

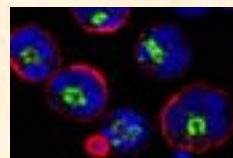
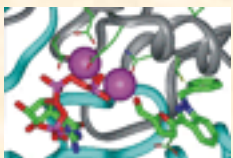


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# Training Programs in the Graduate School of Biomedical Sciences Newark Division





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# Degrees Offered:

- PhD
- MS & MBS
- MD/PhD
- DMD/PhD
- MS/MBA
- MBS/MPH
- Certificates
  - Stem Cell Biology
  - Pharmacological Sciences
  - Biodefense
- Concentration
  - Bioinformatics

<http://www.umdnj.edu/gsbsnweb/index.htm>



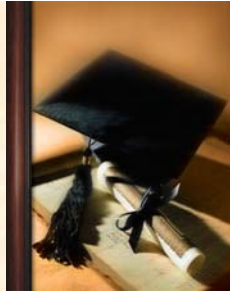
# What are your career goals?

- **Medicine**
- **Dentistry**
- **Veterinary**
- **Pharmacy**
- **Teaching**
  - University
  - College
  - Museums
  - K - 12
- **Research**
  - University
  - Research institute
  - Government
  - Industry
    - Pharmaceutical
    - Biotech
    - Equipment



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# Where do you belong?

## PhD Program:

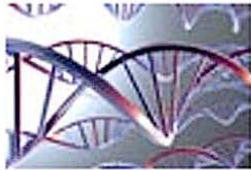
Students with strong science backgrounds, good GPAs (>3.0) and a *strong interest in research* should apply to our PhD program. Graduates of our PhD programs will be qualified to perform research at colleges, universities, biotech companies and pharmaceutical companies.



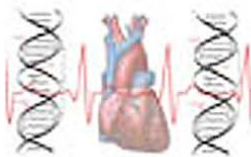
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# Departmental PhD Programs



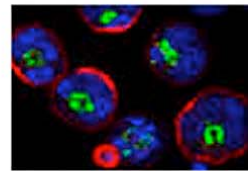
Biochemistry & Molecular Biology  
Biochemistry is the common language of all biological disciplines. Molecular Biology encompasses a set of complementary approaches to life processes.



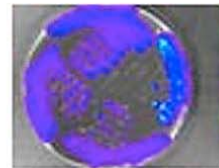
Cell Biology & Molecular Medicine  
The program focuses on studies of integrative physiology and molecular biology to understand the pathophysiology of disease states affecting the cardiovascular system and cancer.



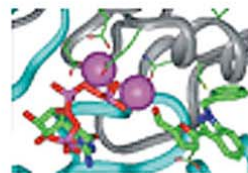
Microbiology & Molecular Genetics  
The Program offers rigorous and broad training in the fields of molecular genetics and microbial pathogenesis through a series of courses, minicourses, and presentations that emphasize discussion of the original literature.



Molecular Pathology & Immunology  
The Program provides comprehensive instruction and laboratory-based training in the molecular and cellular basis of cancer and other human diseases, and in responses to disease-linked pathologies by the immune and inflammatory systems.



Oral Biology  
The NJDS-PhD program in Oral Biology is the only program in the State of New Jersey that offers a PhD degree with an emphasis on dental research.



Pharmacology & Physiology  
The program prepares students for research dedicated to understanding the functioning of the body at molecular, cellular, and organ system levels and to the application of this knowledge to alleviate human suffering and disease.



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# Inter-departmental PhD Programs



## Biomedical Sciences

This Interdisciplinary Program allows students to perform their doctoral research with mentors in basic science or clinical departments, emphasizing projects in translational medicine. Students may customize their curricula to fit their research and training needs.



## Biomedical Engineering

Biomedical Engineering integrates engineering principles from physical, mathematic, chemical, and computational sciences with biomedical sciences to study medicine, behavior and health.



## Integrative Neuroscience

The Integrative Neuroscience (INS) program provides outstanding training across the subdisciplines of neuroscience with intensive training in one focus area.



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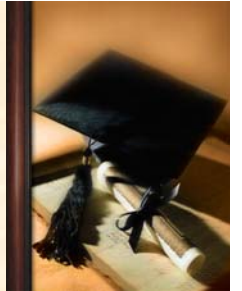
## **PhD Programs – all matriculated, full-time students receive:**

- **Stipend of \$26,500/yr**
- **Tuition Remission**
- **Free Health Insurance**
- **Paid Travel to 2 Scientific Meetings**



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## **MD/PhD Program**

- **Designed for students who want to integrate clinical and research careers**
- **The program is a highly competitive interdisciplinary 7 year joint program between NJMS and GSBS**
- **Students receive a stipend and tuition remission for all years**





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# Masters Programs

- Students who desire jobs in the pharmaceutical or biotech industries and don't desire to commit to a PhD program
- Students interested in Science Education.
- Students who want to improve their credentials for professional schools (medical, osteopathic, dental, veterinary and others).



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## **Masters Programs (continued)**

- **MS (Thesis) or MBS (Non-Thesis) degrees**
- **Courses taught during evening and day**
- **A limited number of students will be able to take up to two medical or dental courses as part of their credit requirements**
- **Cost ~ \$16,740 for 30 credits (in-state students)**



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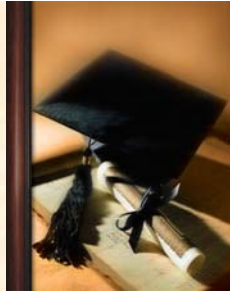
## **MS/MBA (with Rutgers)**

- **For those wishing to combine a career in science with business and marketing**
- **Can be completed in 2 - 2.5 years, full time (part-time course work also available)**



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## **MS/MPH**

- Dual degree program between the GSBS and SPH (School of Public Health)
- Covers science and public health concepts for those contemplating positions in the pharmaceutical or biotechnology industry
- Program can be completed in 2.5 years



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## Certificate Programs

- For those wishing to achieve a concentration in a particular subject area (currently Pharmacological Sciences, Stem Cell Biology and BioDefense)
- Students might want to enter/further a career in teaching, administration, etc
- Certificate Programs require 15 credits



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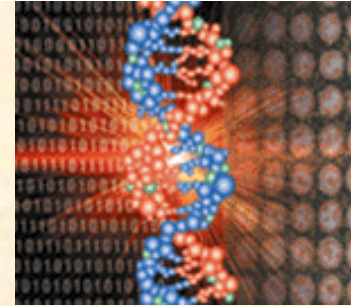
## **Some of our Elective Courses**

- **Bioterrorism and Biodefense**
- **Stem Cells & Molecular Medicine**
- **Bioinformatics**
- **Current Molecular Techniques**
- **Laboratory Animal Science**
- **Principles of Pharmacology**
- **Molecular Oncology**
- **Foundations of Neuroscience**
- **Immunology**

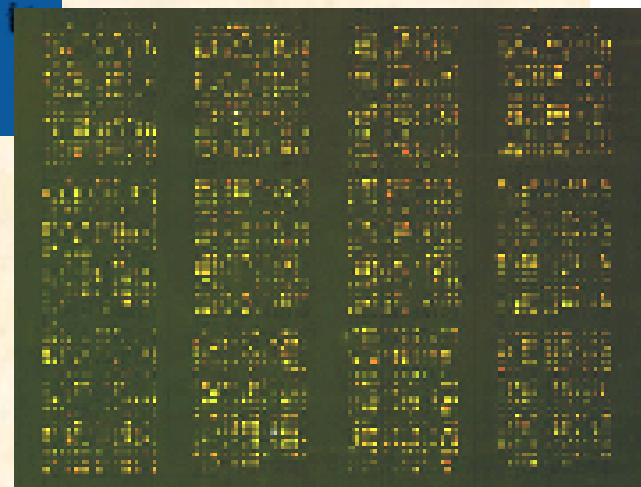
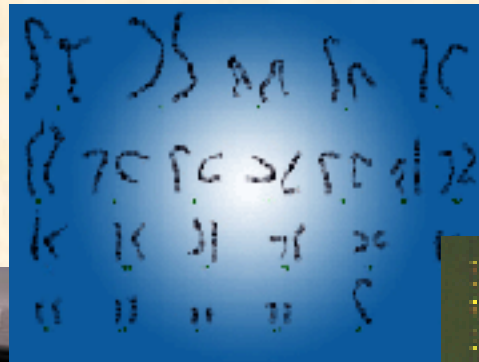


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# NJMS Research Core Facilities and Shared Research Resources





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# NJMS Research Core Facilities

- Center for Advanced Proteomics Research  
<http://njms.umdnj.edu/proweb/>
- Confocal and Histology Cores  
<http://njms.umdnj.edu/research/resources/histology/index.cfm>
- Molecular Resource Facility  
<http://njms.umdnj.edu/research/mfrweb/index.htm>
- Flow Cytometry Core  
[http://njms.umdnj.edu/research/resources/flow\\_cytometry\\_cell\\_sorting/index.cfm](http://njms.umdnj.edu/research/resources/flow_cytometry_cell_sorting/index.cfm)
- Biostatistics  
[http://njms.umdnj.edu/departments/preventive\\_medicine/biostats.cfm](http://njms.umdnj.edu/departments/preventive_medicine/biostats.cfm)
- Bioinformatics
- Transgenic Mouse Facility  
[http://njms.umdnj.edu/research/resources/animal\\_core/transgenic\\_mouse\\_facility/index.cfm](http://njms.umdnj.edu/research/resources/animal_core/transgenic_mouse_facility/index.cfm)







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# Other Shared Research Resources



- X-Ray-Crystallography Facility

<http://www.wahlab.org/index.php?page=x-ray-crystallography-core-facility>

- Electron Microscopy Facility

<http://dentalschool.umdj.edu/research/em/>

- Live Animal Imaging Facility

<http://njmsuhcc.umdj.edu/home/index.php/ivis-imaging.html>

- Institute of Genomic Medicine

<http://njms.umdj.edu/genesweb2/>

- Regional Biocontainment Facility

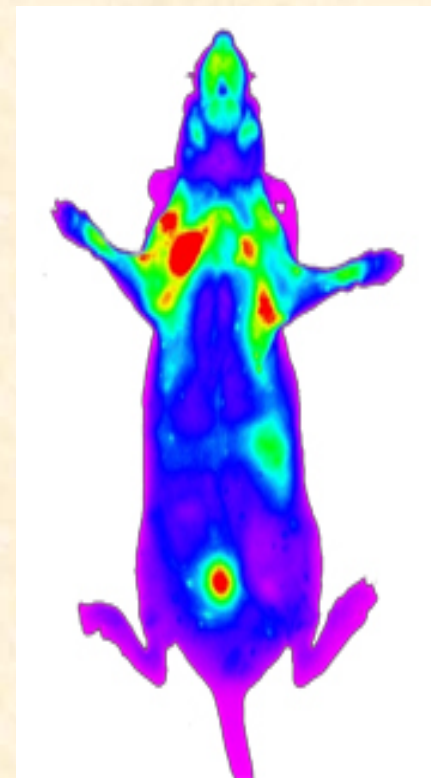
<http://njms.umdj.edu/research/rbl/index.cfm>

- Irradiation Facility

<http://www.umdj.edu/orssweb/>

- Hypoxia Research Facility

[http://www.umdj.edu/radweb/facilities/hypoxia\\_chamber.htm](http://www.umdj.edu/radweb/facilities/hypoxia_chamber.htm)





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# Sloan Foundation Minority Training Grant

The Graduate School of Biomedical Sciences at Newark is one of only 47 programs nationwide selected to receive funding from the Alfred P. Sloan Foundation. As a program with a proven track record of accepting minority students, GSBS was eligible for funding which provides students with a supplement to their stipends of up to \$12,000. In 2005-2006 GSBS matriculated six minority students out of a class of 35 and five more students entered the 2006-2007 class. Currently, there are 25 minority students enrolled in all phases of doctoral programs out of a total class of 176 students.

For further information:

**Nick Ingoglia, Ph.D. (Ingoglia@umdnj.edu) Professor of Pharmacology, Physiology & Neuroscience New Jersey Medical School, MSB H-643 Newark, NJ 07101 Tel/Fax 973-972-4776/5656**



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# Undergraduate Summer Research Program

- “Hands-on” research laboratory experience
- June 1 through August 7
- Stipend \$3,500.00 + housing
- Laboratory Research, presentations by faculty and students at weekly meetings



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# Top Ten Reasons To Attend Graduate School in the GSBS-Newark

1. Our faculty really care about graduate education and truly help our students achieve their career goals
2. Our researchers are well supported. NJMS was ranked 64<sup>th</sup> out of 126 medical schools based on NIH funding, ranking higher than SUNY Stonybrook, RWJMS, Penn State, Brown and Tufts. With the acquisition of the PHRI, NJMS should rank 55<sup>th</sup> in the nation
3. The Prudential center Rocks, and The NJ Performing Arts Center (NJPAC) is an outstanding venue for classical music, jazz, dance and theatre.
4. Newark and the NYC metropolitan area have great restaurants and nightlife
5. You can fly to and from anywhere via Newark Liberty International airport with special fares appearing daily
6. Branch Brook Park, which is less than 2 miles from campus, has more Japanese flowering cherry trees than the tidal basin in Washington, DC
7. Newark is the largest city in NJ and the 64<sup>th</sup> largest city in the US - its mayor Corey Booker is young, visionary and some believe the next Barack Obama.
8. Our campus is located in a section of Newark called University Heights and our neighbors are Rutgers, NJIT and Essex Community College. You are surrounded by people wanting to learn and that's a good thing!
9. Behind only New York and Boston, Newark is America's 3rd oldest city dating back to 1666.
10. Gas prices in Newark are the lowest in the nation

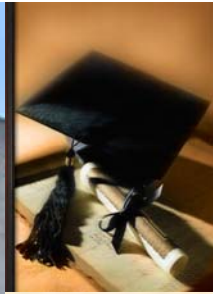


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### **Student Campus Housing at 180 Market St., completed Fall of 2006.**

The building contains 234 residential apartment units in a 14 story structure (9 stories of housing on top of a 5 story parking deck). It offers 46 studio apartments; 34 one-bedroom apartments; 77 two-bedroom apartments; and 77 three-bedroom apartments. Each unit is fully furnished with kitchens, bathrooms, and cable/phone/internet ports.



# The Medical Science Research Building





The Medical Science  
Research Building

The UH-Cancer  
Center which  
opened Oct. 2006





- The GSBS Newark Campus is 20 minutes from New York City
- The red brick building (foreground) is the International Center for Public Health, home to the Department of Microbiology and the Public Health Research Institute of NJMS

