

GENETICS AND DEVELOPMENT • biological chemistry • biomedical
engineering • cancer biology • cell regulation • immunology • integrative
biology • molecular biophysics • molecular microbiology • neuroscience



GENETICS AND DEVELOPMENT■ **CHAIR, GRADUATE PROGRAM**

John M. Abrams, Ph.D.

■ **DEGREE OFFERED**

Doctor of Philosophy

FACULTY■ **PROFESSORS****John M. Abrams**

Ph.D., Stanford University, 1989

Linda A. Baker

M.D., University of Louisville, 1989

Zhijian “James” Chen

Ph.D., State University of New York at Buffalo, 1991

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Ph.D., University of Cape Town, South Africa, 1989

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M.D., University of Witwatersrand, South Africa, 1961

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Ph.D., University of California, Los Angeles, 1971

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M.D., Ph.D., Duke University, 1990

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Ph.D., Wayne State University, 1981

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Ph.D., University of Wisconsin, Madison, 1990

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M.D., Case Western Reserve University School of Medicine, 1979

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M.D., University of California, Los Angeles, 1981

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Ph.D., Columbia University, 1992

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Ph.D., University of Washington, 1988

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Ph.D., University of Cologne, Germany, 1989



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Ph.D., University of Illinois Urbana Campus, 1994

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Ph.D., Baylor College of Medicine, 1993

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Ph.D., Vanderbilt University, 1995

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Ph.D., Michigan State University, 1974

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M.D., Ph.D., Johns Hopkins University, 2004

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Ph.D., Stanford University, 1996

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Ph.D., Wake Forest University, 1981

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Ph.D., Massachusetts Institute of Technology, 1985

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Ph.D., University of Kansas, 1972

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Ph.D., M.D., Stanford University School of Medicine, 1974, 1975

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■ **ASSOCIATE PROFESSORS****Sandeep Burma**

Ph.D., National Institute of Immunology, India, 1995

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M.D., Ph.D., University of California, Los Angeles, 1993

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Ph.D., University of Miami, 1982

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■ **ASSISTANT PROFESSORS****James Amatruda**

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M.D., Ph.D., Baylor College of Medicine, 2004

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M.D., University of Navarra, Spain, 1993; Ph.D., Massachusetts Institute of Technology, 1998

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Ph.D., Yale University, 2002

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Ph.D., M.D., University of Pennsylvania, 1998, 2000

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M.D., Ph.D., UT Southwestern Medical Center, 2000

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Ph.D., Ludwig-Maximilians University, Germany, 1989

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Ph.D., University of Utah, 2001

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OBJECTIVES

The Genetics and Development Graduate Program faculty provides education in interdisciplinary studies relating to growth, development, and inheritance. Fundamental principles in genetics and their application to the dissection of biological problems are emphasized. Training is focused on high-caliber original research and a discussion-based curriculum. The goal of this Program is to guide students to become outstanding and rigorous scientists, leading to independent careers in academics or industry.

SPECIAL REQUIREMENTS FOR ADMISSION

Students wishing to join the Genetics and Development Graduate Program must be enrolled in the Division of Basic Science and be in good standing academically. Usually students seek enrollment in the Program toward the end of the first year of study, following completion of the set of research rotations and selection of a mentor.

CURRICULUM■ **CORE COURSES**

First-year students enroll in the Division of Basic Science Core Course and participate in three laboratory rotations. Students are expected to select a mentor by June of their first year of study and affiliate with a graduate program shortly thereafter.

■ **REQUIRED COURSES**

Students in the Genetics and Development Graduate Program are required to take the following courses (1.5 credit hours each):

Gene Expression
Advanced Genetics I
Hypothesis-Driven Grantsmanship

In addition, students must take either Topics in Developmental Biology or Advances in Germ- and Stem-Cell Biology.

■ **ELECTIVE COURSES**

Students take an additional three credit hours of electives to accumulate a total of nine hours of advanced course work. These can be any advanced courses offered by the Division of Basic Science. Recommended courses hosted by the Genetics and Development Graduate Program include Quantitative Analysis of Genes and Genomes and Advanced Genetics II: Human Genetics.

Descriptions of the courses are listed in the Division of Basic Science section of this catalog.

Students complete advanced course work and qualify for candidacy by the end of the second year. All students participate in Works-in-Progress seminars and Journal Clubs. In the second year of study, each student takes a qualifying exam by preparing an original research proposal and orally defending it before a panel of program faculty.