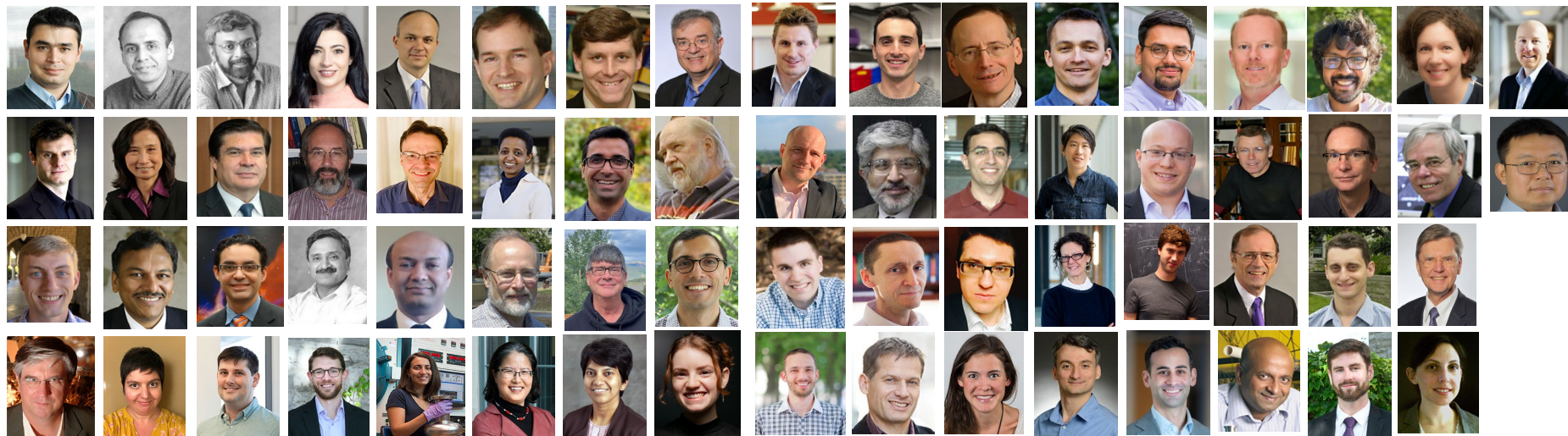
The Graduate School at Northwestern University (TGS) offers a variety of resources and programming to contribute to the professional development of our graduate students and postdoctoral fellows.

In addition to providing direct services (such as workshops and speakers), TGS serves as a gateway to programming and resources across campus. TGS partners with several University offices to provide skill acquisition in five major [Core Competencies](#). In addition, students are encouraged to explore the [Career Pathways](#), where professional development opportunities and resources are organized by career path, in a timeline format. Finally, TGS offers

#### OUR PARTNERS

- Center for Civic Engagement
- Office of Fellowships
- Center for Leadership
- Office of Postdoctoral Affairs
- Searle Center for Advancing Learning and Teaching

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



**~ 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
- Industrial Engineering & Management Sciences
- Materials Science and Engineering
- Mechanical Engineering
- Neurobiology
- Physics and Astronomy

*As of Sept. 2026*

## 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**

## Second Year

### Fall

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

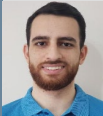
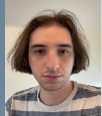
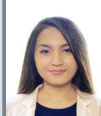
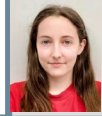
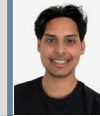
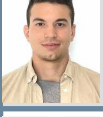
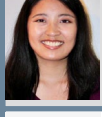
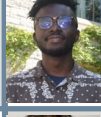
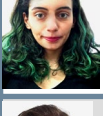
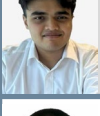
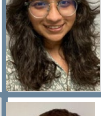
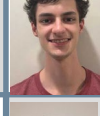
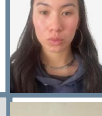
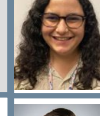
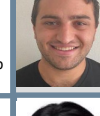
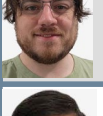
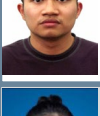
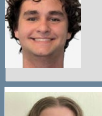
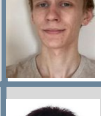
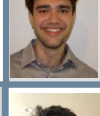
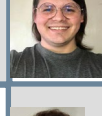
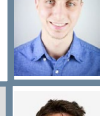
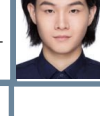
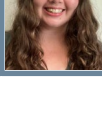
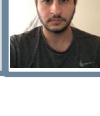
Start your own research

*\*if schedule does not conflict with other required classes.  
Otherwise, Winter of year 2.*

# Northwestern

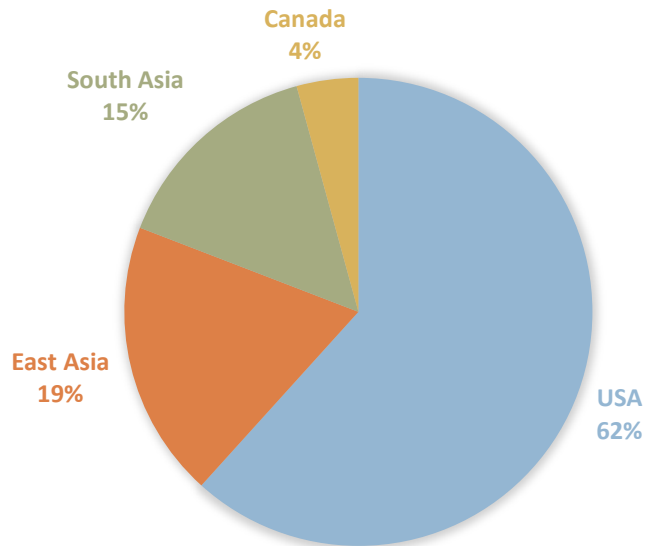
## Applied Physics

# Graduate Students

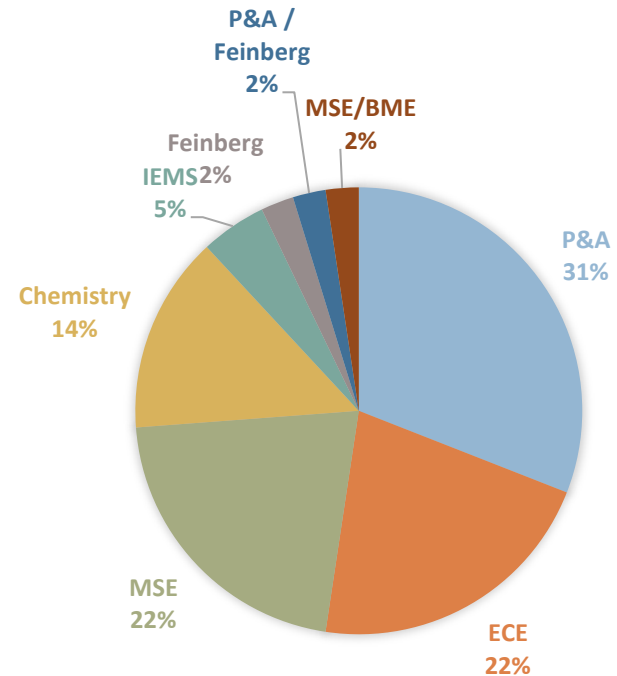
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|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>Aziz Abogoda</b><br>Sauls group            | <br><b>Shu Chen</b><br>Phatak group                      | <br><b>Ely Eastman</b><br>Kumar group                    | <br><b>Swan Htun</b><br>Jacobsen group                 | <br><b>Gilhwan (Peter) Lim</b><br>Hersam/<br>David groups  | <br><b>Jasmine Panthee</b><br>Chandrase-<br>khar group | <br><b>Antara Sen</b><br>Olvera de la<br>Cruz group        | <br><b>Parker Watts</b><br>Wasielewski<br>group     |
| <br><b>Emmanuel Aneke</b><br>Jacobsen<br>group    | <br><b>Tse-Min Chiang</b><br>Schatz group                | <br><b>Matthew Farnese</b><br>Olvera de la<br>Cruz group | <br><b>Joseph Humphries</b><br>Rondinelli<br>Group     | <br><b>Chenguang Liu</b><br>Jacobsen/<br>Pankuch<br>groups | <br><b>Margaret Quinn</b><br>Rondinelli<br>group       | <br><b>Neil Shah</b><br>Kovacs<br>Group                    | <br><b>Noah Welke</b><br>Bedzyk<br>group            |
| <br><b>Mauricio Angelone</b><br>Jacobsen<br>group | <br><b>Gregor Dairaghi</b><br>Odom, T.<br>group          | <br><b>Jennifer Garland</b><br>Phatak<br>group           | <br><b>Ubaid Kazianga</b><br>Sargent<br>group          | <br><b>Chen Lu</b><br>Khalili group                        | <br><b>Rohan Rajmohan</b><br>Koch group                | <br><b>Banibrato Sinha</b><br>Gabriele<br>group            | <br><b>Qin Tong Wu</b><br>Swearer group             |
| <br><b>Sevde Nur Arpaci</b><br>Khalili group      | <br><b>Arya Desai</b><br>First Year<br>Student           | <br><b>Gus Glasheen</b><br>First Year<br>Student         | <br><b>Samira Khan</b><br>Klabjan<br>group             | <br><b>Jeremy Lutz</b><br>First Year<br>Student            | <br><b>Claire Recamier</b><br>First Year<br>Student    | <br><b>Gina Talcott</b><br>Kumar group                     | <br><b>Joseph Yaker</b><br>Koch /<br>Zorzetti group |
| <br><b>Matthew Liam Beaudoin</b><br>Kumar group  | <br><b>Vin San Dinh</b><br>Koch /<br>Zorzetti<br>groups | <br><b>Liam Hofmann</b><br>First Year<br>Student        | <br><b>Trevor Kling</b><br>Hosseini<br>group          | <br><b>Eric Matt</b><br>Khalili group                     | <br><b>Lawrence Rhoads</b><br>Grayson<br>group        | <br><b>Andre Vallieres</b><br>Koch/Grassel-<br>lino Group | <br><b>Tianpu Zhao</b><br>Koch Group               |
| <br><b>Pravan Chakravarthy</b><br>Phatak group  | <br><b>Junhang Duan</b><br>Wasielewski<br>group        | <br><b>Kara Hokenstad</b><br>Kumar<br>group            | <br><b>Wing-Shun Li</b><br>Backman /<br>David groups | <br><b>Ennis Mawas</b><br>Klabjan<br>group               | <br><b>Benjamin Roter</b><br>Jacobsen<br>group       | <br><b>Luke van Buuren</b><br>First Year<br>Student      |                                                                                                                                        |

As of Fall. 2026

AP STUDENTS  
BY REGION



AP STUDENTS  
BY ADVISOR DEPARTMENT\*



As of Sept. 2026

\*not including first-year students (no advisor yet)

## Where do our Alumni work?



ACADEMIA



NATIONAL LABS



INDUSTRY



FINANCE

# Northwestern

## Applied Physics

# Where do our Alumni work?

## Examples





## 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!

