The doctoral program provides training in the new interdisciplinary field of computational and integrative biology. The program offers course work and hands-on research experience for best understanding key concepts in biological chemistry, biomathematics, computer science, biophysics, and integrative biology. The program teaches students how to apply quantitative approaches to biological research, critically analyze scientific literature in the field, and skillfully communicate scientific ideas and research results. Doctoral students will be required to demonstrate the capability to make a significant original research contribution to the area of computational and integrative biology and to present and defend this contribution in an oral defense. Graduates are prepared for careers in academia, research careers in biology, and pharmaceutical industry positions.

ADMISSIONS REQUIREMENTS
- Online application (gradstudy.rutgers.edu/apply/overview)
- A transcript showing the completion of an undergraduate degree in one of the natural sciences, mathematics, computer science or engineering. Students with a master’s degree in one of these areas will also be considered.
- Three letters of reference
- Personal statement
- GRE scores (General Test required; Subject Test recommended)
- TOEFL scores are required of all foreign students having English as a second language.

FUNDING OPPORTUNITIES
The Graduate School offers competitive funding opportunities in the form of fellowships, scholarships, and tuition remission awards. These awards are determined by the graduate department’s admissions committee and do not require an additional application. The computational and integrative biology program awards several teaching assistant and graduate assistant positions each year, and awards are determined by the department’s admissions committee. No additional application is necessary to be considered for these positions.

DEGREE REQUIREMENTS
Minimum of 70 total credits
- Completion of a minimum of 30 graduate level course credits and 40 research credits
- Completion of the Ph.D. qualifying exam
- Completion and oral defense of a thesis dissertation on original research

CONCENTRATIONS
- Biological rhythms (circadian and ultradian)
- Biofuels and sustainable energy
- Predictive toxicology and pharmacology
- Metagenomics
- Systems biology and biomathematics
FACULTY AND RESEARCH AREA

- Joseph V. Martin (Ph.D., University of Southern California) professor; director, Center for Computational and Integrative Biology | hormone actions at neurotransmitter receptors, electroencephalographically-defined sleep and waking, computational models

- Benedetto Piccoli (Ph.D., International School for Advanced Studies, Italy) Joseph and Loretta Lopez Chair Professor; program director, Center for Computational and Integrative Biology | control and optimization of network flows, systems biology, animal groups

The faculty associated with the computational and integrative biology program is comprised of an extensive, interdisciplinary group of scholars from the fields of psychology, computer science, mathematics, physics, chemistry, and biology. Please refer to the program’s website for a complete listing.

PROGRAM HIGHLIGHTS

The Center for Computational and Integrative Biology seminar series offers interesting presentations related to research in computational and integrative biology. The presentations reflect the types of collaborative research being done at the center and provide an opportunity to come together as a community for informal discussions and conversation.

Website: ccib.camden.rutgers.edu/graduate-program

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