**UNIVERSITY OF MIAMI**

**DEPARTMENT OF PHYSICS**

Coral Gables, Florida 33124

<table>
<thead>
<tr>
<th>Students Accepted</th>
<th>PHYSICS</th>
<th>ASTRONOMY</th>
<th>Related Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Degree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctorate</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Master's</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. **General**

   President: Donna Shalala
   Dean of Graduate School: Terri A. Scandura
   Department Chairman: Kenneth J. Voss
   Department Telephone Number: (305) 284-2323
   Type of Institution: University
   Control: Private
   Setting: Suburban
   Total Faculty: 2,100
   Total Graduate Faculty: 661
   Total Students: 14,978
   Total Graduate Students: 3,301
   Annual Graduate Tuition:
     All Graduate Students: Full-time—$24,300/semester
     Part-time—$1,350/credit
   Tuition rates for: 2007–08
   Deferred tuition plan: Yes
   Other Fees: $234 (includes student activity and athletic fees)
   Term: Semester

2. **Number of Faculty in Department**

   The combined total of full-time faculty in the three professorial ranks is 16. The combined total of full-time, part-time, and other faculty at all ranks is 25.

3. **Admission, Financial Aid, and Housing**

   Address: admission inquiries to: Department of Physics, Graduate Program
   Graduate application fee required: $50
   Application deadline (Fall admission): 2/1
   Admission information: For fall admission, 2007–08, 4 students were accepted from 65 applicants.
   Admission requirements: For admission to the graduate programs, a Bachelor’s degree in physics is required with a minimum undergraduate GPA of B specified. Exceptions can be made at the discretion of the committee on graduate student advising. The GRE is required for domestic applicants. No minimum acceptable score for admission is specified. The GRE Advanced is required with no minimum score specified. Students from non-English speaking countries are required to demonstrate proficiency in English via the TOEFL exam. Minimum acceptable score for admission is 550.
   Address: financial aid inquiries to: Assistantships: Department of Physics, Graduate Program, Grad. School Loans: Financial Aid Services
   GAPS/FAS application required: No
   Financial aid deadline: 2/1
   Loans available: Yes

4. **Graduate Degree Requirements**

   Master's: 30 graduate credits in approved program with B average; score of S or better in the comprehensive departmental exam; two semesters of full-time study or equivalent in residence; no language requirement.
   Doctorate: A minimum of 24 graduate credits in approved program with B average; score of P in the comprehensive departmental exam by the student’s second yearly attempt at the latest; dissertation and dissertation exam required; one year residency required; no foreign language requirement.
   Thesis: Thesis may not be written in absentia.
   Special Equipment, Facilities, or Programs: Cooperative research programs are conducted with the Rosenstiel School of Marine and Atmospheric Sciences of the University of Miami, and with the Atlantic Oceanographic and Meteorological Laboratory of NOAA and various domestic and foreign universities.

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*Address housing inquiries to: Dept. of Residence Halls, P.O. Box 248044, Miami, FL 33124

On-campus, single student housing available: Yes

$9,160/year room & board

On-campus, married student housing available: No

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Table A—Faculty, Enrollments, and Degrees Granted

<table>
<thead>
<tr>
<th>Research Specialty</th>
<th>2005–06 Faculty</th>
<th>Enrollment¹</th>
<th>No. of Degrees Granted²</th>
<th>Median No. of Years for 2006–07</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Master’s</td>
<td>Doctorate</td>
<td>Master’s</td>
<td>Terminal’s</td>
</tr>
<tr>
<td>Astrophysics</td>
<td>2</td>
<td>3</td>
<td>0(0)</td>
<td>0(0)</td>
</tr>
<tr>
<td>Condensed Matter</td>
<td>5</td>
<td>2</td>
<td>1(5)</td>
<td>1(1)</td>
</tr>
<tr>
<td>Physics</td>
<td>2</td>
<td>1</td>
<td>0(7)</td>
<td>0(0)</td>
</tr>
<tr>
<td>Optics</td>
<td>4</td>
<td>4</td>
<td>0(1)</td>
<td>0(0)</td>
</tr>
<tr>
<td>Plasma Physics &amp; Fusion</td>
<td>3</td>
<td>2</td>
<td>0(1)</td>
<td>0(0)</td>
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<tr>
<td>Non-specialized</td>
<td>0</td>
<td>18</td>
<td>0(0)</td>
<td>0(0)</td>
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<tr>
<td>Total</td>
<td>30</td>
<td>11(4)</td>
<td>1(1)</td>
<td>3(10)</td>
</tr>
</tbody>
</table>

¹ Students not yet committed to a research specialty are entered under non-specialized.
² Five-year totals in parentheses.
Table B—Appointments to Graduate Students, 2006–07

<table>
<thead>
<tr>
<th>Title of Appointee</th>
<th>Appointments</th>
<th>Academic Load</th>
<th>Hours of Service</th>
<th>Stipend for Academic Year ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>First year</td>
<td>Semester</td>
<td></td>
</tr>
<tr>
<td>Teaching Assistant</td>
<td>18/4</td>
<td>9</td>
<td>15-20</td>
<td>18,000</td>
</tr>
<tr>
<td>Research Assistant</td>
<td>5/0</td>
<td>9</td>
<td>15-20</td>
<td>18,000</td>
</tr>
<tr>
<td>Fellows</td>
<td>1/0</td>
<td>9</td>
<td>–</td>
<td>18,000</td>
</tr>
<tr>
<td>Total</td>
<td>24/4</td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

5. Personnel Engaged in Separately Budgeted Research, 6/03–6/04

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professoral faculty</td>
<td>10</td>
</tr>
<tr>
<td>Graduate students</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
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</table>

6. Separately Budgeted Research Expenditures by Source of Support

<table>
<thead>
<tr>
<th>Source of Support</th>
<th>Departmental Research</th>
<th>Research Outside Department</th>
<th>Total Expenditures ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal government</td>
<td>$4,708,635</td>
<td>$</td>
<td>$4,708,635</td>
</tr>
</tbody>
</table>

Table C—Separately Budgeted Research Expenditures

<table>
<thead>
<tr>
<th>Research Specialty</th>
<th>No. of Grants</th>
<th>Expenditures ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astrophysics</td>
<td>6</td>
<td>507,209</td>
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<tr>
<td>Condensed Matter Physics</td>
<td>11</td>
<td>2,959,675</td>
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<tr>
<td>Optics</td>
<td>3</td>
<td>1,013,171</td>
</tr>
<tr>
<td>Particles &amp; Fields</td>
<td>2</td>
<td>4,708,635</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
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</tr>
</tbody>
</table>

FACULTY

Professors


Barnes. Stewart, Ph.D., UCLA, 1972. Solid state theory; many-body theory; superconductivity and magnetism.


Huerta. Manuel A., Ph.D., Miami, 1970. Statistical mechanics; plasma physics; numerical simulations in MHD.


Associate Professors

Ashkenazi. Josef, Ph.D., Hebrew Univ. of Jerusalem, 1975. Solid state theory; first-principles band structure methods; many-body physics; high-temperature superconductors.


Assistant Professors


Galeazzi. Massimiliano, Ph.D., University of Genoa, Italy, 1999. X-ray astrophysics; studies of interstellar/intergalactic medium and X-ray sources; development of X-ray detectors.


Adjunct and Professors Emeriti


Moore. William Franklin, Ph.D., Miami, 1980.


RESEARCH SPECIALTIES AND STAFF

Theoretical

Complex Systems and Complexity. Emergent cooperative phenomena in biological and social systems; dynamical evolution; extreme behavior: prediction and soft control. Johnson. Elementary Particles. Quantum field theory (especially integrable models); supersymmetry; supergravity; superstrings. Alvarez, Curtright, Ghandour, Miezinescu, Nepomechie.


Solid State. Electronic structure of solids; many-body physics; high-temperature superconductivity; magnetism. Ashkenazi, Barnes, Johnson. Linear and nonlinear quantum transport; reduced-dimensionality systems. Van Vliet.

Experimental

Cosmology and Astrophysics. Studies of the cosmic microwave and infrared background; studies of the interstellar/intergalactic medium and X-ray sources; instrumentation for low-noise RF and mm-wave detectors and telescopes; development of high-resolution cryogenic microcalorimeters and bolometers. Galeazzi, Gundersen.


Ocean Optics. Light scattering and absorption by marine particulates; instrumentation for measurement of optical properties of the ocean and atmosphere. Voss.

Solid State Physics. Ferromagnetic transmission resonance in metals; spin relaxation; exchange energy; phonon excitation and propagation; nonlinear phenomena. Alexandrakis. Transport and magnetic properties of materials at low temperatures; transition metal oxides, high-temperature and organic superconductors, and reduced dimensional systems (e.g., layered systems and thin films); electrical and thermal conduction, thermoelectric effects; vortex dynamics, critical current, quantum tunneling, laser deposition of ferroelectric thin films. Cohn, Zuo.

More information is available through http://www.physics.miami.edu