

CHINA SCHOLARSHIP COUNCIL-YALE WORLD SCHOLARS



IN THE COMBINED PROGRAM IN THE BIOLOGICAL & BIOMEDICAL SCIENCES (BBS)



2019-2020



Twenty-first century research in the biological and biomedical sciences is fast-paced, exciting, and interdisciplinary. Training students to excel in this research environment is the singular goal of Yale University's BBS Program.

BBS provides unified recruiting, admissions, and training for the Ph.D. in all of the bioscience graduate programs at Yale. BBS faculty are from all of Yale's bioscience departments and also include faculty from Engineering, Psychology, Computer Science, Chemistry, Statistics, and many of Yale's clinical departments at the School of Medicine. Students in the CSC-Yale World Scholars Program have access to all the resources, labs and training opportunities in the Yale BBS Program, as well as special training designed specifically to ensure their success in graduate school. Please visit our website at bbs.yale.edu.

BBS First Year Training

Students apply to and affiliate with one of seven interest-based "Tracks" within BBS:

- Biochemistry, Quantitative Biology, Biophysics & Structural Biology
- Computational Biology and Bioinformatics
- Immunology
- Microbiology
- Molecular Cell Biology, Genetics & Development
- Molecular Medicine, Pharmacology & Physiology
- Neuroscience
- Plant Molecular Biology

First-year students take two to three courses per semester, conduct two to four lab rotations, and then select a thesis adviser in whose lab they will conduct their doctoral research.

Second Year and Beyond

Second year students join one of the Ph.D. programs below:

- Cell Biology
- Cellular & Molecular Physiology
- Computational Biology & Bioinformatics
- Experimental Pathology
- Genetics
- Immunobiology
- Interdepartmental Neuroscience Program
- Microbiology
- Molecular Biophysics & Biochemistry
- Molecular, Cellular, & Developmental Biology
- Pharmacology

Students finish course requirements, take a qualifying exam, act as teaching assistants in lecture or lab courses, and conduct thesis research. The average time-to-degree for BBS students is 5.5 years.

The China Scholarship Council-Yale World Scholars Program

Yale University has a deep and long-standing relationship with China. Many leaders in China trained at Yale, and there are currently over 80 joint programs and projects between Yale and China. The China Scholarship Council (CSC) – Yale World Scholars Program started in 2006 as the first joint project involving graduate training in biomedical sciences. The goal of the program is to bring graduates from leading Universities in China to Yale for graduate studies in Yale's BBS program in order to train leaders who can contribute significantly to research in China. Regardless of the BBS Track they enter in their first year and the department they join in their second year, students are free to take classes, do lab rotations, conduct thesis research, and attend seminars anywhere on the Yale campus. In addition, CSC-Yale Scholars have customized professional development activities. Following completion of Ph.D. studies at Yale and postdoctoral training, students will return to China for at least two years. Funding for the program is provided by two-year fellowships from the China Scholarship Council and by Yale.

Professional Practices in Biomedical Science. Through meetings with successful Yale faculty and senior members of the Yale administration, CSC-Yale World Scholars will be introduced to the critical practices, strategies, and conventions necessary to become future leaders in biomedical research. For example, Scholars meet with faculty to gain insights on how to succeed in graduate school, run a successful research lab, start a biotech company, or translate basic science discoveries into clinical advancements. Students also have the opportunity to meet with deans, vice presidents, or provosts, to learn about the operations of leading a research university. Meetings are exclusively for CSC-Yale World Scholars and are not offered to other students.

English Communication for Scientists. Scholars will be enrolled in Yale's English Language Program and will participate in a three-week intensive program to improve their English language skills. The course will help students with the fundamental skills of pronunciation, vocabulary, reading, and conversation with a special emphasis on scientific and technical literature, but it will also introduce them to scientific writing and public speaking. The ability to write for publication in scientific journals and to present one's research in a public forum are indispensable to becoming successful scientists, and this communications course will provide students with the necessary foundations to acquire these skills during their graduate training.

Education and Research Facilities

Yale University and its School of Medicine constitute one of the world's great research institutions. Yale is among the top universities in research funding from the National Institutes of Health and the Howard Hughes Medical Institute. It also has hundreds of thousands of square feet of research space, much of it in new or newly renovated buildings. Additionally, the university continues to expand into a new research campus that it acquired from a major pharmaceutical company.

The BBS faculty members are leaders in virtually every major field of modern biological and biomedical sciences, and despite their commitment to their own laboratories, they pride themselves on maintaining an educational and research environment that is both collaborative and supportive. Students should expect to interact with numerous faculty members as part of their training at Yale.

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APPLYING TO THE BBS PROGRAM
2019-2020



Qualifications of Applicants

The BBS Program seeks applicants who have the following qualifications:

1. *A strong background in the Life Sciences.*

Students can major in any of the biological sciences (biology, biochemistry, biophysics, molecular biology, cell biology, genetics, physiology, neuroscience or other related fields) or in chemistry, physics and mathematics. The best applicants with biology degrees will also have taken classes in chemistry, organic chemistry, and physical chemistry. Non-biology majors should have taken at least introductory level biology classes.

Yale is in the midst of expanding its research and training opportunities in the plant sciences, and the BBS Program is particularly interested in recruiting students with research interests in plant molecular biology.

2. *Laboratory research experience.*

Admissions committees will strongly favor applicants who have previous research experience. Most importantly, students should be able to think independently in the lab rather than simply follow the instructions of a supervisor.

3. *High academic standards.*

Applicants should have very high grades in their undergraduate courses. GRE scores are required only for applicants to the Computational Biology and Informatics Track. TOEFL scores are required of all applicants. Although high TOEFL and GRE scores are attractive to admissions committees, a strong academic record and research experience are also very important.

4. *English proficiency.*

It is very important that applicants have the ability to speak and write fluently in English. Students who are very intelligent and highly motivated, yet who have difficulty communicating in English, will struggle to succeed in graduate school at Yale.

Nominations

Nine Chinese institutions currently participate in the CSC-Yale World Scholars Program: Fudan University, Huazhong University of Science and Technology, Nanjing University, Peking University, Shanghai Jiao Tong University, Sun Yat-Sen University, Tsinghua University, University of Science and Technology of China, and Zhejiang University. Each institution nominates 4 students and officially conveys the information to Li Meng, Deputy Director of CSC at lmeng@csc.edu.cn, and to John Alvaro,

BBS Administrative Director, at john.alvaro@yale.edu. The 36 students apply to Yale via the process described below.

Application Process

Prior to beginning the application process, nominated students should contact Bonnie Ellis at bonnie.ellis@yale.edu to request an application fee waiver. Ms. Ellis will send them a fee waiver form, which they will need when they prepare their applications. With this form, they will NOT need to pay the application fee.

All students apply to the BBS Program via the Yale Graduate School's online application, which is available from our website at www.bbs.yale.edu. On the application, students select a BBS Track to which they wish to apply. Each Track has a separate admissions committee that will review its own applications. Although the BBS application deadline is at the beginning of December, nominees for the CSC-Yale World Scholars program should submit their applications no later than November 1. Faculty from the BBS Program will travel to China in December to interview applicants, and the November 1 deadline provides faculty with sufficient time to review application materials before the interviews.

To prepare for the CSC-Yale World Scholars interview in China, we strongly encourage incorporating student interviews by faculty in the process of selecting nominees for the program. Students who have an opportunity to practice are more experienced and therefore more successful during the formal Yale interview process.

After the interviews with the Yale faculty have been completed, the BBS admissions committees will select the top nominees from the pool of 36 applicants to recommend for admission to the Yale Graduate School. These Scholars will be the best candidates in the judgment of the Yale admissions committees and will not necessarily be evenly distributed among the Chinese universities. The Dean of the Graduate School makes all final admissions decisions, which will be communicated directly to the students. The CSC and the Chinese universities will also be notified.

The students admitted to Yale then apply for a CSC fellowship via an online application, available at <http://apply.csc.edu.cn>. The CSC will officially announce the selection results to relevant Chinese universities and grantees in official documents.