

Chemical Physics

College of Arts and Sciences
Bloomington**Departmental E-mail**gradphys@indiana.edu;
chemgrad@indiana.edu**Departmental URL**www.chemphys.indiana.edu**Co-Directors**

Professors David Baxter* (Physics), Romualdo de Souza* (Chemistry)

Graduate Faculty

(An asterisk [*] denotes membership in the University Graduate School faculty with the endorsement to direct doctoral dissertations.)

Chancellor's Professor

George Ewing* (Emeritus, Chemistry)

Distinguished Professors

Gary Hieftje* (Chemistry), Peter Ortoleva* (Chemistry), Charles Parmenter* (Chemistry), Victor Viola* (Emeritus, Chemistry)

Robert and Marjorie Mann Chairs

David Clemmer* (Chemistry), Gary Hieftje* (Chemistry), Martin Jarrold* (Chemistry)

Professors

Adam Allerhand* (Emeritus, Chemistry), David Baxter* (Physics), Russell Bonham* (Emeritus, Chemistry), Romualdo de Souza* (Chemistry), Herb Fertig* (Physics), Stanley Hagstrom* (Emeritus, Chemistry, Computer Science), Larry Kesmodel* (Physics), Lawrence Montgomery* (Emeritus, Chemistry), Gerardo Ortiz* (Physics), Roger Pynn* (Physics), Krishnan Raghavachari* (Chemistry), James Reilly* (Chemistry), William Schaich* (Emeritus, Physics), Paul Sokol* (Physics), Philip Stevens* (Public and Environmental Affairs), James Swihart* (Emeritus, Physics)

Associate Professors

Mu-Hyun Baik* (Chemistry), John Carini* (Physics), Bogdan Dragnea* (Chemistry), Srinivasan Iyengar* (Chemistry), Stephen Jacobson* (Chemistry), C. Chick Jarrold* (Chemistry)

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Dobrin Bossev* (Physics), Amar Flood* (Chemistry), Liang-Shi Li* (Chemistry), Sara Skrabalak* (Chemistry), Steven Tait* (Chemistry)

Graduate Advisors

Professor David Baxter*, Swain West 128, (812) 855-8337; Professor Romualdo de Souza*, Chemistry C230A, (812) 855-3767

Degree Offered

Doctor of Philosophy. A student may also qualify for the Master of Science degree in chemistry or physics.

Special Program Requirements

(See also general University Graduate School requirements.)

Doctor of Philosophy Degree

Admission Requirements

Undergraduate degree in chemistry, physics, or mathematics. Students who have interests in the physical sciences with undergraduate degrees in other fields, such as engineering, are also encouraged to apply; they will be considered on an individual basis. Admission to the program requires that the student first be admitted to the graduate program in chemistry or physics.

Grades

B (3.0) average or higher must be maintained.

Course Requirements

These requirements are flexible, and are planned and approved by the Chemical Physics Committee and the individual student. The guidelines in planning the curriculum are that the student in the program should acquire knowledge of condensed-matter physics, electricity and magnetism, molecular structure, kinetics, atomic and molecular spectroscopy, quantum mechanics, and statistical mechanics. The formal requirements are either those of a major in physical chemistry with a minor in physics or of a major in physics with a minor in chemistry.

Minor

For a minor in physics, 9 credit hours in physics courses at the P501 level or higher are required. For a minor in chemistry, 6 credit hours are required, chosen from the following: C561-C562, C566, C567-C568, C668. Occasionally, courses other than those listed here may be accepted, but such substitutions require approval of the Chemical Physics Committee.

Major

See Ph.D. program descriptions listed under chemistry or physics.

Qualifying Examination

See requirements of the major department, found elsewhere in this bulletin.

Dissertation

Under the direction of a graduate faculty member of the Department of Chemistry or the Department of Physics.

Final Examination

Usually oral, covering dissertation, major, and minor(s).