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Overview and Timeline of our PhD program

R. Tayloe
Grad Day
3/13/21

Graduate Visitation Day

Saturday, March 13, 2021

9:00 A.M.

Location: Zoom

Welcome students!

Thank you for your interest in our physics PhD program. Our goal for this visitation day is to introduce you to our department and give you a chance to interact (albeit virtually) with our faculty and students. The program today consists of:

- a welcome from our department chair,
- overview of graduate program requirements and our research activities,
- an opportunity to talk with some of our current graduate students,
- discussions with faculty about their research, and
- a virtual tour of the physics building (Swain Hall West) in beautiful Bloomington, Indiana.



Introductions, Physics Graduate Student Services



INDIANA UNIVERSITY BLOOMINGTON

THE COLLEGE OF ARTS + SCIENCES

Department of Physics



David Baxter

Professor, Physics
Chair, Physics

✉ baxterd@indiana.edu

☎ (812) 855-8337

📍 Swain West 152B; Multidisciplinary E

Research Interests

condensed matter physics (experimental)



Rex Tayloe

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Director of Graduate Studies

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📍 Swain West 336

Research Interests

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Student Services Administrator

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Anne-Sophie Stringer

Graduate Student Services Coordinator

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📍 Swain West 152

Introductions

Faculty:

Home | About | Directory | **Faculty & Scientists**

Faculty

on Research Team

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R: 2127
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Research Interests: materials physics and condensed matter (experimental)

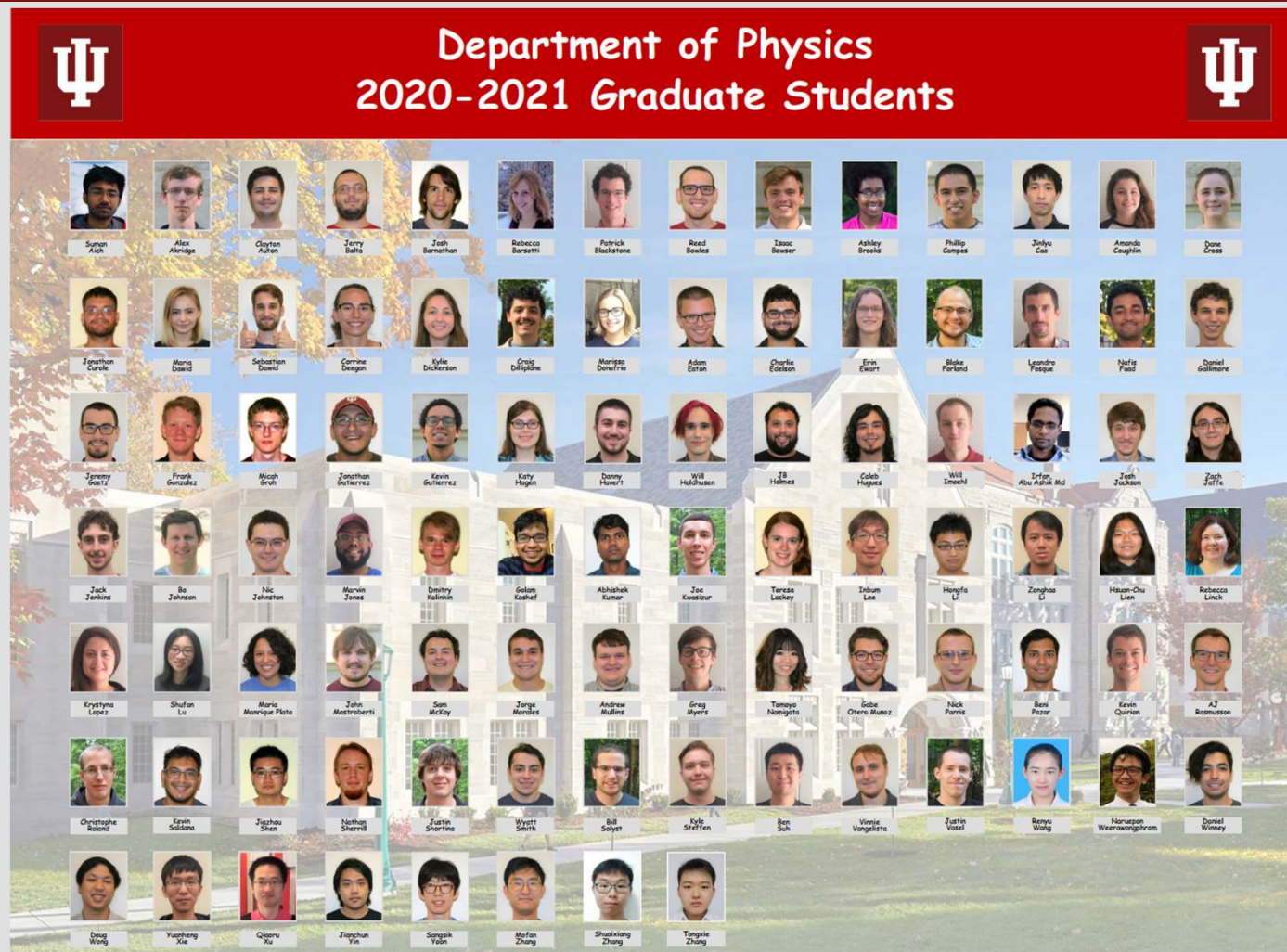
Plus research scientists and support staff!

<https://physics.indiana.edu/about/directory/all-faculty-scientists/faculty/index.html>

Introductions

Graduate Students:

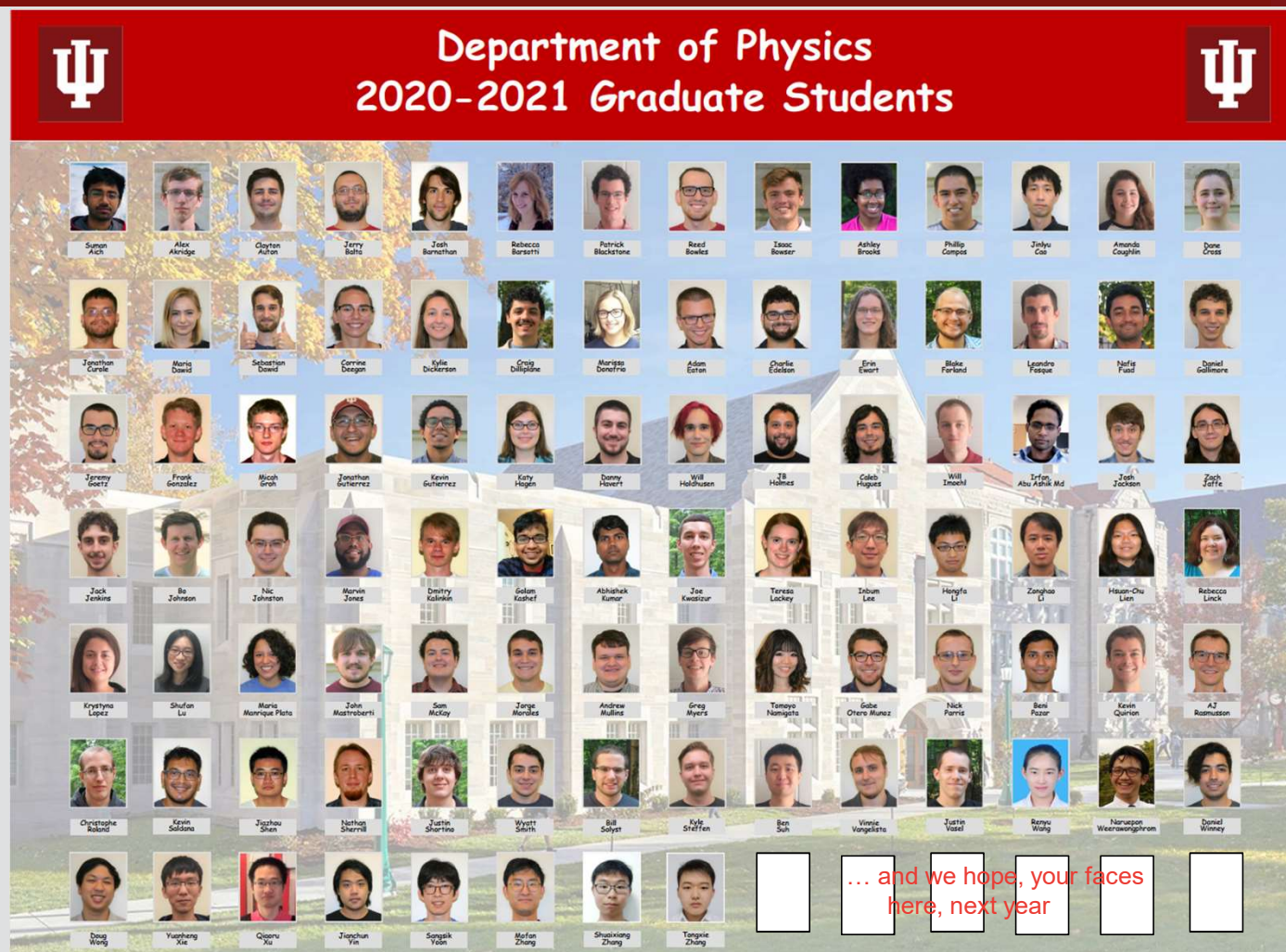
- Currently 93 students
- 19% female
- 28% international
- 17% from under-represented groups
- average time-to-degree for 2020 grads was 6.1 yrs
- Employment:
for 60 PhDs 2014-18
 - 37% career research
 - 10% industry or business
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Plans for Fall 2021



To all members of the IU community,

I am extremely pleased to inform you that the Fall Semester on all IU campuses this year will be in person. Though we expect that some of our present public health policies may need to remain in place, we expect that this semester will see a return to mostly normal operations of the university. This decision has been made on the basis of advice from IU's medical and public health experts who have been leading the university's comprehensive and successful response to the COVID-19 pandemic for nearly a year now.

Our ongoing mitigation and symptomatic [testing data](#) continue to show that COVID-19 cases on our campuses are very low and remain manageable. For much of the fall and winter, our weekly positivity rates have fallen well under 1 percent, even though IU's Pandemic Response Labs are now conducting up to 50,000 tests a week.

<https://news.iu.edu/stories/2021/02/iu/releases/24-in-person-instruction-planned-to-resume-in-fall.html>

Since the onset of the pandemic, IU has prioritized the health and safety of the IU community and the continuity of our instruction, research and clinical operations. These priorities have guided — and will continue to guide — every decision we make to address the pandemic.

Hence, as we have learned from the experience of the past year, in the face of this deadly pandemic we cannot set any of our plans in stone. As long as the pandemic is with us, we must be ready to adjust course rapidly, and we will constantly review our plans, activities and operations.

However, because of the outstanding efforts of the entire IU community on all campuses across the state in successfully battling the COVID-19 pandemic over the last year, I am very confident that we will see a successful return to mostly normal university operations in the fall.

With thanks for all you do and continue to do for IU,

Michael A. McRobbie

President

Summary of IU Physics graduate program requirements

Year 1:

- Take the recommended 1st-year core courses for solid physics foundation and to succeed on the qualifying exam (EM1/2, QM1/2, class/stat mechanics¹)
- get connected with a research group with goal of research credit (and support) by summer after 1st year
- prepare for/a take the qualifying exam in August at end of 1st year
- (likely) teaching assignment

Year 2:

- Take courses in major and minor areas of concentration.
 - 2 course for major (eg: subatomic physics, solid state/condensed matter, or biophysics)
 - 3 courses for minor (eg: quantum field theory, computational physics, other non-major course)
 - Ramp up involvement with research

Year 3:

- Finish any course requirements in major or minor areas and meet 90 credit hour requirement²
- Complete candidacy seminar in 5th semester
- Meet teaching requirement (if not done in previous years)
- Complete any language requirements

Much more information at:

<https://physics.indiana.edu/student-portal/graduate/index.html>

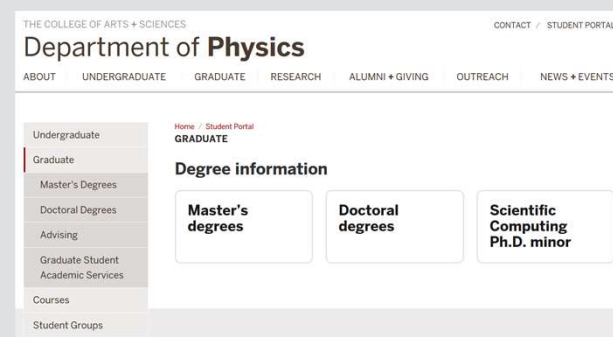
You are then “nominated for candidacy”.

Years >3:

- Do advanced research in G901.
- average time to PhD, IU physics, over last 5yrs \approx 6 yrs.

¹) biophysics tract is somewhat different

²) 90 cr hr requirement met after 3 yrs with 12/12/6 cr hr in Fall/Spring/Summer



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Qualifying exam:

- details: <https://physics.indiana.edu/student-portal/graduate/doctoral-degrees/qualifying-exam.html>
- in Aug after 1st year
- on material covered in undergraduate and 1st year grad courses
- Passing the qualifying exam is based not only on the student's performance on the written examination, but also on their performance in courses and, in particular, in research.
- Large majority of our students pass

Life at IU


A beautiful, vibrant, and supportive campus/department!

See our [www](#) site for links to many resources related to the community, health and wellness, housing:

IU Bloomington Interactive Campus Map	+
IU Student Health Center	+
IU Recreational Sports	+
Bloomington Visitors Center	+
Indiana Daily Student - Housing & Living Guide	+
Apartment Guide	+
Indiana Daily Student - Source Campus Visitors Guide Spring 2020	+



A beautiful, vibrant, and supportive campus!



INDIANA UNIVERSITY BLOOMINGTON

Q

College of Arts + Sciences

CONTACT / STUDENT PORTAL

ABOUT

ADMISSIONS


ACADEMICS

STUDENT EXPERIENCE

RESEARCH

CAREER PREPARATION

ALUMNI + GIVING




Life at IU

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Student Health Center

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ABOUT


We specialize in you

As a college student, you face unique health issues. You're living and studying in close quarters, which means increased exposure to colds, flu, and other diseases. You're juggling school, work, and social obligations—and that's stressful. And for the first time, you're making a lot of your own choices about your health.

Who can be a Student Health Center patient?

We welcome all IU Bloomington students and their:

- Spouses
- Dependents age 12 and



- New Patients
- Hours & Location
- Emergency & After Hours
- Meet Our Team
- Diversity & Inclusion
- Records
- Parents

3/13/21

R. Tayloe



INDIANA UNIVERSITY BLOOMINGTON

RECREATIONAL SPORTS

We connect, inform, and inspire people to lead active, healthy lifestyles.



IU Recreational Sports

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- Hours
- Memberships & Day Passes
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- Club Sports
- Faculty & Staff
- Group Exercise
- Intramural Sports
- Personal Training
- Strength & Cardio
- Special Events
- Employment Opportunities
- Get Involved

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INTRAMURAL SPORTS TRIVIA NIGHTS

Join us virtually for trivia on the dates below!

MARCH 10 @ 8 PM	NCAA Basketball
MARCH 24 @ 8 PM	Reality TV Shows
APRIL 7 @ 8 PM	Music (1980s - 2020s)
APRIL 21 @ 8 PM	Marvel

Must be an IU student to participate. Presented by **xfinity**

\$50 PRIZES



STUDENT RECREATIONAL SPORTS CENTER

1601 Law Lane,
Bloomington, IN 47408
Information: (812) 855-7772



BILL GARRETT FIELDHOUSE

1025 E. 7th Street
Bloomington, IN 47405
Information: (812) 855-5222

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Thanks for applying to our program, thanks for attending today, and we hope you join us next year!

Today

Schedule

Time	Topic	Location(s)	People
09:00 AM	Welcome and overview of department	Swain Hall front doors to SW 214	Dave Baxter, Dept Chair and Prof. of Physics
09:30 AM	Overview/timeline of PhD program	SW 214	Rex Tayloe, Dir. of Graduate Studies
09:50 AM	Questions, discussion	SW 214	all
10:00 AM	Meet with current grad students	SW 214	Reed Bowles and other current IU grads
10:45 AM	Virtual Tour of the department (Swain Hall)	Swain Hall West	Baxter, Tayloe, current graduate students
11:30-12 PM	Meeting 1 with research groups	Individual zoom rooms (see additional links)	Faculty, Students
12-12:30 PM	Meeting 2 with research groups	Individual zoom rooms (see additional links)	Faculty, Students
12:30 PM	Final Questions, Discussion	SW 214	Tayloe, etal

Notes:

- Zoom ID for main sessions: [84692934439](#). Passcode (case sensitive) from email
 - For research meetings, students are encouraged to rotate to another session after 30mins.
- Feel free to move rooms more than that and ask questions



INDIANA UNIVERSITY BLOOMINGTON

THE COLLEGE OF ARTS + SCIENCES

Department of Physics

Research Discussion Breakout Sessions

Virt. Room #	Topic	Faculty	Zoom Address
1	High-energy experiment: hadron/collider physics	Lammers, Shepherd, Mitchell, Evans, Meyer, Van Kooten	812 7838 7294
2	Nuclear physics: neutrons/spin physics	Wissink, Liu, Long, Salvat, Snow	871 0353 5684
3	Nuclear physics: theory	Liao, Horowitz, Passemar, Szczepaniak	872 7820 0116
4	Atomic physics and quantum information	Richerme, DeSalvo, Ortiz	811 2386 2151
5	High-energy and nuclear neutrinos	Urheim, Messier, Tayloe, Pettus, Salvat, Musser	885 7657 7431
6	Condensed Matter: experiment/theory	Baxter, Fertig, Sokol, Carini, Pynn, Seradjeh, Zhang	852 5370 0642
7	High-Energy: theory	Dermisek, Kostecky, Berger	894 1233 5558
8	BioPhysics	Setayeshgar, DeRuyter, Beggs, Jose	841 8269 3418

Questions/discussion welcomed