ADMISSIONS

Address admission inquiries to: Graduate School Office, Box 870118, Tuscaloosa, AL 35487-0118
Phone: (877) 824-7237
E-mail: graduate.school@ua.edu
Admissions website: http://graduate.ua.edu/prospects/application/

Application deadlines
Fall admission:
U.S. students: January 15
Int'l. students: January 15
Spring admission:
U.S. students: November 1
Int'l. students: June 1

Application fee
U.S. students: $65
Int'l. students: $80
Admissions are considered after the deadlines if positions are available. Full consideration is only guaranteed if the deadlines are met.

Admissions information
For Fall of 2020:
Number of applicants: 84
Number admitted: 27
Number enrolled: 15

Admission requirements
Bachelor’s degree requirements: Bachelor’s degree in Physics is required.
Minimum undergraduate GPA: 3.0

GRE requirements
The GRE is recommended.
For Spring 2021, the GRE requirement has been waived for applicants. For Fall 2021, the GRE is required for normal admission with a score >=300. For those applicants who do not submit a GRE score, admission is possible with a more stringent first-year graduate GPA requirement.

GRE Physics requirements
The GRE Physics is not required.
Qualifying exams are waived for students with a GRE Physics score of >=70 percentile.

TOEFL requirements
The TOEFL exam is required for students from non-English-speaking countries.
Minimum accepted TOEFL scores:
PBT score: 550
iBT score: 79
The TOEFL requirement has been waived for Spring 2021 applicants.

Other admissions information
Undergraduate preparation assumed: Halliday and Resnick, Fundamentals of Physics; Serway, Moses, and Moyer, Modern Physics; Symon, Mechanics; Reitz, Milford, and Christy, Foundation of Electromagnetic Theory; Eisberg and Resnick, Quantum Physics of Atoms; Taylor, Classical Mechanics; Griffiths, Introduction to Electrodynamics; Griffiths, Introduction to Quantum Mechanics; Kittel & Kroemer, Thermal Physics; etc.

TUITION AND ASSISTANTSHIPS

Teaching Assistants, Research Assistants, and Fellowships
Number of first-year
Teaching Assistants: 11
Fellowship students: 4
Average stipend per academic year
Teaching Assistant: $18,747
Research Assistant: $18,747
Fellowship student: $24,000
All first year PhD students have guaranteed support for their first academic year and their first summer. Including summer support, the annual stipend is $24,996. For fellowship students, the annual stipend including summer support is between $25,000 - $30,000/-, depending on the fellowship.

Tuition year 2020–21:
Tuition for in-state residents
Full-time students: $5,390 per semester
Tuition for out-of-state residents
Full-time students: $15,125 per semester
Credit hours per semester to be considered full-time: 9
Deferred tuition plan: Yes
Health insurance: Available at the cost of $1,747 per year.
Academic term: Semester
Number of first-year students who received full tuition waivers: 15

FINANCIAL AID

Application deadlines
Fall admission:
Alabama

U.S. students: February 15  Int'l. students: February 15
Spring admission:
U.S. students: November 1  Int'l. students: June 1

Loans
Loans are available for U.S. students.
Loans are available for international students.
GAPSAS application required: No
FAFSA application required: No

For further information
Address financial aid inquiries to: Office of Student Financial Aid, Box 870162, 106 Student Services Center, The University of Alabama, Tuscaloosa, AL 35487.
Phone: (855) 469-2262
E-mail: financialaid@ua.edu
Financial aid website: http://financialaid.ua.edu

HOUSING

Availability of on-campus housing
Single students: No
Married students: No
Childcare Assistance: No

For further information
Address housing inquiries to: Julie Elmore, Assistant Director for Off-Campus Housing, 133 Parham East, Box 870399.
Phone: (205) 348-0200
E-mail: offcampushousing@sa.ua.edu
Housing aid website: https://offcampushousing.sa.ua.edu

Table A—Faculty, Enrollments, and Degrees Granted

<table>
<thead>
<tr>
<th>Research Specialty</th>
<th>2020-21 Faculty Enrollment</th>
<th>Number of Degrees Granted 2019-20 (2015-2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Master’s</td>
<td>Doctorate</td>
</tr>
<tr>
<td>Astronomy</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Astroparticle Physics</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Condensed Matter Engineering Physics/Science</td>
<td>9</td>
<td>27</td>
</tr>
<tr>
<td>Experimental particle physics</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Theoretical particle physics</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>27</td>
<td>67</td>
</tr>
<tr>
<td>Full-time Grad. Stud.</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>First-year Grad. Stud.</td>
<td>–</td>
<td>1</td>
</tr>
</tbody>
</table>

GRADUATE DEGREE REQUIREMENTS

Master’s: Plan I: 24 graduate semester hours in an approved program with satisfactory performance required; “B” average; one semester in residence; master’s examination required; thesis required; no language requirement. Plan II: 30 graduate semester hours in an approved program with satisfactory performance required; master’s examination required; thesis not required; no language requirement.

Doctorate: A minimum of 48 graduate semester hours required in an approved program with satisfactory performance; one academic year in residence required; oral preliminary examination required; dissertation and dissertation examination required.

Thesis: Thesis may be written in absentia.

SPECIAL EQUIPMENT, FACILITIES, OR PROGRAMS

The Dept. of Physics and Astronomy at the University of Alabama are members of the SARA Telescope consortium, which operates a 0.9 meter telescope at Kitt Peak in Arizona, a 0.6 meter telescope at Cerro Tololo in Chile and a 1.0 meter telescope in La Palma, Canary Islands, Spain. The astronomy group at UA is a member of Galaxy Zoo, the Sloan Digital Sky Survey (SDSS) IV, the VERITAS and CTA gamma ray observatories, and the IceCube Neutrino Observatory at the South Pole. The experimental particle physics group at UA is a member of CMS experiment at CERN’s Large Hadron Collider, the LZ direct Dark Matter detection experiment, the MoEDAL experiment at CERN, and the EXO-200 and nEXO neutrino experiments.

Condensed matter work is facilitated by two clean rooms. Several sputtering systems are available for sample synthesis. Characterization equipment includes alternating-gradient and superconducting vibrating-sample magnetometers, as well as scanning and transmission electron microscopes, scanning atomic force and tunneling microscopes, and Auger and x-ray photoelectron spectroscopy.

On site facilities further include well-equipped laboratories for research in condensed-matter physics, high-energy physics, and image processing.

Supporting facilities include a machine shop, electronics shop, computer workstations, and direct access to the campus mainframe computer and the Alabama supercomputer. Faculty and students participate in the Center for Materials for Information Technology and the Tri-Campus Material Science Ph.D. Program.

Table B—Separately Budgeted Research Expenditures by Source of Support

<table>
<thead>
<tr>
<th>Source of Support</th>
<th>Departmental Research</th>
<th>Physics-related Research Outside Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal government</td>
<td>$8,758,000</td>
<td></td>
</tr>
<tr>
<td>State/local government</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-profit organizations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business and industry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$8,758,000</td>
<td></td>
</tr>
</tbody>
</table>

Table C—Separately Budgeted Research Expenditures by Research Specialty

<table>
<thead>
<tr>
<th>Research Specialty</th>
<th>No. of Grants</th>
<th>Expenditures ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astronomy and Astrophysics</td>
<td>21</td>
<td>$898,000</td>
</tr>
<tr>
<td>Astroparticle Physics</td>
<td>7</td>
<td>$1,199,000</td>
</tr>
<tr>
<td>Experimental Condensed Matter Physics</td>
<td>13</td>
<td>$2,406,000</td>
</tr>
<tr>
<td>Theoretical Condensed Matter Physics</td>
<td>5</td>
<td>$1,705,000</td>
</tr>
<tr>
<td>Experimental particle physics</td>
<td>9</td>
<td>$2,335,000</td>
</tr>
<tr>
<td>Theoretical particle physics</td>
<td>1</td>
<td>$215,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>56</td>
<td>$8,758,000</td>
</tr>
</tbody>
</table>

FACULTY

Professor


Keel. William C., Ph.D., University of California, Santa Cruz, 1982. *Astronomy*. Galactic nuclei, jets, and galaxy interactions.
United States: Geographic Listing of Graduate Programs

**Alabama**


White, Raymond E., Ph.D., University of Virginia, 1986. *Astronomy, Astrophysics*. Dynamics and hydrodynamics in galaxies and galaxy clusters.


**Associate Professor**


**Assistant Professor**


**Professor Emeritus**


Buta, Ronald J., Ph.D., University of Texas, Austin, 1984. *Astronomy, Galaxy morphology catalogs*.


Byrd, Gene G., Ph.D., University of Texas, Austin, 1974. *Astrophysics*. Theoretical astrophysics.


Hardee, Philip E., Ph.D., University of Maryland, 1976. *Astrophysics*. Theoretical and observational astrophysics.


**Teaching Assistant Professor**


**Adjunct Faculty**


**Adjunct Professor**

Biermann, Peter L., Ph.D., University of Gottingen, 1971. Theoretical astrophysics.

Crocker, Deborah A., Ph.D., University of Virginia, 1987. Observational astrophysics.

Practitioner in Residence


DEPARTMENTAL RESEARCH SPECIALTIES AND STAFF

Theoretical
Astronomy. Galactic dynamics; galaxy formation; galactic structure; extragalactic astronomy; high-energy astrophysics; stellar evolution; supernovae. Bailin, Biermann, Townsley.
Condensed Matter Physics. Electronic structure of solids; magnetic properties; hierarchical and renormalization-group methods; magnetic lattice models. Butler, Claudia Mewes, Sarker, Schwiete, Tse, Visscher.


Experimental
Astronomy. Black holes; galaxy evolution; galaxy morphology; spectroscopy of AGN; galaxy clusters; globular clusters; X-ray astronomy; X-ray binaries. Bailin, Buta, Irwin, Keel, Nair, Santander, White, Williams.
Astroparticle Physics. Santander, Williams.
Precision Timing. Precision timing, next-generation atomic clocks, navigation systems. Hauser, LeClair.

View additional information about this department at www.gradschoolshopper.com. Check out the “Why Choose Us?” section, find out more about the department’s culture and get links to social media networks.