General University Information
President: Wallace D. Loh
Dean of Graduate School: Dr. Charles Caramello
University website: http://www.umd.edu

Control: Public
Setting: Suburban
Total Faculty: 4,309
Total Graduate Faculty: 1,472
Total number of Students: 38,140
Total number of Graduate Students: 10,697

Department Information
Department Chairman: Prof. Stuart Vogel, Chair
Department Contact: Ms. MaryAnn Phillips, Coordinator
Total full-time faculty: 75
Total number of full-time equivalent positions: 22
Full-Time Graduate Students: 36
First-Year Graduate Students: 6
Female First-Year Students: 4
Total Post Doctorates: 22

Department Address
PSC 1113
College Park, MD 20742-2421
Phone: (301) 405-1505
Fax: (301) 314-9067
E-mail: astr-grad@astro.umd.edu
Website: http://www.astro.umd.edu

Admission requirements
Bachelor’s degree requirements: An undergraduate degree in a related field (normally Astronomy or Physics) is required.
Minimum undergraduate GPA: 3.0

GRE requirements
The GRE is required.
Please contact astr-grad@deans.umd.edu to discuss exceptions.

Advanced GRE requirements
The Advanced GRE is required.
Please contact astr-grad@deans.umd.edu to discuss exceptions.

TOEFL requirements
The TOEFL exam is required for students from non-English-speaking countries.
PBT score: 575
iBT score: 84
For details and the most current information, see https://gradschool.umd.edu/admissions/international-admissions and http://globalmaryland.umd.edu/offices/international-students-scholar-services/graduate-admissions

Other admissions information
Additional requirements: The Department of Astronomy relies on a combination of course grades and letters of recommendation. Students from non-English speaking countries are required to demonstrate proficiency in English via the TOEFL or IELTS exams.
Undergraduate preparation assumed: Students who enter the graduate program are normally expected to have strong backgrounds in astronomy, physics, and mathematics. A student with deficiencies in one of these areas may be admitted but will be expected to remedy such deficiencies as soon as possible.

TUITION
Tuition year 2016–17:
Tuition for in-state residents
Full-time students: $651 per credit
Tuition for out-of-state residents
Full-time students: $1,404 per credit
The Department guarantees funding (with tuition waivers) for a minimum of 6 years, assuming adequate progress toward the degree. Students in teaching or research assistantship positions or on full fellowships receive 10 credits of tuition remission per semester, which covers the normal course load.
Credit hours per semester to be considered full-time: 8
Deferred tuition plan:
Health insurance: Available
Other academic fees: Semester fees are listed at http://bursar.umd.edu/Tuitionfees.php
Academic term: Semester
Number of first-year students who received full tuition waivers: 6

Teaching Assistants, Research Assistants, and Fellowships
Number of first-year
Teaching Assistants: 6
Fellowship students: 1
Average stipend per academic year
Teaching Assistant: $28,500
Research Assistant: $29,500
Fellowship student: $30,000
FINANCIAL AID

Loans
Loans are not available for U.S. students.
Loans are not available for international students.
GAPSFAS application required: No
FASFA application required: No

For further information
Address financial aid inquiries to: Ms. MaryAnn Phillips, Dept. of Astronomy, University of Maryland, College Park, MD 20742-2421.
Phone: (301) 405-1505
E-mail: astr-grad@deans.umd.edu
Financial aid website: http://www.financialaid.umd.edu/

HOUSING

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

For further information
Address housing inquiries to: Off-Campus Housing, Department of Resident Life, University of Maryland, College Park, MD 20742.
Phone: (301) 314-3645
E-mail: och@umd.edu
Housing aid website: http://www.och.umd.edu/och/InfoForHS-GenInfo.aspx

Table A—Faculty, Enrollments, and Degrees Granted

<table>
<thead>
<tr>
<th>Research Specialty</th>
<th>Faculty</th>
<th>Enrollments</th>
<th>Number of Degrees Granted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2015-16</td>
<td>Fall 2016</td>
<td>2015-16 (2010-15)</td>
</tr>
<tr>
<td>Astronomy</td>
<td>19</td>
<td>35</td>
<td>435</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>35</td>
<td>435</td>
</tr>
</tbody>
</table>

Graduate Degree Requirements

Master’s: Thirty credits (including six credits of Master’s research) are required; students must take at least six graduate Astronomy courses. Residence of one year of full-time study is required. A minimum GPA of 3.0 is required for graduation. A research project and written comprehensive exam are required.

Doctorate: Six graduate Astronomy courses plus two courses in supporting areas plus a minimum of 12 credits of doctoral research must be completed. Three years of residency are required. A research project and comprehensive exam must be completed prior to admission to candidacy, which must occur within four years of admission to the doctoral program. Dissertation and dissertation defense required (no less than one or more than four years from admission to candidacy). Minimum GPA of 3.0.

Special Equipment, Facilities, or Programs

Graduate students observe with some of the largest telescopes in the United States and around the world, as well as a wide range of space telescopes covering the electromagnetic spectrum from gamma-rays to the submillimeter. The Department has guaranteed access to the 4.3-meter Discovery Channel Telescope through a partnership with Lowell Observatory. We have joined Caltech and other partners in the Zwicky Transient Facility, a time-domain survey for studying rare and exotic transient phenomena with first light at Palomar Observatory in 2017. Our planetary science team is heavily involved with space missions visiting solar system bodies, such as NASA’s Deep Impact and EPoxy missions to study comets. Complementing its observational program, the Department has a strong theory group, and there is also an important emphasis on the design and building of powerful new instruments.

An extensive department network provides seamless access to software and hardware on a variety of UNIX and LINUX platforms. The computational astrophysics group maintains and upgrades a cluster for computation-intensive science projects. The department also has privileged access to three larger university clusters maintained by the university, including the world-class ‘DeepThought2’ and ’MARCC/Bluecrab’, which have been invaluable to our students in completing computationally-intensive thesis projects. Finally, the department has a new visualization laboratory for state-of-the-art simulations and displays of large datasets.

A number of our students conduct research and instrumentation projects with distinguished scientists at the nearby NASA Goddard Space Flight Center. The university’s scientific partnership with Goddard has recently been further strengthened via the creation of the Joint Space Science Institute (JSI). The first component of JSI is a black hole center, a close collaboration between the Departments of Astronomy and Physics and Goddard scientists that is unique in the world in involving all observational and theoretical aspects of black hole research.

The Department has recently established a partnership with Pontificia Universidad Catolica de Chile (PUC), one of the top two institutions for astronomy in Chile. PUC signed an agreement with UMD in 2010 that enables astronomy graduate students at both institutions to participate in a joint Ph.D. program starting in their third year. These students split their time between both locations and conduct their thesis research under the supervision of UMD and PUC co-advisors. UMD students gain improved access to Chilean observatories, which include many of the best telescopes in the world.

The department is located in two adjoining buildings, including the new Physical Sciences Complex (PSC). The PSC is an architectural masterpiece, and all 1st and 2nd year graduate students have windowed offices there.

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>$24,500,000</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>Total</td>
<td>$24,500,000</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</td>
<td>170</td>
<td>$24,500,000</td>
</tr>
<tr>
<td>Total</td>
<td>170</td>
<td>$24,500,000</td>
</tr>
</tbody>
</table>
**FACULTY**

**Professor**

- **Harris**, Andrew I., Ph.D., University of California, Berkeley, 1986. *Astronomy*. Extragalactic astrophysics; radio astronomy; instrumentation.
- **Mundy**, Lee G., Ph.D., University of Texas, 1984. Director, Laboratory for Millimeter-wave Astronomy; Director, Center for Research and Exploration in Space Science and Technology. *Astronomy*. Millimeter-wave and IR astronomy; star and planet formation; interstellar matter; astrometry.
- **Veilleux**, Sylvain, Ph.D., University of California, Santa Cruz, 1989. Director, Discovery Channel Telescope Partnership. *Astronomy*. Extragalactic astronomy; AGNs; formation and evolution of galaxies.

**Associate Professor**


**Assistant Professor**

- **Gezari**, Suvi, Ph.D., Columbia University, 2005. *Astronomy*. Time domain astrophysics; supermassive black holes and AGNs; supernovae.

**Emeritus**


**DEPARTMENTAL RESEARCH SPECIALTIES AND STAFF**

**Theoretical**

- Computational Astrophysics - Simulations of asteroid evolution. Richardson.
- Computational Astrophysics - Simulations of cosmological halo evolution. Ricotti.
- Cosmology and Galaxy Formation. Ricotti.
- High Energy Astrophysics. Active galactic nuclei; black holes; neutron stars; gravitational radiation. Miller, Reynolds.

**Experimental**

- Extragalactic Astronomy. Optical, infrared, radio, and X-ray observations. Active galactic nuclei; jets; time-domain astrophysics; starbursts; star formation; galactic winds; intergalactic medium; galaxy clusters; dark matter; cosmology. Bolatto, Gezari, Mushotzky, Reynolds, Veilleux.
- Millimeter-Wave Astronomy. Star formation; interstellar medium; galactic structure, dynamics, and evolution; protostellar disks; active galactic nuclei; instrumentation. Bolatto, Harris, Mundy, Vogel.

*View additional information about this department at www.gradschoolshopper.com*