Students in chemistry may pursue research opportunities with any member of the Department of Chemistry and Chemical Biology as well with faculty in Engineering, Earth and Planetary Sciences, Molecular and Cellular Biology, Organismic and Evolutionary Biology, Physics, Stem Cell and Regenerative Biology and in basic science departments at Harvard Medical School.

James Anderson:
• Investigates climate change and atmospheric chemistry

Alan Aspuru-Guzik:
• Focuses on the development and extension of efficient quantum algorithms for quantum simulation of chemical systems.

Emily Balskus:
• Studies biosynthetic pathways that give rise to natural products with unusual molecular Architectures.

Roy Gordon:
• Synthesizes chemicals for vapor deposition of metals, semiconductors, superconductors and insulators in energy related research.

David R Lu:
• Integrates chemistry and evolution to program and illuminate biology.

Andrew Myers:
• Synthesizes and studies complex molecules of importance in biology and human medicine

First year students should enroll in one introductory chemistry course in the fall and one in the spring. These can be chosen from:
• Life and Physical Sciences A: Foundational Chemistry and Biology; fall
• Life Sciences 1a: An Integrated Introduction to the Life Sciences - Chemistry, Molecular Biology, and Cell Biology; fall
• Physical Sciences 10: Chemistry - Quantum and Statistical Foundations of Chemistry; fall
• Physical Sciences 1: Chemical Bonding, Energy and Reactivity - An Introduction to the Physical Sciences; spring
• Physical Sciences 11: Foundations and Frontiers of Modern Chemistry - A Molecular and Global Perspective; spring
• Chemistry 20: Organic Chemistry; spring

Sample Department
Research Opportunities

Sample Faculty
Research and/or Publications

Sample Advanced Courses

• CHEM 101: Chemical Biology Towards Precision Medicine
• CHEM 105: Advanced Physical Organic Chemistry
• CHEM 110: Small Molecules and Biological Processes
• CHEM 135: Experimental Synthetic Chemistry
• CHEM 160: The Quantum World
• CHEM 161: Statistical Thermodynamics
• CHEM 170: Chemical Biology

Sample Thesis Titles

• Unraveling a Thirty Year Old Chemical Enigma: How Does the Kagan Oxidation of Sulfides Produce Only One of Two Possible Mirror-Image Products?
• Development of Selective Small Molecule Inhibitors of the Oncogenic Gain of Function Activity of Isocitrate Dehydrogenase 1
• Crystal Structure Representations for Machine Learning Models of Electronic Properties
• Evaluation of Sterols as an Atmospheric Isotope Proxy for Biogeochemical Applications in Earth History