

ROSTER AND DIRECTORY

PHONE*	NAME	ROOM
5750	Ammar, Raymond G., Prof. (Ph.D. Chicago 1959) <i>Elementary Particle Physics</i> ammar@ku.edu	2065 Mal
1943	Antonik, Matthew, Asst. Prof. (Ph.D. Maine 1994) <i>Biophysics; Experimental Single Molecule Physics</i> antonik@ku.edu	2061 Mal
3910	Anthony–Twarog, Barbara J., Prof. (Ph.D. Yale 1981) <i>Astrophysics, Stellar Astronomy</i> bjat@ku.edu	4077 Mal
3953	Baringer, Philip S., Prof. (Ph.D. Indiana 1985) ASSOCIATE CHAIR <i>Experimental Physics; Elementary Particle Physics</i> baringer@ku.edu	3077 Mal
4742	Bean, Alice L., Prof. (Ph.D. Carnegie–Mellon 1987) <i>Experimental Physics; Elementary Particle Physics</i> abean@ku.edu	1077 Mal
4741	Besson, David, Prof. (Ph.D. Rutgers 1986) <i>Experimental Physics; Elementary Particle Physics</i> zedlam@ku.edu	1075 Mal
4739	Cravens, Thomas E., Prof. (Ph.D. Harvard 1975) <i>Space Physics; Plasma Physics</i> cravens@ku.edu	3093 Mal
	Dreschhoff, Gisela, Adjunct Assoc. Prof. (Dr. of Science Tech. U. of Braunschweig, Germany 1972) <i>Geophysics, Energy Storage in Solids</i> giselad@ku.edu	
4740	Feldman, Hume Assoc. Prof. (Ph.D. State Univ. of New York, Stony Brook, 1989) <i>Cosmology, Astrophysics</i> feldman@ku.edu	3083 Mal
4579	Fischer, Chris, Asst. Prof. (Ph.D. Univ. of Michigan, 2000) <i>Biophysics</i> shark@ku.edu	5071 Mal
5831	Han, Siyuan, Prof. (Ph.D. Iowa State, 1986) <i>Experimental Condensed-Matter Physics</i> han@ku.edu	2067 Mal
5098	Hawley, Steven A., Prof. (Ph.D. Univ. of California, Santa Cruz 1977) <i>Astrophysics, Interstellar Medium, Active Galaxies</i> sahawley@ku.edu	5075 Mal
	Laird, Claude, Courtesy Assoc. Prof. (Ph.D. Kansas 1986) <i>Geophysics (Haskell Indian Nations University)</i> claird@ku.edu	
4591	Marfatia, Danny Asst. Prof. (Ph.D. Univ. of Wisconsin, Madison, 2001) <i>Theoretical Particle Physics</i> marfatia@ku.edu	6070a Mal
2728	McElwee, Carl D., Courtesy Prof. (Ph.D. Kansas 1970)	230 Hamb
2097	<i>Geophysics, Magnetic Properties of Solids</i> cmcelwee@ku.edu	
4025	Medvedev, Mikhail V. (Misha) , Asst. Prof. (Ph.D. San Diego, California, 1996) <i>Theoretical Astrophysics, Plasma and Space Physics</i> medvedev@ku.edu	3085 Mal
3037	Melott, Adrian L., Prof. (Ph.D. Texas 1981) <i>Astrophysics; Astrobiology</i> melott@kusmos.phsx.ukans.edu	4075 Mal
3949	Murray, Michael J., Asst. Prof. (Ph.D. Pittsburgh, PA 1989) <i>Relativistic Heavy Ion Physics</i> mjmurray@ku.edu	4073 Mal

*These are the last four digits of the campus telephone numbers, e.g. 785–864–3801.

PHONE	NAME	ROOM
3408	Ralston, John P., Prof. (Ph.D. Oregon 1980) <i>Elementary Particle Physics and Particle Astrophysics</i> ralston@ku.edu	6072 Mal
4099	Rudnick, Gregory, Asst. Prof <i>Astrophysics, Observational Galactic Astronomy</i> grudnick@ku.edu	5069 Mal
4626	Sanders, Stephen J., Prof. (Ph.D. Yale 1977) DEPARTMENT CHAIRPERSON <i>Experimental Nuclear Physics</i> ssanders@ku.edu	1082b Mal
5274	Shandarin, Sergei, F., Prof. (Ph.D. Moscow Physical Technical Institute 1971) sergei@ku.edu <i>Cosmology, Large– Scale Structure, Non– Linear Dynamics</i>	3081 Mal
4016	Shawl, Stephen J., Prof. (Ph.D. Texas 1972) shawl@ku.edu <i>Astrophysics, Space Physics & Plasma Physics, Stellar Astronomy, Polarization</i>	5073 Mal
5273	Shi, Jicong (Jack), Assoc. Prof. (Ph.D. Houston 1991) <i>Non–Linear Dynamics, Accelerator Beam Dynamics</i> jshi@ku.edu	3079 Mal
	Tidrow, S., Off-Campus Adjunct Asst. Prof. (Ph.D. University of Oklahoma 1991) <i>Engineering Physics (US Army Research Lab)</i> stidrow@arl.army.mil	
5163	Twarog, Bruce A., Prof (Ph.D. Yale 1980) <i>Astrophysics of Galaxies</i> btwarog@ku.edu	1073 Mal
5231	Wilson, Graham W., Asst. Prof. (Ph.D. University of Lancaster 1989) <i>Experimental Physics, Elementary Particle Physics</i> gwwilson@ku.edu	2059 Mal
3240	Wu, Judy Zhihong, Prof. (Ph.D. Houston 1993) <i>Many–Body Theory, Superconductivity, Liquid Helium</i> jwu@ku.edu	B080 Mal
1938	Zhao, Hui, Asst. Prof. (Ph.D. Beijing China 2000) <i>Condensed Matter Physics</i> huizhao@ku.edu	2063 Mal

Administrative Staff

4626	Hubbel, Kim (Dept. Secretary)	khubbel@ku.edu	1082 Mal
1222	Gratton, Tess (Graduate Secretary)	tessg@ku.edu	1082 Mal
5832	Fay, Doug (Accountant I)	dfay@ku.edu	1079 Mal
1226	Hunt-Ward, Tizby (Program Asst.)	tizby@ku.edu	3087 Mal
3288	Kolatch, Nicky (Administrative Specialist)	nkolatch@ku.edu	1079 Mal
1225	Leahy, Teri (Office Supervisor)	tleahy@ku.edu	1082c Mal

Director of Laboratories

3937	Curry, Robert	curry@ku.edu	1078 Mal
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Departmental Committees and Organizations

Astronomy Associates Of Lawrence: Astronomy Associates of Lawrence is an organization of students and townspeople interested in Astronomy for the fun of it. This organization elects its own officers. Faculty Advisor: Prof. Bruce **Twarog**

Departmental Assembly: The constituted body for full departmental meetings is the "Departmental Assembly." The Department provides for the inclusion of regularly enrolled students in both its Departmental Assembly and its policy-making committees. The number of students in each body is at least 20 percent of the number of faculty members who hold the rank of instructor or above and who serve on that body. The Departmental Assembly consists of: entire faculty, plus the student members of the Committees on Graduate Studies, Undergraduate Studies plus one "at-large" student member.

Engineering Council: A representative elected each year by students majoring in Engineering Physics.

Engineering Physics Student Organization: PESO, the engineering physics student organization, is a club for students with interests in physics, engineering, or both fields of study. Prof. Philip Baringer is the adviser.

Graduate Studies: Seven faculty members appointed by the department chairman and two graduate students from PHSX elected by the graduate students in the department.

ΣΠΣ And SPS: The Society of Physics Students is open to all persons with an interest in physics. Sigma Pi Sigma (ΣΠΣ) is the physics honor society, within SPS, with scholastic requirements for membership. SPS/ΣΠΣ is a member society of the *American Institute of Physics* This organization elects its own officers. Faculty Adviser, Prof. **Murray**.

Undergraduate Studies: Six members appointed by the department chairman, two students elected by undergraduate majors in the Department, plus the Associate Chair, Prof. Phil Baringer, and Laboratory Director, Mr. Bob Curry.

Faculty Advisers for Students Majoring in the Department

Astronomy *B.A. and B.S.* – Profs. **Anthony-Twarog, Shawl, and Twarog**

Engineering physics and physics majors are assigned to advisors based on students' last names:

Engineering Physics:

Current students:	A-K: Prof. Cravens	L-Z: Prof. Baringer
New students, Fall 2008	A-K: Prof. Hawley	L-Z: Prof. Fischer

Physics (*College*) *B.A. and B.S.:*

A - D:	Prof. Medvedev
E- L:	Prof. Melott
M - P:	Prof. Besson
Q - Z:	Prof. Shandarin

Physics Graduate Students – Prof. **Feldman**

Departmental Honors Coordinator – Prof. **Shi**

GENERAL INFORMATION

We've assembled some general information about the Department of Physics and Astronomy which students may find useful.

The Department occupies much of the west wing of Malott Hall. The main office for the Department is in 1082. This is the place to go if you need to change a section, (though you will have to document a necessity for that!) or leave a message or paper for a faculty member or teaching assistant. The office is generally open from 8:00 a.m. through 5:00 p.m. and is managed by Ms. Teri Leahy (1082c). You are likely to first encounter staff members Ms. Kim Hubbel or Ms. Tess Gratton as you walk in. The Accounting Office (1079) is staffed by Mr. Doug Fay and Ms. Nicky Kolatch.

The laboratories for the introductory physics courses are supervised by our Director of Laboratories, Mr. Robert Curry. His office is just south of the main office, 1078 Malott. He approves make-ups labs, among other things.

The Chair of the Department is Professor Stephen J. Sanders; Ms. Hubbel keeps his appointment calendar. The Associate Chair is Professor Phil Baringer; his office is located in 3077.

Tutoring: For introductory physics classes, tutors are available in Room 6006; see the posted schedule. There may or may not be ASTR 191 tutoring available; ask your instructor.

The Department keeps a list of names of persons who arrange for private tutoring; the list is in a green notebook just inside the Department office. You may not contract with someone who is grading your work for a class or is your TA for a lab.

Computers: Students in upper division courses (500 or higher) will very likely need access to advanced labs and other specialized facilities. We maintain a computer room for our majors (1087 Malott), which contains two PCs and a printer. Instructors can facilitate access to this room by authorizing a combination for your use of the Omnilock on the door. Ms. Teri Leahy maintains the records of these combination authorizations, as well as keys for other laboratories and facilities.

The Department coordinates most of its homepage links through our "front door" home page at <http://www.physics.ku.edu>.

Where To Hand Things In: Lab reports for the introductory Physics courses go in wooden drop boxes on the wall near the drinking fountain at the north end of the 2nd floor hallway. Other instructors may specify alternate procedures for handing in work, such as asking you to put papers into their mailbox. Mailboxes are all in the Department office, 1082 Malott. Turn to your left as you enter the main office, and you'll see a rack of wooden mail boxes. Faculty boxes are towards the right end of this rack. If you need something date-stamped before you turn it in, or aren't sure how to find the correct mailbox, ask one of the office staff for help.

Students With Disabilities: The staff of Disability Services (part of the Academic Achievement and Access Center) 22 Strong, (785) 864-2620 (v/tty), coordinates accommodations and services for KU courses. If you have a disability for which you may request accommodation in KU classes and have not contacted them, please do as soon as possible. Please also see the professor privately in regards to that particular course.

Departmental Assessments And Awards: All courses, including our laboratory courses, are assessed by surveys at the end of the semester. Your constructive criticisms are very important. Teaching Assistants may receive awards based on student comments, and there is an award given to a teaching faculty member each spring as well. Watch for nomination materials near the end of the semester.

Academic Misconduct, Fairness And Privacy Issues: Any work presented as your own, must be your own. Beyond the obvious requirements that quizzes and tests must be completed without consultation or conversation with classmates, this also applies to homework (it must be your work, and identifiable as your own work, even if you have studied with friends) and to term papers, in which published material must be properly attributed. Penalties imposed by the College for violations of these policies range from reduction of grade, to suspension and expulsion.

The complementary issue to misconduct is fairness; you have a right to expect that your work is evaluated fairly and impartially. You may also expect to have adequate feedback about your performance in the course throughout the semester. You have a right to know, in advance, the criteria by which grades are determined in the class. Any concerns you have about the fairness with which your work is evaluated ought to be addressed to your instructor and, if necessary, to the Department chair or associate chair.

You also have a right to expect protection of your privacy -- for that reason, your grade cannot be given out over the telephone or by email, and can only be given by our office staff if you have your ID with you. Your final grades should not be posted without your written consent.

University Policies Concerning Consenting Relationships:

University policy and accepted professional standards of ethics mean that there should be no romantic or sexual relationships between a student and an instructor (this includes faculty and teaching assistants) with grading or supervisory authority over that student. The university also has strong rules prohibiting ethnic, racial or sexual harassment. The Department of Physics and Astronomy is committed to a safe and equitable learning environment for all of our students, and we stand firmly behind these rules. Further information can be found in the student handbook at:

<http://www.studenthandbook.ku.edu/>

If You Have Problems Or Concerns: You should feel free to consult ANY faculty member of this Department if you have any questions or concerns about possible misconduct or harassment on the part of any member of the Department. A full list of faculty names and office numbers is posted in the hall between Rooms 1086 and 1088 Malott, or is available from the office staff in 1082 Malott or at

<http://www.physics.ku.edu/faculty/>

Student Organizations: Successful completion of a challenging major is more likely if you develop friendships and connections with others in your discipline. There are three organizations designed for student participation: Society of Physics Students (SPS), PESO for Engineering Physics and Astronomy Associates of Lawrence (AAL). Ask an instructor or inquire in the departmental office about joining.

In addition, all members of the department are welcome to unwind and visit in our Friday afternoon social hour which typically starts around 4:00 p.m. Coffee and cookies are served. SPS is the "official" sponsor of this gathering but it is a department-wide social event. Signs are posted around the department about the time and place for these gatherings.

Honors and Awards for Undergraduates

Honors Studies In The College Of Liberal Arts & Sciences

To identify gifted and well-prepared students, the University offers special, smaller and deeper “honors” sections of many classes. Students who have scored well on the National Merit Scholarship Qualifying exam or the American College Test are eligible for Honor Studies. Others may be admitted to honors sections of a particular course by permission of the department or instructor. Honors courses offered in the Department for majors are PHSX 213, PHSX 214, ASTR 391 and PHSX/EPHX 501.

Departmental Honors

A student who plans to graduate with honors must file a *Declaration of Intent Form* with the Departmental Honors Coordinator, preferably during his/her junior year but in any case no later than enrollment for the final undergraduate semester. All of our department’s honors requirements include student research, for which results shall be presented in written form and accepted by three members of the Department faculty. Additional requirements specific to each degree are:

Astronomy: Qualified students earning either a B.A. or a B.S. degree in the College of Liberal Arts and Sciences with a major in astronomy may graduate with Honors in Astronomy by fulfilling the following requirements: (1) By the end of the candidate's final semester, achieve a minimum GPA of 3.25 overall and 3.5 in the major, in all courses taken in residence and elsewhere; (2) Complete at least 24 semester hours of astronomy and physics courses numbered 500 or above, including undergraduate research represented by 4 hours of credit in ASTR 596, 597, or ASTR 503, 501. A grade of B or better must be earned in ASTR 596, 597, PHSX 503, or 501

Engineering Physics: Qualified students earning a B.S. in engineering physics may graduate with Departmental Honors by fulfilling the following requirements: (1) By the end of the candidate’s final semester, achieve a minimum GPA of 3.5 in major courses taken in residence and elsewhere; (2) complete at least 1 credit hour of undergraduate research as represented by achievement of a grade of B or better in PHSX/EPHX 501 or 503.

Physics : Qualified students earning either a B.A. or a B.S. degree in the College of Liberal Arts and Sciences with a major in physics may graduate with Honors in Physics by fulfilling the following requirements: (1) By the end of the candidate's final semester achieve a minimum GPA of 3.25 overall and 3.5 in the major, in all courses taken in residence and elsewhere; (2) Complete at least 24 semester hours of physics courses numbered 500 or above and undergraduate research represented by 4 hours of credit in PHSX 503, Undergraduate Research, or PHSX 501, Honors Research. A grade of B or better must be earned in PHSX 503 or 501.

Outstanding Teaching Assistant: Three T.A.’s are selected each year and are given a monetary award paid from the *Emery E. Slosson Fund*. Awardees shall be restricted to those teaching assistants (graduate or undergraduate) who have held at least quarter-time appointments during both semesters of the current academic year. The selection committee shall consist of the Director of Laboratories and the Associate Chairman. Their selections shall be reported to the Committee on Undergraduate Studies. The Director of Laboratories shall request evaluations from all course coordinators and any other faculty supervising teaching assistants. Evaluations shall be on the basis of preparation for teaching assignments and in grading and recording duties, and interaction with students in effectively presenting the material and in assisting them patiently and pleasantly. Strong consideration shall be given to performance beyond the call of duty.

N. Wyman Storer Award For Service To Astronomy: This award, a memorial to the late *Professor N. Wyman Storer*, is presented to the senior in the Department expected to graduate in May or the following December who has provided services to the astronomy program at the University of Kansas in excess of what can be expected of a good student or has an outstanding record as a student in Astronomy. The Director of the *Tombaugh Observatory* and another faculty member shall select the recipient and report their selection to the Committee on Undergraduate Studies.

Stranathan Award: A gift by the late *Professor James D. Stranathan* enables the Department to designate its outstanding senior-to-be physics major as a recipient of the *Stranathan Award* which includes a cash stipend for each of the students' remaining two semesters. The award is based primarily on the student's over-all grade point average. The recipient must (1) have completed sufficient work to be classified officially as a senior, (2) have somewhat more than one semester's work remaining for the Bachelor's degree, (3) have at least 30 semester-hours of credit for work taken at the University of Kansas, and (4) have at least ten semester – hours credit in physics courses open only to juniors and seniors taken at the University of Kansas.

Francis W. Prosser Award: This award, established through the generosity of Professor Emeritus Frank Prosser, is given annually to a major in physics or engineering physics with at least 30 but no more than 59 credit hours completed after the spring term, and an overall GPA of 3.5 or better.

Hansel Scholarship: The family of Paul G. Hansel has endowed a fund enabling a scholarship meeting tuition and fees for one academic year for one student with a declared major in engineering physics. Preference is given to students who are Kansas residents, with Nebraska residents given consideration next. Preference is given to juniors.

Tombaugh Scholarship: Alumni of the astronomy program have generously contributed to the Clyde W. Tombaugh Fund, enabling a scholarship for students majoring in astronomy.

Badgley Scholarship: Mrs. Esther Weik Badgley has funded a scholarship to support the study of a young woman studying physics or a related field. This renewable scholarship will normally be awarded to an incoming freshman student in the department.

Other Honors Or Awards: Opportunities for off-campus awards such as the national annual Society of Physics Students/Sigma Pi Sigma Scholarship and other opportunities for honors, awards, scholarships, etc. for undergraduates that become available will be responded to by the Committee on Undergraduate Studies. The Committee will disseminate the information about such awards and consult those members of the faculty who may have special knowledge of the students being considered so that they can make appropriate recommendations.

Advanced Placement Credit in Physics

Exam – Physics B

AP Grade	KU equivalent credit awarded :
5	6 credit hrs PHSX 114 & 115 lecture only *
4	3 credit hrs, PHSX 114, lecture only *

Exam – Physics C - Mechanics

AP Grade	KU equivalent credit awarded :
4 - 5	3 credit hrs, PHSX 211, lecture only. *

Exam – Physics C – Electricity & Magnetism

AP Grade	KU equivalent credit awarded
4 - 5	3 credit hrs, PHSX 212, lecture only. *

International Baccalaureate Program Credit in Physics

KU now awards some credit for Standard Level IB curricula as well as Higher Level IB curricula (August 2005).

IB Grade	KU equivalent credit awarded :
HL 5, 6, or 7	6 credit hrs, PHSX 114 and 115, lecture only *.
SL 5, 6, or 7	3 credit hrs, PHSX 111

* Students who are required to take PHSX 114, 115, 211 and/or 212 with the associated laboratories should ask the associate chair about taking the lab separately for credit. In some cases, laboratory credit may be awarded for prior laboratory experience. Prior laboratory experience cannot be evaluated without a laboratory notebook or similar record of experiments and performance.

DANTES Subject Tests Program

The University of Kansas has begun awarding equivalent credit to students who receive appropriate scores in the DANTES Subject Tests program. At present, established credit equivalences include:

Dantes Grade	Subject Area:	KU equivalent credit awarded
≥ 48	Astronomy	3 credit hours, Astronomy 191

Credit by Examination Policy

In principle, University rules permit students to seek credit by examination. In practice (as you'll find in the Undergraduate Catalog, page 39), the guidelines are not fleshed out very much. Here's what is laid out at the University level:

The Registrar's Office assesses a fee for any attempt by a student for credit by examination (CbyE).

- ❑ The student may NOT be enrolled in the class for which they seek credit
- ❑ may not have previously completed the class here or elsewhere,
- ❑ may not have taken courses ABOVE the desired course in the same department or field.

In addition, it is important to know that some medical schools will NOT accept credit for physics courses obtained by examination.

Beyond those general rules, authority rests with departments and the Dean of CLAS to assign a grade and credit hours that result from a successful examination.

The department of physics and astronomy sets the following additional guidelines:

- ❑ Students requesting CbyE should plan to provide some basis for a prior **university-level** course in the material for the course
- ❑ We don't offer CbyE for PHSX 111 or ASTR 191; these courses are not taught to fixed syllabi and do not routinely include a comprehensive final. If a student has a reasonable case for a course taken elsewhere at a university level, the approach to take is more properly to request transfer credit. Please consult your adviser or the associate chair for undergraduate studies (Prof. Baringer) or the chair of the undergraduate committee (Prof. Besson)
- ❑ The mechanism will be for students to take the comprehensive final set by the current semester's instructors at the end of the semester at the time and place that the final is administered for that course. Students should expect to provide photo identification at the time of the examination.
- ❑ We cannot award laboratory credit by this mechanism, so students required to complete the 4 credit hours courses PHSX 114, 115, 211, or 212, will still be short the required laboratory credit in the event of a successful CbyE.