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

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
Professor, Physics
Director of Graduate Studies
✉ rtayloe@indiana.edu
📞 (812) 855-3057
📍 Swain West 336

Research Interests
neutrino and nuclear physics

Nelson Batalon Jr.
Student Services Administrator
✉ nbatalon@indiana.edu
📞 (812) 856-7059
📍 Swain West 152E

Anne-Sophie Stringer
Graduate Student Services Coordinator
✉ anstrin@iu.edu
📞 (812) 855-2095
📍 Swain West 152
Introductions

Faculty:

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
  - 37% post-doc research
  - 7% non-tenure track faculty
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... and we hope, your faces here, next year
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.

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 mechanics\(^1\))
- 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 requirement\(^2\)
- Complete candidacy seminar in 5th semester
- Meet teaching requirement (if not done in previous years)
- Complete any language requirements

You are then “nominated for candidacy”.

**Years >3:**
- Do advanced research in G901.
- average time to PhD, IU physics, over last 5yrs = 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

Much more information at:
https://physics.indiana.edu/student-portal/graduate/index.html
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Years >3:
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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

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
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
Life at IU

A beautiful, vibrant, and supportive campus!
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Thanks for applying to our program, thanks for attending today, and we hope you join us next year!

**Today**

**Schedule**

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

**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

Questions/discussion welcomed