



MICHIGAN STATE
UNIVERSITY

Molecular, Cellular and Integrative Physiology Graduate Program

The discipline of physiology is uniquely positioned among the biomedical sciences to span the gulf between exploring the most fundamental aspects of biology and the most practical and applied problems of human and animal health. Faculty in the Physiology Department at Michigan State University work to understand how the vast array of molecular and cellular events successfully integrate to define the phenomenon of human existence.

Research in the Physiology Department comprises a broad range of areas. However the underlying goals - improving human health, identifying mechanisms of disease progression, development of novel therapeutic targets and treatments - are common goals among all faculty and research groups.

While faculty have individual research focus areas, their research also readily integrates into larger cross-disciplinary research groups. Faculty and research groups are well funded through a variety of agencies including the National Institute of Health and National Science Foundation.

Molecular, Cellular and Integrative Physiology

from Molecules ...

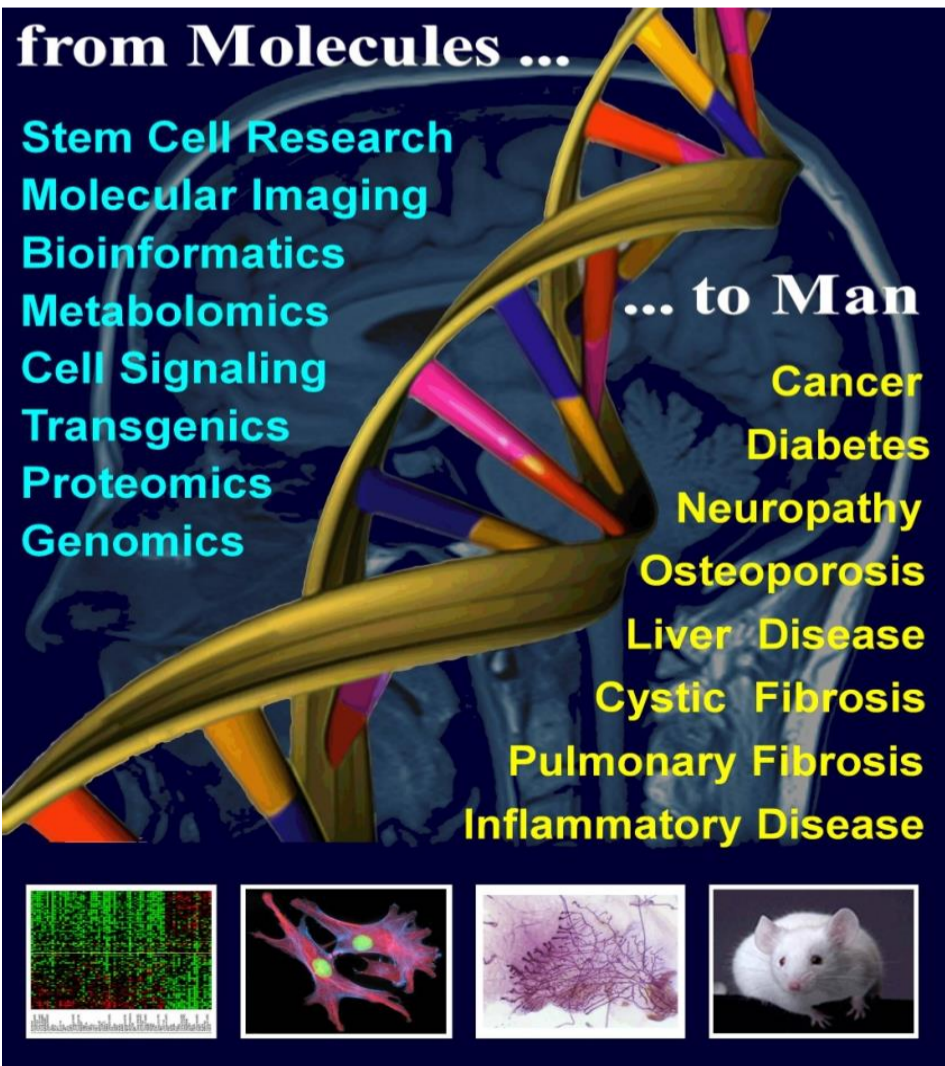
Stem Cell Research
Molecular Imaging
Bioinformatics
Metabolomics
Cell Signaling
Transgenics
Proteomics
Genomics

... to Man

Cancer
Diabetes
Neuropathy
Osteoporosis
Liver Disease
Cystic Fibrosis
Pulmonary Fibrosis
Inflammatory Disease

Program Mission

- Identify factors and molecules that promote health and disease.
- Understand mechanisms of disease progression.
- Improve overall human and animal health through identification of novel therapeutic targets and treatments.
- Train future scientists in state-of-the-art molecular, cellular and integrative physiology concepts & approaches.



PSL Curriculum Overview

Welcome to the Molecular, Cellular and Integrative Physiology Graduate Program. Our newly re-designed curriculum is aimed to provide maximum flexibility without compromising on a high-level education in physiology. Besides our 2 core physiology courses PSL 828 and 829, students can choose electives (minimum of 3 – 800 level and higher) based on their interests and individual needs that furthers a successful completion of their research thesis. In addition, students will participate in PSL 950 (topics of physiology, 4) courses.

Continued graduate education is provided through weekly seminars and workshops. It is expected that students present their work at local, national, and international meetings. Students are strongly encouraged to participate in events organized by physiology students and faculty. The department of physiology provides personalized education that will lead students to thrive and become leaders in the field and in their communities

Year	Fall	Spring
1	PSL829: Cellular and Integrative Physiology II (3 cr) Elective 1 PSL813: Molecular mechanisms of human disease; PSL825/BMB/MMG: Signaling pathways of disease; PSL839/NEU: Physiology of neural systems.	PSL828: Cellular and Integrative Physiology I (3cr) Elective 2
2	Elective 3 PSL950 like course (1-4 cr)	PSL950 like course
End of year 2	Committee Selection (5 members: 3 PSL, 1 outside, 1 free choice) Comprehensive Exam <ul style="list-style-type: none"> Written: Thesis project proposal (NIH fellowship style) Written: Independent project - 3-page proposal Oral research presentation 	
3	PSL950 like course Focus on research project	PSL950 like course Focus on research project
4 & 5	Focus on research project	Focus on research project

Questions??? Feel free to contact us

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