

# DEPARTMENT OF BIOLOGICAL CHEMISTRY

<http://www.biolchem.ucla.edu>

## SELF REVIEW - August 2009

### INTRODUCTION

The Department of Biological Chemistry is an academic unit within the David Geffen School of Medicine at UCLA. The Department is responsible for teaching students in the School of Medicine and traditionally contributes to teaching in the School of Dentistry. It has a graduate program for Ph.D. and M.S. students, and Department faculty members are major contributors in organizing and teaching the core courses (biochemistry, genetics and cell biology) for first year graduate students in ACCESS (primary admissions program) and several direct admission programs. Although it has no formal obligation to teach in the College of Letters and Sciences, the Department makes substantial contributions to undergraduate education. The Department directly administers two undergraduate courses and contributes to undergraduate courses run by other departments. In addition, many of our faculty members mentor undergraduate students through the Biomedical Research Minor and Student Research Programs in the College.

The fields of investigation by faculty members in the Biological Chemistry Department are broad but faculty members share a common interest in mechanisms of biological processes. A strong departmental theme is that most labs employ biochemical techniques with purified proteins. Current research areas range from biophysics to cell biology and genetics. Topics of particular interest include protein structure, gene regulation, signal transduction, intracellular trafficking, neurobiology, developmental biology, genomics/proteomics, stem cells and nanobiology.

Despite the wide range of research interests, faculty members share a passion for excellence in research and education. We are committed to providing our students with the best possible preparation for careers in research and/or teaching. This self-review is based on discussion and consultation within the Department. Each member of the Department who is a member of the Academic Senate has had an opportunity to review a draft version and to influence the final content. In addition, every Biological Chemistry graduate student had the opportunity to read the document and to make suggestions. We believe that the report accurately reflects the opinions of the Department.

### GENERAL INFORMATION

#### A. THE FACULTY

The Department of Biological Chemistry includes 21 primary appointees and 8 joint appointees, all of who are Academic Senate faculty (Table 1). Four of our faculty are members of the National Academy of Sciences, six are elected fellows of the American Academy of Arts and Sciences, one is a recipient of the Lasker Award and the National Medal of Science, five are HHMI Investigators, one is an HHMI Professor, one is a Senior Associate Dean of the David Geffen School of Medicine, one is Director of the Jonsson Comprehensive Cancer Center (JCCC), one is Associate Director of the JCCC and one is Director of ACCESS.

Primary appointments are in the department providing the FTE and secondary appointments are without additional salary. Joint appointees have teaching responsibilities in Biological Chemistry and may mentor Biological Chemistry graduate students. Both primary faculty and joint appointees review and vote on new appointments and merit promotions of Faculty within the Department (exceptions noted in Table 1).

**TABLE 1 – FACULTY, ACADEMIC SENATE**

**Professors**

	<b>Primary Appointment</b>	<b>Secondary (joint) Appointment</b>
Banerjee, Utpal	Mol.Cell.Dev.Biology (MCDB)	Biological Chemistry
Carey, Michael	Biological Chemistry	
Colicelli, John	Biological Chemistry	
De Robertis, Edward	Biological Chemistry	
Edwards, Peter	Biological Chemistry	Medicine (Cardiology)
Eisenberg, David	Biological Chemistry	Chemistry & Biochemistry
Elowitz, Michael*	Eng. Applied Sci., <i>Cal Tech</i>	Biological Chemistry
Gasson, Judith	Medicine (Hem/Onc)	Biological Chemistry
Grunstein, Michael	Biological Chemistry	
Herschman, Harvey	Biological Chemistry	Pharmacology
Jacobsen, Steve*	MCDB	Biological Chemistry
Johnson, Reid	Biological Chemistry	
Loo, Joseph¶	Biological Chemistry ½	Chemistry & Biochemistry ½
Martin, Kelsey	Psychiatry	Biological Chemistry
Neufeld, Elizabeth§	Biological Chemistry	
Payne, Gregory	Biological Chemistry	
Rome, Leonard	Biological Chemistry	
Shuai, Ke	Medicine (Hem/Onc)	Biological Chemistry
Travis, Gabriel	Ophthalmology	Biological Chemistry
van der Blik, Alex	Biological Chemistry	
Weinmaster, Geraldine	Biological Chemistry	
Zipursky, S. Lawrence	Biological Chemistry	Human Genetics

**Associate Professors**

Lane, Timothy	Obstetrics & Gynecology	Biological Chemistry
---------------	-------------------------	----------------------

**Assistant Professors (date of hire)**

Egea, Pascal (2009)	Biological Chemistry	
Frاند, Alison (2007)	Biological Chemistry	
Guo, Feng (2004)	Biological Chemistry	
Kurdistani, Siavash (2004)	Biological Chemistry	
Plath, Kathrin (2006)	Biological Chemistry	
Wohlschlegel, James (2006)	Biological Chemistry	

\* Drs. Elowitz and Jacobsen are HHMI Investigators in the California Institute of Technology and the UCLA College, respectively. Both hold renewable courtesy appointments in the School of Medicine (an HHMI eligibility requirement). They are invited to participate in Department activities but are non-voting members and their academic promotions are not reviewed.

¶ For Dr. Loo, the primary and secondary departments each provide one half FTE. For academic advancement review, Dr. Loo is considered a primary appointment in Biological Chemistry.

§ Dr. Neufeld will retire and return on academic recall during the 2009-2010 academic year.

One joint appointment faculty member, Ralf Landgraf (primary appointment in Medicine), left the Department and University in 2008 for an Associate Professor position at the University of Miami.

In addition, we have several individuals who participate in our teaching program without being in the Academic Senate; they are listed in Table 2.

**TABLE 2 – ADDITIONAL, NON-LADDER, FACULTY**

	<b>Title</b>	<b>Role in Department</b>
Arab, Lenore	Adjunct Professor	Teaches medical and dental students
Lee, Eryn Ujita	Adjunct Associate Professor and Academic Coordinator	Teaches medical and dental students, Provides assistance to graduate courses
Zamenhof, Patrice	Assoc Prof, emeritus/recalled	Teaches medical and dental students
Howard, Bruce	Professor, emeritus/recalled	Teaches medical and dental students
Edmond, John	Professor, emeritus/recalled	Teaches medical students
Fulco, Armand	Professor, emeritus/recalled	Chairs a medical school admissions committee and serves on policy committee
Zabin, Irving	Professor, emeritus/recalled	Assistant Dean for Administrative Affairs

Two adjunct faculty members are major contributors to the Departments teaching effort. Dr. Lenore Arab organizes and teaches much of the medical student nutrition curriculum. Dr. Lee teaches medical students in laboratory and problem-based-learning groups, provides support for graduate teaching and maintains the Department web site.

There are 12 emeriti faculty. Dr. Howard continues to provide a regular series of lectures to medical students and gives several lectures to dental students. Drs. Edmond and Zamenhof participate in the Department’s medical student lab course, and Dr. Zamenhof also provides tutoring service for medical students and participates in the Dental School admissions process. Dr. Irving Zabin is active in the School of Medicine as an Assistant Dean and Dr. Fulco participates in the Medical School admission process. The other emeriti faculty members do not participate in research, teaching or administration.

*Comments on the composition of the Department and on recruitment of faculty.*

As reflected in Table 1, over the past five years the Department has hired six new faculty members at the assistant professor level. We anticipate making two additional recruitments in the next few years, depending upon the budget situation in California. This wave of new recruits, together with the relocation of most faculty members to the new Biomedical Sciences Research Building (see below), have been important elements in strengthening the Department’s research and teaching missions.

Faculty members who receive a secondary appointment in Biological Chemistry do so following a full review and a voting process similar to that involved in hiring new faculty. They are fully integrated into Department governance and activities, with all the commensurate rights and responsibilities. Three exceptions to this model (Drs. Arab, Elowitz and Jacobsen) are noted in Table 1 and discussed above.

*Relocation of the Department to the Biomedical Sciences Research Building*

The Biological Chemistry Department moved from the Center for Health Sciences (CHS) to the newly constructed Biomedical Science Research Building (BSRB) in June 2007. Most of the primary faculty and one joint appointee are now located on the third floor of BSRB, together with administrative offices and core facilities. The building provides more than 28,000 sq. ft. of space with shared open floor plan labs, shared equipment corridors and specialty procedure

rooms. Other faculty members are in the adjoining Boyer Hall (Drs. Eisenberg, Grunstein, Guo, Herschman and Loo) or the MacDonald Research Building (Drs. DeRobertis, Edwards and Zipursky). A weekly coffee and cookie hour, which takes place in the foyer outside the administrative office, is used to catalyze interactions between students, postdocs and faculty. A weekly floor meeting to begin in Fall 2009 is expected to contribute further to faculty, postdoc and student cohesion.

#### *Departmental Governance and Administration*

Following Dr. Neufeld's decision to step down from the position of Chair, after 20 years of dedicated service, the Department adopted a rotating chair model of governance. A committee appointed by Dean Gerald Levey of the David Geffen School of Medicine selected Larry Zipursky to serve the first term as rotating Chair (2004-2007), and Michael Grunstein as his successor (2007-2010). All Professor level faculty members are eligible to serve in this position.

There are currently two Vice Chairs, appointed annually by the Chair, who assist with administration of the Department. The Vice Chair for Education is Michael Carey, who took over this position in 2009 from Greg Payne. The Vice Chair for Academics and Administration is John Colicelli, who has been a Vice Chair since 2002.

The Department has two standing committees. The Graduate Committee oversees the graduate program and acts as the advisory committee to incoming students prior to the selection of their Dissertation Committee. The Compensation Plan Committee provides advice to the Chair and full faculty once per year. Ad hoc committees are formed by the Chair, as needed, to evaluate academic advancement files, undertake a new faculty search or examine complex issues affecting the faculty.

Faculty members hold monthly meetings, during which major issues are discussed and policy decisions are made by consensus. At least one graduate student representative attends these meetings and has input into matters that affect the Department's PhD program. The Chair, the Vice-Chairs and the Department's Chief Administrative Officer (CAO) are responsible for implementing policies set forth in the faculty meetings. Minutes from a recent faculty meeting are included in the appendices.

The Biological Chemistry CAO is Phillip Kwan. He is assisted by a staff of 11 full time personnel including a Student Affairs Officer (SAO) who also serves as Academic Personnel administrator, a Staff Personnel administrator, three fund managers, three purchasers, an Assistant to the Chair, a computer specialist, and one additional personnel to cover payroll, administrative and secretarial functions. Two staff members are located in Boyer Hall and dedicated to administration of the UCLA-DOE Institute for Genomics and Proteomics. This recently formed partnership provides administrative efficiency and synergy.

#### *Faculty Research and Service*

Research interests of our faculty include: protein structure and proteomics (Drs. Eisenberg, Loo, Guo and Wohlschlegel); gene regulation (Drs. Carey, Elowitz, Grunstein, Edwards, Herschman, Jacobsen, Plath, Johnson and Kurdistani); molecular biology of development and stem cells (Drs. Banerjee, DeRobertis, Frand, Plath, Weinmaster and Zipursky); signal transduction (Drs. Shuai, Herschman, Zipursky, Edwards, Banerjee, Colicelli, Gasson, Weinmaster); cell biology (Drs. Rome, van der Bliek, Payne); neurobiology (Drs. Colicelli, Herschman, Martin, Weinmaster and Zipursky); genetic diseases (Drs. Neufeld and Travis); growth regulation and cancer (Drs. Colicelli, Gasson, Herschman, Kurdistani, Lane and Shuai); and DNA recombination (Dr. Johnson).

The work of our faculty members is well recognized by the scientific community. Five faculty members are investigators of the Howard Hughes Medical Institute (Drs. Zipursky, De Robertis, Eisenberg, Elowitz and Jacobsen) and one (Dr. Banerjee) is a Howard Hughes Professor. Four are members of the National Academy of Sciences (Drs. Eisenberg, Grunstein, Neufeld and Zipursky) and six are elected fellows of the American Academy of Arts and Sciences (Drs. Banerjee, Eisenberg, DeRobertis, Grunstein, Neufeld, Zipursky). One is a recipient of the National Medal of Science and the Lasker Clinical Medical Research Award (Dr. Neufeld). Four have presented the prestigious Faculty Lecture, the highest recognition given by UCLA faculty to their colleagues (Drs. Eisenberg, Neufeld, Herschman and Zipursky). Department faculty members are currently funded mainly by NIH grants, the California Institute for Regenerative Medicine (CIRM) and/or private foundations. Newly appointed Assistant Professors begin with substantial start-up funds from the School of Medicine.

A major strength of the Department is the strong contribution of our faculty to leadership positions in the School of Medicine, the College and the University system. Dr. Rome is the School of Medicine Senior Associate Dean for Research and Associate Director of the California Nanosciences Institute (CNSI) at UCLA. Dr. Payne is the Director of ACCESS, UCLA's major inter-department biomedical sciences graduate admissions program. Dr. Gasson is Director of the Jonsson Comprehensive Cancer Center (JCCC), rated as the best in California and among the top ten nationally. Dr. Herschman serves as Director for Basic Research of the JCCC. Dr. Eisenberg is Director of the UCLA-DOE Institute for Genomics and Proteomics (IGP). Dr. Banerjee is Chair of the Department of Molecular, Cellular and Developmental Biology. Dr. Martin is co-Director of the medical school MSTP program. Dr. Edmond recently served as a member of the Committee on Academic Promotions, which reviews all senior promotions in the Medical School and College. Dr. Lane is a member of the University Committee on Research Policy (UCORP). In addition, most faculty members serve on various Medical School and College Committees with an emphasis on graduate and undergraduate education. Most senior faculty members serve regularly on NIH study sections or panels. Some serve on private foundation review committees and advisory boards. It is remarkable to have such a large fraction of the faculty donating their time for service to their institution and the field of biomedical science.

## **BYLAWS**

[http://www.senate.ucla.edu/FormsDocs/bylaws/DeptBylaws/dept\\_bylaws.htm](http://www.senate.ucla.edu/FormsDocs/bylaws/DeptBylaws/dept_bylaws.htm)

The Department follows Academic Senate regulations, which are described in the UCLA Call (<http://www.apo.ucla.edu/call/>) and does not have its own specific bylaws. Primary members and joint appointees (unless specifically agreed to at the time of appointment) who are in the regular professorial or in-residence series vote on recruitments, advancement and promotions. All Academic Senate members, regardless of rank, vote on recruitments. For advancements and promotions, full Professors vote on every action; Associate Professors vote on actions dealing with advancement of Assistant Professors (including promotion to Associate Professor rank); Assistant Professors do not vote. Regardless of rank, however, all Department members participate in evaluative discussions prior to personnel actions.

## **UNDERGRADUATE EDUCATION**

Although the Biological Chemistry Department has no formal obligations for teaching undergraduate students in the College, the faculty members participate in several undergraduate courses. In 1995 the Department developed a course in Cell Biology (M140). This course, taught by Drs. Grunstein (chair), Colicelli and Shuai, fulfills a requirement for undergraduate majors in MCD Biology. The Department also runs a class for students in the UCLA Howard Hughes Undergraduate Research Program. The course, Topics in Contemporary Biology (BC191), is a mix of journal and research presentations. It was developed by Drs. Carey and Colicelli in 1998 and has been described in two education journal articles.

Two Biological Chemistry faculty members have taught regularly in undergraduate biochemistry courses administered by the Chemistry and Biochemistry Department; Dr. McEntee in 153B (DNA, RNA and Protein Synthesis) and Dr. Loo in 184 (Chemical Instrumentation).

The Department provides opportunities for undergraduates to participate in basic research either through SRP (Student Research Program) or through BC199 (Directed Research). In addition, Drs. Carey, Colicelli and Martin serve on the Faculty Advisory Committee for the UCLA Minor in Biomedical Research, a unique program established through the initiative of Dr. Banerjee and funded by HHMI to promote instruction in basic research. Many of our faculty members provide lectures for courses in this program and accept students from it into their labs.

## **MEDICAL AND DENTAL SCHOOL EDUCATION**

The Department is responsible for teaching first year medical students. In the first year we teach Human Biology and Disease (HB&D 401) jointly with other Medical School Departments. The block-based, interdepartmental curriculum for years one and two has been designed to increase integration of normal human biology with disease processes and clinical skills from the first week of medical school onward. Basic science is taught in the context of its applications to disease etiology, diagnosis and treatment. Instruction is coordinated throughout sequentially-taught blocks. In year 1, there are five 8-week blocks separated by discipline and systems. Our faculty present lectures in block 1 (Foundations of Medicine I) (Drs. Gasson, Kurdistani, DeRobertis and Herschman) and block 3 (Gastrointestinal, Endocrine, and Reproductive Medicine I) (Drs. Arab, Kurdistani, Neufeld and Edwards). Dr. Arab also teaches in block 7 in year 2. Our faculty members also participate extensively in the lab course associated with HB&D 401. Drs. Lee and Arab teach lab sessions in blocks 1 and 7, respectively. Furthermore, there are a series of Problem Based Learning (PBL) sessions associated with the course. Dr. Lee teaches PBLs in blocks 1, 3 and 7 and Dr. Neufeld in block 3, while Dr. Travis teaches in a PBL in block 3. Additionally, Dr. Edwards will become a co-chair of block 1 in August 2010.

The Department has traditionally played a major role in teaching dental students. Last year the School of Dentistry initiated a systems-based interdepartmental curriculum that integrates basic sciences with disease processes. Dr. Neufeld chairs the Foundations of Oral and Systemic Disease section, in which Drs. Martin, Payne and Shuai present lectures. Dr. Edwards is co-chair of Systems 2 (Gastrointestinal, Endocrine and Reproductive Medicine) in which Drs. Neufeld, Arab and Edwards present lectures. Dr. Howard gives lectures in Systems 3 (Hematology and Immunology).

## GRADUATE PROGRAM

### *Admission to Biological Chemistry through ACCESS and other mechanisms*

The goal of the Biological Chemistry Graduate Program is to prepare students for careers in biomedical research and/or teaching. Originally, the Departmental graduate program was a freestanding admission and PhD program. In 1993, one of our emeriti faculty, Dr. David Meyer, took the initiative in developing a novel program combining recruitment, admissions and first year curriculum for students entering most biomedical or life science PhD programs at UCLA. This joint program termed UCLA-ACCESS (<http://www.uclaaccess.ucla.edu>) was first implemented in the 1994-95 academic year. It currently includes 12 PhD programs (Biological Chemistry; Cellular and Molecular Pathology; Chemistry and Biochemistry; Human Genetics; Molecular and Medical Pharmacology; Microbiology Immunology and Molecular Genetics; Molecular, Cell, and Developmental Biology; Molecular, Cellular, and Integrative Physiology; Molecular Biology; Molecular Toxicology; Oral Biology; and Neurobiology) and has had a significant impact on the graduate program in Biological Chemistry.

In the first year of the program, ACCESS students are not affiliated with any department. They take a series of core courses and seminars, and rotate through three laboratories of their choice. At the completion of these rotations, they select a mentor and join the department of the mentor or an interdepartmental program (e.g., the MBI-IDP). Since the fall of 1995, predoctoral students have entered the Biological Chemistry Graduate Program in their second year, although there have been a few exceptions because the Department maintained the option of admitting students directly under special circumstances. Because most Biological Chemistry faculty members are also members of the Molecular Biology Institute (MBI), their students have the option of joining the MBI-IDP. Biological Chemistry Department faculty members are currently mentoring five MBI-IDP students as well as one student each from the Neuroscience IDP and the Oral Biology program.

The Medical Scientist Training Program (MSTP) provides entry for another group of students into Biological Chemistry. This program for research-oriented medical students is supported by funds from an NIH grant and the David Geffen School of Medicine. Students typically complete their M.D. and Ph.D. degrees in a period of about 8 years. Finally, research-oriented physicians who have an M.D. degree can obtain a Biological Chemistry Ph.D. degree through the Specialty Training and Advanced Research Program (STAR) based in the Department of Medicine. There is currently one MSTP student in the Biological Chemistry graduate program. We currently have no STAR students, but have had them in the past.

The Department allows graduate students to join the Biological Chemistry graduate program even though their mentor may not have a joint appointment. This is primarily a courtesy to our colleagues in clinical departments. In such cases, a Biological Chemistry faculty mentor co-chairs the PhD committee.

The Department also admits a few students with a Masters degree objective. These students are included in the Appendix, section D.

### *Requirements of the Biological Chemistry Graduate Programs*

The Biological Chemistry Ph.D. program is summarized at the end of the *Performance Indicators* booklet. The ACCESS curriculum provides three required core courses, in addition to seminars and a course on Ethics in Research. The core courses include Advanced Principles of Molecular and Cellular Biosciences I (CM253) and II, the latter of which comprises two subcomponents (CM267A and CM267B). The CM267B subcomponent uses a journal club format to develop critical thinking and presentation skills. A requirement for six additional units

can be fulfilled with didactic courses in specialized subjects such as immunology or molecular basis of disease and/or seminar courses.

The syllabi of the Biological Chemistry (BC) courses are available on the Departmental website ([http://www.biolchem.ucla.edu/Education\\_PHD\\_Program.htm](http://www.biolchem.ucla.edu/Education_PHD_Program.htm)). After completion of the didactic program and three laboratory rotations during the ACCESS year, pre-doctoral students enter a laboratory for full immersion in research. An additional academic requirement for all students is two quarters service as a Teaching Assistant (TA), in order to obtain experience in teaching; they typically assist in undergraduate courses in the College.

The remaining requirements in Biological Chemistry are few. During the second year, students select a dissertation committee and convene a meeting at which they present their research project. In their third year, they meet again for the qualifying examination (defense of a proposal on an outside research topic) for advancement to candidacy. In the fourth year, the students give a midstream presentation of their dissertation research in a seminar attended by their committee members and open to the entire Department. Second, third and fourth year students are also required to attend the Department retreat held each Spring, with third and fourth year students required to present a poster or short talk. Finally, a written dissertation, an open seminar presentation on the research and an oral examination by committee members are required to complete the degree. The students therefore meet about once a year with their dissertation committee and their progress is monitored with written evaluations provided at those meetings. The degree requirements are described in the Student Handbook (copy included with self review) and on the Department website.

The requirements are modified somewhat for MSTP and STAR students. Requirements for the Master degree are one ACCESS year, some elective courses plus either a research thesis or a comprehensive examination (see last section in the *Performance Indicators* booklet).

### *Informal Programs*

There are numerous programs that graduate students participate in to further their training. As mentioned above, the Department holds a retreat each year, in which graduate students and postdoctoral fellows present their work in talks or posters. This provides an excellent venue for interaction among all members of the Department. Faculty attendance is consistently strong, and awards are given to the one or two students and postdocs judged to have the best posters. There are numerous interdepartmental forums organized around common interests, in which Biological Chemistry graduate students participate. These include the Gene Regulation Program, Embryology Club, Micro Club, Structural Biology Group, Tumor Cell Biology Group, *C. elegans* Genetics Group, Mitochondrial Biology Group, Notch Lunch Group, Prostate Intramural Research Conference, Synapse to Circuits Club and Hematopoiesis Group. These forums, some of which have been given course status, are useful for fostering interactions among students and honing their speaking skills. In addition, starting in Fall 2009, we are instituting a Departmental floor meeting, organized by Drs. Frand and Plath. The meeting will consist of one presentation per week, with students and postdocs from each lab presenting on a revolving basis.

The students have also organized, for many years, an evening seminar program in which students and postdoctoral fellows present and discuss their research. The seminar meets twice a month during the winter and spring quarters. Department funds are used to provide dinner.

In the 2005-2006 academic year, the Department began a Distinguished Lecture Series with support from the Dean's Office. Each year students and postdocs nominate leading scientists and, after approval by a faculty committee, invite 4-8 of these to visit the Department and present seminars. The nominating student or postdoc organizes a pre-visit journal club to

discuss current research in the speaker's lab. The same student acts as the speaker's host, arranging a schedule and introducing the speaker at the seminar. Students and postdocs have lunch and dinner with the speaker.

#### *Graduate Student Involvement in Department Governance*

The Biological Chemistry Graduate Students Council has two representatives attending monthly faculty meetings. Their opinions are welcome on all topics, but are particularly valuable on curriculum issues. They are sometimes requested to survey the student body on a relevant topic. During faculty searches, students are strongly encouraged to attend presentations (formal seminar on first visit, "chalk talk" on return visit) and representative students have lunch with each candidate. Student opinions are reported back to the search committee and are discussed as part of the faculty deliberations.

#### *Support of Graduate Students*

On entering ACCESS, all students are guaranteed funding for five years to cover their stipend and fees. Funding for the first academic year is provided by ACCESS and paid back by the department accepting the students in their second year. For the pay-back, the Department of Biological Chemistry utilizes funds provided by the Graduate Division as well as discretionary funds provided by the School of Medicine. From the end of the first year, support is provided by funds from research grants, training grants, TA-ships, fellowships, or any combination thereof. After the five years for which there is a formal commitment, mentors support their students until completion of the dissertation research. In rare cases when a mentor loses all grants, the Department provides the stipends and fees. There is no obligation to support Master degree students, though some mentors do so. STAR students receive support from their clinical department. MSTP students are supported by the School of Medicine for one year of graduate (Ph.D.) studies, after which their support is provided by the mentor or training grants.

The *Indicators* booklet tabulates the sources of support from 1999 to 2008. The most important point is that student support is provided primarily from research grants, which support the GSR (Graduate Student Researchers) stipends and part of the GSR fees. In 2007-2008, research grants provided 67.8 % of the support in the form of GSR stipends and fees. The next largest category is federal training grants (18.3 %), followed by TA-ships (6.2 %), departmental funds (3.7 %) and Graduate Division fellowships (3.1 %). The "departmental and other" funds includes full Departmental support when mentors lose grant funds, as well as discretionary (non-grant) funds under the control of individual faculty, which are used to supplement training grant stipends and GSR fees. Regrettably, there is no institutional endowment for graduate education.

The predoctoral student stipends from 2001 to the present are shown in the Appendix, section A.

#### *Number of students in the Biological Chemistry Graduate Program*

The number of graduate students in the Biological Chemistry program, as well as the total number of students in Department labs (see admissions section above), for each year since 2001 is listed in the Appendix, section B.

In most years the Department enrolls a number of students from the ACCESS program roughly proportionate to our share of total ACCESS faculty members. It should, however, be noted that the number of students in our program does not represent the total number of graduate students in our laboratories; our faculty also draw students from interdepartmental programs such as the Neuroscience IDP. Several faculty members have students from other departments in

which they have primary or secondary affiliations, and in some cases students transfer from another department mid-program. In addition, because all Biological Chemistry Department faculty members are also MBI members, students who select our labs have the option of entering the MBI-IDP. We have some concern about students who choose this option because it is more difficult for us to monitor their degree progress. But this has not turned out to be a significant problem.

There are currently 37 postgraduate researchers (PGRs, a.k.a. postdocs) in laboratories of Biological Chemistry faculty. PGRs are recruited by individual faculty members. There is no organized departmental postdoctoral program, but fellows participate fully in Department activities including the Distinguished Lecture Series, the annual retreat, floor meeting and journal clubs. They also participate in the student-organized evening research seminars.

In addition, there are 14 individuals in the professional Research series. They include Assistant Researchers whose service may be an extension of their postdoctoral training, as well as more senior Researchers who provide special expertise and work with some independence. They are usually funded by grants to individual faculty. An Associate Researcher and a Project Scientist direct core facilities integral to research in the Department, and are supported through a combination of UC, CNSI and School of Medicine sources.

#### *Provenance and diversity of students currently enrolled in Biological Chemistry*

Our graduate students come from all parts of the country. We have listed the origin of our students since 2001 in Appendix C. Although about half come from campuses of the University of California, most of the rest come from all parts of the US. Large universities, small colleges, public and private institutions are all represented. With the exception of UCLA, there is no institution with a pipeline to our Department. There are currently five students who came directly from institutions abroad.

Slightly more than half of the current Biological Chemistry graduate students (32 total) are women. Seven (~22% of the total) are non-US citizens. With respect to under-represented minorities, we rely on the recruitment efforts by ACCESS. Under-represented minority groups comprise ~15% of the ACCESS students (average over past six years). Our current Biological Chemistry class has 2 such minority students (~ 6% of the total current class).

#### *Satisfaction of the Graduate Students*

Two sections of *Indicators* refer to student satisfaction: the Doctoral Exit Survey (DES) and the Graduate Council Survey (GCS) of currently enrolled students. The doctoral exit survey presents data collected from 68 students (93% response rate) when they were filing their dissertation. We found the ratings for our program similar to those for other programs in the School of Medicine and for the Molecular Biology Interdepartmental Program.

The Graduate Council Survey of current students was based on data from only 14 students (47% response rate). The survey results are presented as the sum of “very satisfied” and “satisfied” responses. Biological Chemistry students rated the Department above average, compared to 13 comparison departments, in several key areas (faculty advising, quality of lab instruction and department resources). However, there were also some areas where the Biological Chemistry Department was markedly below average. To better gauge the level of student concern, we first requested from the Graduate Division the raw data. The survey shows that on some of these items our students mostly chose “no opinion”, rather than “dissatisfied” (#8, #10 and #17), suggesting a generally neutral attitude. There were three areas with notable levels of dissatisfaction: Advising/guidance from departmental staff (#6), The morale of graduate

students in your program (#18) and The extent to which faculty educate and assist student in obtaining employment (#22).

The areas of relative dissatisfaction identified in the Graduate Student Survey are being evaluated further using a new survey of our current students. This will help us to better understand and address student concerns in these areas.

#### *Graduate Student Tracking Data*

A table of all students enrolled in the Biological Chemistry Department since 2001 is provided in Appendix D. This includes information on the immediate destination of 59 PhD students who completed their PhD degrees in that period. A brief summary is provided here.

29 Moved to post-doctoral fellowships

3 of these have since taken faculty research/teaching positions

15 Took positions in the Biotechnology and Pharmaceutical Industry

4 MSTP students re-entered Medical School

4 Went directly in faculty teaching or research/teaching positions

2 Attended law schools

1 Accepted a university Research series position (core facility director)

1 Entered dental school

1 Entered business school

2 Took a career hiatus to start a family

*Concluding remarks.* The UCLA Biological Chemistry Department has undergone extensive changes since our last external review. First we extensively revised the content and implementation of our graduate program to reinforce critical thinking skills and maintain steady progress to degree completion. Second, we recruited six outstanding Assistant Professors during this period. They have rejuvenated and expanded the Department's research profile while injecting new vigor into our teaching mission. Third, the move to a new, open plan, research building has greatly stimulated collaborative interactions among faculty, postdocs and students. Fourth, we have successfully transitioned to a system of internal Chairs with support from multiple Vice Chairs. This model of governance has enabled us to focus on recruiting exceptional colleagues while equitably sharing the responsibilities associated with running a basic science department in a school of medicine. Perhaps the greatest challenge facing the Department of Biological Chemistry stems from a system-wide problem; will the state government and UC Regents be able to develop a sustainable model of support for the University of California?

#### **ARTICULATED, CONCURRENT AND SELF-SUPPORTING PROGRAMS**

Does not apply.

## COMPARISON TO THE PREVIOUS REVIEW

Recommendations from 2001 review and how these were addressed:

### Internal

1. A student association, supported by the Department, should be formed.  
A Biological Chemistry student association was formed soon after the review. The president and vice president of this association (currently Christine Janson and Melody Pupols, respectively) attend faculty meetings regularly. The student association holds meetings to disseminate information and probe student opinion relevant to program and Department policy.
2. Student problems with late paychecks and concerns about scheduling qualifying exams should be documented, perhaps through the student association.  
The occurrence of late stipend checks has been dramatically reduced.
3. Qualifying exams sometimes take place significantly later than the third year.  
Substantial changes were made to the degree program, which is now described in detail in the Student Handbook (includes a quarter-by-quarter requirement chart). Of greatest relevance to the issue of late exams, we did the following:
  - a. Students now form their Dissertation Committee and meet with them in Spring quarter of their 2<sup>nd</sup> year. At this meeting the student briefly describes their research proposal, but no data are required. This requires minimum preparation and separates their first committee meeting from the stress of an exam setting.
  - b. Students take their qualifying exam in the Fall quarter.
  - c. The Department SAO, rather than the student, schedules the committee meetings. This both reduces the load on the student and ensures that meetings take place on schedule.
  - d. If circumstances lead to a delay of more than a few months, the committee is convened to discuss the reason for postponement and to set a new exam date. An explanatory letter is placed in student file (copy to Graduate Committee).
4. The Department should reconsider the merits of having the research advisor serve as chair of the Dissertation Committee.  
This was taken under consideration by the Department's Graduate Committee and discussed at length during a subsequent meeting of the entire faculty.
5. The Department should consider creation of a financial buffer account to deal with late student stipends.  
This was implemented but became unnecessary after a few years (see point 2).
6. The Department should create a Student Handbook.  
This excellent suggestion was adopted soon after the last review, and the Handbook has been updated each year since then. The recently revamped Department website is another information source for students. Information in the Handbook includes a complete description of the degree requirements, lists of Departmental resources and contact information for students and faculty members.

## External

1. The Department needs to identify a new Chair and should begin hiring new assistant professors. Given the difficulty in attracting an outside scientist with appropriate stature, the committee suggested that Dr. Neufeld be asked to extend her tenure as Chair and that arrangements be made for the appointment of a “pro temp” Chair from among the senior faculty members (Drs. Zipursky and Eisenberg were cited as excellent candidates).

This advice was followed with excellent outcome. Dr. Neufeld generously agreed to stay on as Chair, with the help of two vice chairs (Herschman and Colicelli). The search committee, after consultation with the full faculty, then formally nominated Larry Zipursky to serve as Department Chair. The Dean appointed Dr. Zipursky to a three-year term, with the support of vice chairs (Herschman, Payne and Colicelli). This system has continued with the transition to a three-year term for Dr. Grunstein (current vice chairs are Colicelli and Carey).

Six assistant professors have been hired since our last review (2 under Dr. Neufeld, 3 under Dr. Zipursky and 1 under Dr. Grunstein). This was made possible by the retirement of senior faculty and the strong support of the School of Medicine Dean’s Office. All of the searches were organized by ad hoc committees, and the entire faculty involved in final evaluations and recruitment. We currently have two FTEs available for new faculty, but because of the fiscal problems besetting the entire University of California system we have no immediate plans for a search.

2. Student progression to degree completion was sometimes delayed due to late scheduling of qualifying exam and midstream committee meetings.

Substantial changes were made in the requirements and implementation of the degree program. The main points are as follows:

- a. The Dissertation Committee is formed in the second year and convened initially for a review of the research project.
  - b. Students meet with their Committees more frequently overall. The advisor alone cannot postpone a scheduled exam or presentation (this requires either the Graduate Committee or the full Dissertation Committee).
  - c. Committee members submit an evaluation form to the SAO.
  - d. Attendance and presentations at annual Department retreats during the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> years are now formal requirements.
  - e. The SAO schedules meetings and monitor each student’s progress through the list of requirements.
3. Problems with delayed student stipend payments need to be addressed (Graduate Division and Department).

The system for distribution of stipend payments was addressed and this is no longer an issue (see also responses to Internal review, points 2 and 5).

## RESOURCES

For review: Grad Division database and Department databases

For general information: Department website <http://www.biolchem.ucla.edu/>

## SPECIAL CIRCUMSTANCES

**Does not apply.**

## APPENDICES

### A. Graduate student stipends

2001-02	\$20,250
2002-03	\$21,000
2003-04	\$22,500
2004-05	\$23,000
2005-06	\$24,000
2006-07	\$25,000
2007-08	\$26,500
2008-09	\$27,000
2009-10	\$27,500

### B. Number of students enrolled in Biological Chemistry Graduate Program

	<i>BC program</i>	<i>BC labs (includes other programs)</i>
2001-02	34	35
2002-03	42	43
2003-04	43	45
2004-05	36	38
2005-06	41	42
2006-07	35	40
2007-08	43	48
2008-09	36	46
2009-10	33	43

### C. Provenance of graduate students in Biological Chemistry from 2001 to present (N=92)

#### *California:*

UC Berkeley	4
UC Riverside	2
UC Los Angeles	25
UC San Diego	5
UC Santa Cruz	1
UC Santa Barbara	3
UC Davis	3
Harvey Mudd Coll.	2
Stanford	2
Westmont College	1
Cal Tech	1
Cal. State Univ. LA	1
Cal. Poly San Luis Obispo	1
Mount St. Mary's College	1
Pepperdine University	1
San Francisco State Univ.	1

#### *West*

Fort Lewis College	1
University of Colorado	1
University of Utah	2
University of New Mexico	1
Reed College	1

#### *Midwest*

Washington Univ.	1
Truman State Univ.	1
Univ. of Minnesota	1
Univ. of Illinois (Urbana)	1
Univ. of Wisconsin	1
DePauw University	1
De Paul University	2

#### *South*

Old Dominion Univ.	1
Morehouse College	1

#### *East:*

Boston College	1
Brown University	2
Coll. of the Atlantic	1
College of New Jersey	1
Drexel University	1
Duke University	1
Mount Holyoke College	1
Univ. of Pennsylvania	1
Wellesley	1
Yale University	1
SUNY Buffalo	1
Univ. of Delaware	1
Univ. of Hartford	1

#### *Foreign:*

Bogazici Univeristy (Turkey)	1
Christian-Albrechts U. (Germany)	1
Kwangju Inst. Sci. Tech. (Korea)	1
Peking University (PRC)	1
Seoul Nat. Univ. (Korea)	2
Sheffield Hallam (UK)	1
Sichuan (PRC)	1
Tsinghua University (PRC)	1
University of Chile (Chile)	1
Univ. of Concepcion (Chile)	1
Univ. Nacional de Tucuman (Arg)	1
University of Tokyo (Japan)	2

Biological Chemistry Student Checklist

Past Students	GND	Chair	Undergrad	ADT	ATC	DD	Dgr	TG	GD	FS	Dissertation Title	Post Grad	Current Job
CANON, JUDE ROBERT	M	BANERJEE	Brown Univ.	F97	W00	W03	Ph.D.				RUNX PROTEINS AND TRANSCRIPTIONAL REPRESSION IN DROSOPHILA EYE DEVELOPMENT	Amgen	Amgen
BUKRINKSKY, ALEXANDER	M	BANERJEE	UCLA	F02	F04	S08	Ph.D.				ZEBRAFISH (DANIO RERIO) AS A MODEL SYSTEM FOR HUMAN LEUKEMIA AND HEMATOPOIESIS	Cytori Therapeutics	Research Scientist, Cytori Therapeutics
MITSOURAS, KATHERINE	F	CAREY	Brown Univ.	F95	F97	F01	Ph.D.		DYF 00-01		MECHANISMS OF GENE ACTIVATION IN THE EPSTEIN-BARR VIRUS LYTIC CYCLE	Postdoc UCLA	Assistant Professor, Western University
CROCKETT, CRAIG	M	CAREY	UCLA			S06	MS						
KIM, LE		CAREY	UCLA			X04	MS						
JOHNSON, KRISTINA M.	F	CAREY	UCB	F98	X01	X03	Ph.D.	CMB 02-04	DYF / CMB		THE MECHANISM OF THE MEDIATOR COACTIVATOR COMPLEX IN TRANSCRIPTION		raising family
SMALLWOOD, ANDREA L.	F	CAREY	Sheffield Hallam University	F01	W04	S07	Ph.D.				FUNCTION OF HP1 EUCHROMATIC GENE REGULATION	Postdoc UCSD	CURRENT POSTDOC
YORK, AUTUMN (DA)	F	CAREY	Univ. of Colorado	2007									
ILAGAN, ROMYLA S.	F	CAREY	Old Dominion University	F00	X03	S06	Ph.D.		ICMIC 02-04/Pharm. Sci.	DYF 04-05	AN INVESTIGATION OF THE ANDROGEN RECEPTOR AND MAPK PATHWAYS IN ANDROGEN INDEPENDENT PROSTATE CANCER	Amgen	Scientist, Amgen
DHAKA, AJAY KUMAR	F	COLICELLI	UCLA	F94	F98	F01	Ph.D.				THE RAS EFFECTOR RIN1 IS A KEY INHIBITORY COMPONENT OR RAS-MEDIATED PATHWAYS THAT REGULATE LONG TERM MEMORY FORMATION	Postdoc at Scripps Institute	Assistant Professor, University of Washington
BLISS, JOANNE M.	F	COLICELLI	Washington Univ.	W08	F01	F03	Ph.D.	CMB 02-04	DYF 06-07		RIN1 NEGATIVELY REGULATES THE EXPRESSION OF ASSOCIATE FEAR AND AMYGDALOID SYNAPTIC PLASTICITY	Postdoc UCLA	
MILSTEIN, MARC	M	COLICELLI	UCLA	F01	W04	X07	Ph.D.				RIN1 IS A BREAST TUMOR SUPPRESSOR AND IS ALSO A COMPONENT OF A BREAST TUMOR SUPPRESSORLOCUS (B3GNT1-BRMS1-RIN1)	raising family	entrepreneur, "Scientists In Training"
THAI, MINH (DA)	M	COLICELLI	UCLA	F02	F04	F08	Ph.D.				RIN1 ACTIVATES ABL ONCOPROTEINS AND IS REQUIRED FOR FULL BCR-ABL MEDIATED TRANSFORMATION	Current postdoc at UCLA	
JANSON, CHRISTINE M.	F	COLICELLI	Truman State Univ	F07	F08			CMB 07-09					
TING, PAMELA	F	COLICELLI	UC Berkeley	2008				CMB 09-11					
MOOSER, CHELSEA	F	COLICELLI	Coll. of the Atlantic	F04	F05		Ph.D.						
LEE, HOJOON	M	DE ROBERTIS	Seoul National University	F01	W04	S07	Ph.D.				ON THE EXTRACELLULAR NETWORK OF INTERACTING PROTEINS THAT PATTERNS THE EMBRYONIC DORSAL-VENTRAL AXIS	Postdoc, Columbia University	
FUENTEALBA, LUIS CARLOS	M	DE ROBERTIS	University of Concepcion	F03	S05	S08	Ph.D.				INTEGRATION OF BMP, RTK/MAPK AND WNT/GSK3 SIGNALS THROUGH SMAD1 PHOSPHORYLATIONS	Postdoc UCSF	
CHANG, ELLEN	F	DE ROBERTIS	UCLA	F08	S09	S09	MS					Medical Student, Washington University	
PLOPER, DIEGO	M	DE ROBERTIS	Univ. Nacional de Tucuman	F08						FB 08-09			
VORWALD, PEGGY P.	F	DE ROBERTIS	FT Lewis College	F08									
XU, JUN	M	EDMOND		F99	X02	X04	Ph.D.				CHARACTERIZATION OF PERIPHERAL AND HEPATIC INSULIN SENSITIVITY BY METABOLIC FLUX ANALYSIS		
KAST, HEIDI RACHELLE	F	EDWARDS	Westmont College	F94	S97	W02	Ph.D.				THE FARNESOID-X-ACTIVATED RECEPTOR AND ITS ROLE IN LIPID METABOLISM	Research Scientist, Ligand Pharmaceuticals, San Diego	Adjunct Assistant Professor, Point Loma Nazarene University, San Diego
ANISFELD, ANDREW MARC	M	EDWARDS	UCSD	F97	F99	S03	Ph.D.				THE IDENTIFICATION OF FARNESOID-X RECEPTOR TARGET GENES NEW INSIGHTS INTO BILE ACID SIGNALING	Medical Writer, Kandle International Inc. Los Angeles	Medical Liason, Hoffman La Roche
MAK, PUI YING A	F	EDWARDS	Duke Univ.	F98	F00	S03	Ph.D.				THE ROLE OF LIVER X RECEPTOR IN MACROPHAGE GENE EXPRESSION	Scientist, Genomics Institute of Novartis Research Foundation, San Diego	Research Investigator 1, Genomics Institute of the Novartis Research
NAKAMURA, KOTOKA	F	EDWARDS	Univ. of Utah	F97	W02	X04	Ph.D.				CHARACTERIZATION OF MARINE ATP BINDING CASSETTE TRANSPORTER ABCG1	postdoc at UCLA	
LEE, FLORENCE Y.	F	EDWARDS	UCLA	F00	W03	S06	Ph.D.	CMB 01-03			IDENTIFICATION OF NOVEL PHYSIOLOGICAL ROLES FOR THE FARNESOID X RECEPTOR	postdoc at UCSF	
LEE, HANS A.	M	EDWARDS	UCLA	F01	W04	S07	Ph.D.				IDENTIFICATION AND CHARACTERIZATION OF NOVEL ROLES FOR THE FARNESOID X RECEPTOR IN THE ADRENAL GLAND AND KIDNEY	Scientist Neshor Technologies Inc. Los Angels	Scientist ONE LAMBDA Inc. California
TARR, PAUL THOMAS	M	EDWARDS	UCLA	F03	W06	W08	Ph.D.	Vascular Bio.			IDENTIFICATION OF A NOVEL FUNCTION FOR THE ATP BINDING CASSETTE TRANSPORTERS G1 AND G4IN REGULATION INTRACELLULAR CHOLESTEROL HEMOSTASIS	postdoc at CAL Tech	
BOJANIC, DRAGANA D.	F	EDWARDS	UCLA	SU04	W05	S09	Ph.D.				IDENTIFICATION OF NOVEL FUNCTIONS FOR ATP BINDING CASSETTE TRANSPORTERS G1 AND G4 DURING DEVELOPMENT AND AGEING	Current postdoc at UCLA	
MONSALVE, GABRIELA C	F	FRAND	Univ. of Minnesota	F08						FORD 08-10			
HAMIDI, HABIB	M	GASSON	UC Riverside	F04	F05								
LUO, KUNHENG	F	GRUNSTEIN	Sichuan	F95	F97	W03	Ph.D.				THE ESTABLISHMENT OF TELOMERIC HETEROCHROMATIN SACCHAROMYCES CEREVISIAE, FROM INITIATION TO TERMINATION	Postdoc, Scripps Research Institute	Returned to China
WANG, AMY E.	F	GRUNSTEIN	UCLA	F97	F99	X04	Ph.D.				SACCHAROMYCES CEREVISIAE HISTONE DEACETYLASE HOS2 CHARACTERIZATION, FUNCTION AND MECHANISM	Research Scientist, AmcYTE	Equity Analyst, MDB Capital
SPERLING, A (MSTP)	M	GRUNSTEIN	UC Santa Cruz	W05	S05	S09	Ph.D.		DYF 07-08		THE FUNCTION OF THE HISTONE H3 N TERMINAL TAIL IN THE FORMATION OF HETEROCHROMATIN IN THE BUDDING YEAST, SACCHAROMYCES CEREVISIAE	Medical Student, UCLA	
BARR, ROBERT (IAN)	M	GUO	UCSB	SU07	F08								
SANTURIA, RACHERL	F	GUO	Univ. of Pennsylvania	F07	W09								
ULGHERAIT, MATTHEW J.	M	GUO	Drexel University	F08						CMB 09-11			
SIYAHIAN, ARPI	F	HERSCHMAN	UC Riverside	S04	F05	S09	Ph.D.	Dent-Scientist & Oral Biology					
CHOU, ALICE HSIAO-WEI	F	HOWARD	UCLA	F95	F97	X01	Ph.D.				THE WNT-1 SIGNALING PATHWAYS IN PC12 CELLS	Postdoc, UCLA Biology	raising family
MCLEOD, SARAH MARIE	F	JOHNSON	Wellesley	F94	F96	F01	Ph.D.				ARCHITECTURE OF THE FIS AND CRP CO-ACTIVATED PROP P2 TRANSCRIPTION INITIATION COMPLEX	New England Medical Center, Tufts University	Research Scientist - AstraZeneca
DEEPAK, GEORGE	M	JOHNSON	UCLA			W06	MS						
WONG, BEN KWOK-YING	M	JOHNSON	UCLA	F96	F98	S03	Ph.D.				THE ROLE OF DNA BENDING DETERMINANTS OF HMGB PROTEINS IN CISPATTIN-DNA ADDUCT RECOGNITION, TRANSCRIPTION AND V(DJ)	Postdoc MIT	Genstruct
MICHEL, PIERRE	M	JOHNSON	Morehouse College			F03	MS						
PAPAGIANNIS, CHRISTIE V.	F	JOHNSON	Univ. of Illinois Urbana	F98	S02	W06	Ph.D.				MECHANISM OF XIS AND FIS COOPERATIVITY IN THE PHAGE LAMBDA EXCIPIE NUCLEOPROTEIN COMPLEX	Postdoc, Irvine	
SANDERS, ERIN R.	F	JOHNSON	De Paul University	F98	W01	X05	Ph.D.				HIN MUTANTS THAT CAPTURE INTERMEDIATES FORMED DURING HINCATALYZED DNS RECOMBINATION	Instructor UCLA	Adjunct Asst. Prof. UCLA
DOWELL, NOAH L.	M	JOHNSON	UC Davis	F03	W05								
HEISS, JOHN K.	M	JOHNSON	University of Delaware	F03	W05								
MC LEAN, MEGHAN	F	JOHNSON	Univ. Wisconsin Madison	F06	F07			GG					
NAFISSI, MARYAM	F	JOHNSON	UCLA	F07	F08								
KANI, KAN	M	LANDGRAF	University of Hartford	F01	F03	F06	Ph.D.				THE CONTRIBUTION OF ERBB3 CONFIRMATIONS TO RECEPTOR ACTIVATION STATES	Postdoc, USC	
WARREN, CARMEN M.	F	LANDGRAF	UCSD	F02	W05	W08	Ph.D.	CMB 03-05 / Vascular Bio.			POST-TRANSLATIONAL CONTROL OF ERBB3 SIGNALING REGULATION OF ACTIVATION AND MATURATION OF ERBB RECEPTORS	Current Postdoc at UCLA	
GERBIN, CANDICE S.	F	LANDGRAF	Harvey Mudd College	F04	W06	W09	Ph.D.					looking for teaching position	

Biological Chemistry Student Checklist

Past Students	GND	Chair	Undergrad	ADT	ATC	DD	Dgr	TG	GD	FS	Dissertation Title	Post Grad	Current Job
PARK, EUISUN	F	LANDGRAF	Kwangju Institute of Science & Technology	W05	F05	W08	Ph.D.						Industry position in Korea
STEVENS, JENNIFER	F	LANE	Cal Poly San Luis Obispo	F05	SU06			Vascular Bio. / UC Regents					
DENG, QIMING	M	LANE	DePauw Univ	F07	F08			CMB 07-09					
RETTING, KELSEY N.	F	LYONS	UCLA College of New Jersey	F04	W06	W08	Ph.D.				SMAD PROTEINS AND THE REGULATION OF ENDOCHONDRIAL BONE FORMATION		Staff Scientist at COvX (Pfizer BBC), San Diego
DORNBACH LISA M.	F	LYONS	College of New Jersey	F00	W03	S06	Ph.D.				REGULATION OF SKELETAL FORMATION BY CCN MATRICELLULAR PROTEINS	Hastings Law School	Graduated from Law School, looking for position as a patent attorney
BAHAMONDE, MATTHEW E.	M	LYONS	CSULA	F96	F98	S02	Ph.D.				THE ROLE OF MORPHOGENETIC PROTEIN 3 (BMP3) IN AND LUNG DEVELOPMENT	Assistant Researcher, SUNY Rolling Hills	Assistant Professor, SUNY Farmingdale
JEFFEREY, RACHEL	F	MARTIN	Yale University	F05	F06			CMB 06-07	DYF 08-09				
MEER, ELLIOT	M	MARTIN	UCSB	2008				NIH 09-10					
BLOCK-ALPER, LAURA M.	F	MEYER	UCSD	F96	F98	F01	Ph.D.				INSIGHTS INTO THE MECHANISMS OF ENDOPLASMIC RETICULUM PROLEFERATION IN SACCHAROMYCES CEREVISIAE	The Dow Chemical Company	Medical Writer & Owner
BENYAMINI, PAYAM	M	MEYER	UCLA	F02	F04	W07	Ph.D.				THE MAMMALIAN RIBOSOME RECEPTOR, P180, MEDIATES RER MEMBRANE BIOGENESIS AND ESTABLISHMENT OF A SECRETORY PHENOTYPE		Founder, Chief Scientific Officer of a biotechnology company, PERIOcyte LLC
COSTAGUTA, GIANCARLO	M	PAYNE	University of Chile	F97	X00	S03	Ph.D.		DYF 02-03		NOVEL FACTORS FOR CLATHRIN FUNCTION AT THE GOLGI IN SACCHAROMYCES CEREVISIAE	Current Post Fellow at UCLA	
FERNANDEZ, GERARDO E.	M	PAYNE	Harvey Mudd College	F00	W03	F06	Ph.D.	CMB 01-03			MECHANISM OF TRANSPORT AND SORTING IN THE TRANS GOLGI NETWORK/ENDOSOME SYSTEM OF SACCHAROMYCES CEREVISIAE		Associate Director, Molecular Cytology Core Facility
ANAND, VIKRAM C. (MSTP)	M	PAYNE	UCLA	F04	F05	S08	Ph.D.				IDENTIFICATION AND CHARACTERIZATION OF FACTORS INVOLVED IN THE AP-3 DEPENDENT PROTEIN TRANSPORT PATHWAY OF SACCHAROMYCES CEREVISIAE		Medical Student at UCLA School of Medicine
BALBAS, MINNA	F	PAYNE	UCLA		F05		MS						
LORENZ, TODD C. (DA)	M	PAYNE	De Paul University	F99	F02	W08	Ph.D.				HIGH-THROUGHPUT METHODS AND CHARACTERIZATION OF POST-GOLGI TRAFFICKING GENES		Lecturer at these institutions - UCLA, LA Southwest College, Cerritos College
DABOUSSI, LYDIA	F	PAYNE	Stanford Univ	F06	W08			GG	DYF 09-10				
TERREL, ASHLEY (DA)	F	PAYNE	UCLA	S09	S09	S09	MS						
HOWARD, JAMES P. (MSTP)	M	PAYNE	UC Davis	F95	W01	W05	Ph.D.		DYF 00-01		ANALYSIS OF CIS AND TRANS ACTING ENDOCYTOSIS FACTORS IN SACCHAROMYCES CEREVISIAE: INSIGHTS INTO CLASSIC AND UBQUITIN DIRECTED PROTEIN TRAFFIC	UCSF	Clinical and Reserarch Fellow, UCSF
SELLAMI, NADIA	F	PLATH	Christian-Albrechts University Kiel	2008									
CHOI, SUN-MI	F	ROME	UCLA			F05	MS						
EMRE, NIL	F	ROME	Reed College	F97	W00	S04	Ph.D.				INSIGHTS INTO THE MOLECULAR MECHANISMS REGULATING VAULT COMPONENT LEVELS, NUCLEOLAR LOCALIZATION, AND VRNA TARGETING	Scripps Research Institute	Research Scientist, Scripps Research Institute
GARCIA, YVETTE	F	ROME	Mount St Mary's College			F06	MS	CMB					
PUPOLS, MELODY	F	ROME	UC Berkeley	F05	F06								