

**UNIVERSITY OF CALIFORNIA
SAN DIEGO DIVISION OF THE ACADEMIC SENATE
REPRESENTATIVE ASSEMBLY**

[see pages 2 and 3 for Representative Assembly membership list]

**NOTICE OF MEETING
Wednesday, November 28, 2012, 3:30 p.m.
Leichtag Building Conference Room**

ORDER OF BUSINESS

| | <u>Page</u> |
|---|-----------------------------|
| 1. Minutes of Meeting of October 23, 2012 | 4 |
| 2-7. Announcements | |
| Chair T. Guy Masters | Oral |
| Chancellor Pradeep Khosla | Oral |
| Strategic Plan Update | |
| Acting Vice Chancellor Catherine Constable | Oral |
| Marine Sciences – Update | |
| 8. Special Orders | |
| Consent Calendar | |
| Memorial Resolutions | |
| William A. Allison | 11 |
| Joseph Kraut | 13 |
| Stanley L. Miller | 15 |
| 9. Reports of Special Committees <i>[none]</i> | |
| 10. Reports of Standing Committees <i>[none]</i> | |
| <u>Informational reports (Discussion)</u> | |
| Committee on Library | |
| Proposed Open Access Policy from University Committee on Library and Scholarly Communication (UCOLASC) | Proposal/19 |
| 11. Reports of Faculties <i>[none]</i> | |
| 12. Petitions of Students <i>[none]</i> | |
| 13. Unfinished Business <i>[none]</i> | |
| 14. New Business | |

REPRESENTATIVE ASSEMBLY 2012-2013 MEMBERSHIP

Ex Officio Members:

| | |
|--|----------------------|
| Chair of Division | T. Guy Masters |
| Chancellor | Pradeep Khosla |
| Vice Chair of Division | Kit Pogliano |
| 2011-12 Chair of Division | Joel Sobel |
| Chair, Committee on Academic Personnel | John C. Moore |
| Chair, Committee on Admissions | Gail Heyman |
| Chair, Committee on Diversity and Equity | Anthony Davis |
| Chair, Committee on Campus Community Environment | Shahrokh Yadegari |
| Chair, Committee on Committees | Andrew Scull |
| Chair, Educational Policy Committee | Partho Ghosh |
| Chair, Undergraduate Council | Michael Todd |
| Chair, Committee on Faculty Welfare | Timothy Rickard |
| Chair, Graduate Council | Andrew Chisholm |
| Chair, Committee on Planning and Budget | Roddey Reid |
| Chair, Committee on Privilege and Tenure | Duncan Agnew |
| Chair, Committee on Research | Isaac Martin |
| Chair, University Committee on Planning & Budget | Jean-Bernard Minster |
| Executive Vice Chancellor, Academic Affairs | Suresh Subramani |
| Vice Chancellor, Health Sciences | David A. Brenner |
| Acting Vice Chancellor, Marine Sciences | Catherine Constable |
| Vice Chancellor, Research | Sandra Brown |

| | <u>Elected Members</u> | | <u>Alternates</u> | |
|-----------------------------------|-------------------------------|-------|--------------------------|-------|
| Divisional Representatives | John Hildebrand | ('13) | David Borgo | ('13) |
| | Douglas Magde | ('13) | Anthony Edwards | ('13) |
| | Eric Watkins | ('13) | David Mares | ('13) |
| | Eduardo Macagno | ('14) | Todd Kontje | ('14) |
| | Jan Talbot | ('14) | Gershon Shafir | ('14) |
| Revelle College | Kenneth Kreutz-Delgado | ('13) | _____ | |
| | Lisa Porter | ('13) | _____ | |
| John Muir College | Monte Johnson | ('13) | _____ | |
| | Adam Burgasser | ('14) | Alan Daly | ('14) |
| Thurgood Marshall College | _____ | | Eva Barnes | ('14) |
| | Arnold Rheingold | ('14) | Jacques Verstraete | ('14) |
| Earl Warren College | Suzanne Brenner (F) | ('13) | _____ | |
| | Emily Roxworthy (W,Sp) | ('14) | _____ | |
| Roosevelt College | _____ | | _____ | |
| | _____ | | _____ | |
| Sixth College | _____ | | _____ | |
| | _____ | | _____ | |
| Emeritus Faculty | David Miller | | _____ | |
| Anesthesiology | _____ | | _____ | |
| Anthropology | Kathryn (Kit) Woolard | ('14) | Esra Ozyurek | ('14) |
| Bioengineering | John Watson | | _____ | |
| Biological Sciences | Stephan Hedrick | ('13) | David Traver | ('13) |
| | Kaustuv Roy | ('13) | Lakshmi Chilukuri | ('13) |
| Cellular & Molecular Med. | Xiang-Dong Fu | ('13) | Huilin Zhou | ('13) |
| Chemistry & Biochemistry | Judy Kim | ('13) | Alex Hoffmann | ('13) |
| | Charles Perrin | ('14) | Patricia Jennings | ('14) |
| Cognitive Science | Gedeon Deak | | _____ | |
| Communication | Robert Horwitz | ('14) | Stefan Tanaka | ('14) |
| Computer Science & Engineering | David Kriegman | ('13) | Alex Orailoglu | ('13) |
| | Steven Swanson | ('13) | Charles Elkan | ('13) |
| Economics | Michelle White | ('13) | Jim Andreoni | ('13) |
| | Mark Machina | ('14) | Chris Chambers | ('14) |
| Education Studies | Carolyn Hofstetter | ('14) | Thandeka Chapman | ('14) |
| Electrical & Computer Engineering | Shayan Mookherjea | ('14) | James Buckwalter | ('14) |
| | Massimo Franceschetti | ('14) | Young-Han Kim | ('14) |
| Emergency Medicine | Chris Tomaszewski | ('13) | Gary Vilke | ('13) |

| | | | | |
|---|-----------------------|-------|--------------------------|-------|
| Ethnic Studies | Sara Kaplan | | | |
| Family & Preventive Med. | Allison Matthew | ('14) | Gamst Anthony | ('14) |
| History | Tal Golan | ('14) | | |
| | Rachel Klein | ('14) | | |
| IR&PS | | | | |
| Linguistics | Gabriela Caballero | | | |
| Literature | Dennis Childs | ('13) | Rae Armantrout | ('13) |
| | William O'Brien | ('14) | Yingjin Zhang | ('14) |
| Mathematics | Sam Buss | ('13) | Cristian Popescu | ('13) |
| | David Meyer | ('14) | Patrick Fitzsimmons | ('14) |
| Mechanical & Aerospace Engineering | Miroslav Krstic | ('13) | | |
| | Daniel Tartakovsky | ('13) | | |
| Medicine | Joachim Ix | ('14) | David Smith | ('14) |
| | Connie Benson | ('14) | | |
| Music | Katharina Rosenberger | | Tamara Smyth | |
| NanoEngineering | Darren Lipmoni | ('14) | Andrea Tao | |
| Neurosciences | Eric Halgren | ('13) | Marilyn Jones | |
| | Robert Rissman | ('14) | | |
| Ophthalmology | Bobby Korn | ('13) | Linda Zangwill | ('13) |
| Orthopaedics | Simon Schenk | ('13) | Sameer Shah | ('13) |
| Pathology | Henry Powell | ('14) | | |
| | David Pride | ('14) | | |
| Pediatrics | John Bradley | ('14) | | |
| | Lynne Bird | ('14) | | |
| Pharmacology | | | | |
| Philosophy | William Bechtel | ('14) | Gerald Doppelt | ('14) |
| Physics | Dan Arovas | ('13) | Elizabeth Jenkins | ('13) |
| | Olga Dudko | ('14) | Oleg Shpyrko | ('14) |
| Political Science | Philip Roeder | ('13) | | |
| | Samuel Kernell | ('14) | Fonna Forman-Barzilai | ('14) |
| Psychiatry | Robert Clark | ('14) | Wesley Thompson | ('14) |
| | Xianjin Zhou | ('14) | David Welsh | ('14) |
| Psychology | Dave Huber | ('14) | Nicholas Christenfeld | ('14) |
| Radiation Medicine and Applied Sciences | Loren Mell | ('14) | Todd Pawlicki | ('14) |
| Radiology | Roland Lee | ('13) | Rosalind Dietrich | ('13) |
| | Samuel Ward | ('13) | Lawrence Frank | ('13) |
| Rady School of Management | David Schkade | ('13) | Allan Timmermann | ('13) |
| Reproductive Medicine | | | | |
| SIO | Eric Allen | ('14) | Kathy Barbeau | ('14) |
| | Steven Constable | ('14) | Amro Hamdoun | ('14) |
| | Philip Hastings | ('14) | James Leichter | ('14) |
| | Maria (Gabi) Laske | ('14) | | |
| | Darcy Ogden | ('14) | Dean Roemmich | ('14) |
| | Lynne Talley | ('14) | Brad Werner | ('14) |
| Sociology | Akos Rona-Tas | ('14) | Amy Binder | ('14) |
| SSPPS | Pieter Dorrestein | ('13) | Philip Bourne | ('13) |
| Structural Engineering | Robert Asaro | ('13) | Hyonny Kim | ('13) |
| Surgery | | | | |
| Theatre and Dance | Marianne McDonald | ('13) | Ursula Meyer (Wtr) | ('13) |
| | Patricia Rincon | ('13) | Victoria Petrovich (Spr) | ('13) |
| Visual Arts | Louis Hock | ('14) | Grant Kester | ('14) |
| | Kyong Park | ('14) | Fred Lonidier | ('14) |
| Advisors: | | | | |
| Research - General Campus | Marlene Rosenberg | ('13) | Amy Tsai | ('13) |
| Research - Health Sciences | Michael Baker | ('13) | David Boyle | ('13) |
| Research - Marine Sciences | Julie McClean | ('13) | David Chadwell | ('13) |
| Undergraduate Students | | | | |
| Graduate Students | Jordan Gosselin | ('13) | | |
| | Mat Jarvis | ('13) | | |

**ACADEMIC SENATE, SAN DIEGO DIVISION
REPRESENTATIVE ASSEMBLY
OCTOBER 23, 2012
MINUTES**

Chair Masters called the meeting to order at 3:34 p.m. A quorum was present (see attached attendance sheet), as were other Academic Senate members and guests. Chair Masters welcomed members and guests to the first regular meeting of the 2012-2013 academic year, introduced himself and Vice Chair Kit Pogliano to those present, and noted that the Academic Senate Bylaws governing the privilege of the floor and voting were projected. He thanked Professor Gerald Mackie from the Department of Political Science for serving as Parliamentarian for the Assembly this year. Chair Masters thanked Academic Senate staff members who provide support for the Assembly: Diane Hamann, Director of the Academic Senate Office, Julia Partridge, Senior Analyst and Assembly Recorder, and Trevor Buchanan, Programmer Analyst.

MINUTES OF MEETING OF MEETING OF MAY 24, 2011

The minutes of the meeting of May 22, 2012 were approved as distributed.

ANNOUNCEMENTS BY THE CHAIR OF THE DIVISION

Chair Masters announced that Chancellor Khosla would not attend the Representative Assembly meeting today due to prior travel commitments. Executive Vice Chancellor (EVC) Suresh Subramani and Vice Chancellor for Health Sciences David Brenner will give updates on Academic Affairs and Health Sciences, respectively.

Issues Under Review - Local

Chair Masters explained that the San Diego Division and its committees review issues generated by Senate committees and members and also respond to requests from the Academic Council, Office of the President, and campus administration. One of the major reports that the Division is currently reviewing is the Report of the Task Force on Faculty Rewards System II. The Task Force was charged with examining the academic review process and produced 39 recommendations. After consideration and discussion by the relevant Senate committees, the Senate will discuss the recommendations with EVC Subramani. One portion of the report addresses the issue of salary equity. An earlier report from the systemwide University Committee on Affirmative Action and Diversity (UCAAD) pointed out possible faculty salary inequities based on gender. President Yudof has asked each campus to create a plan to track and address salary inequities by November 15, 2012. Chair Masters hoped that the most egregious examples of salary inequity on the San Diego campus could be addressed quickly.

Chair Masters announced that a Senate Task Force on Self-Supporting Programs is examining issues related to self-supporting programs such as Masters of Advanced Studies programs. Chair Masters urged faculty members to contact Professor John Hildebrand (SIO), chair of the task force, with any issues or questions regarding self-supporting programs. A Senate-Administration Task Force on Online Education is being formed to discuss what the Chancellor has termed “technology enhanced education.” The chairs for this task force have not yet been named. The Senate has formed the Facilities Management Review Committee, which is expected to report by the beginning of Winter Quarter. The Committee is chaired by Professor Deborah Yelon (Biological Sciences) and will report on issues related to campus infrastructure.

Issues Under Review – Systemwide

Chair Masters announced that a Negotiated Salary (NSP) Trial Program has been proposed for three campuses: UCLA, UCI, and UCSD. The 2011-2012 Senate Council expressed cautious support of the NSP, but the systemwide Senate was largely opposed to the proposal. The Trial Program now being proposed would run for four years, with a full review of the program during its third year. At that time, a decision would be made on whether to expand or stop the program.

Another major report being discussed by the systemwide Senate is the report of the Systemwide Rebenching Budget Committee. The recommendations of the committee concern the distribution of state money from the Office of the President to the campuses. Over the next six years or so, new state monies would be used to bring all the campuses' per (student) capita funding up to the highest current level. The rate of implementation will depend on whether new state funding is allocated to the UC. The rebenching process should make the distribution of state funding to campuses more equitable and transparent.

Chair Masters informed Assembly members that the University Committee on Library and Scholarly Communication (UCOLASC) has submitted a proposal for an Open Access Policy. The Divisional Committee on Library has established an online forum to give all faculty members an opportunity to comment on the proposal. The url for the forum and other information related to Open Access are posted on the Senate's home page.

Other Issues Under Discussion

Chair Masters announced that a systemwide human resources and payroll/personnel system called UC Path is being developed to replace the current systems on the ten campuses. Some proposed elements of UC Path, such as composite benefits rates, have different effects on campuses than on the UC system when viewed as a whole, and effects may differ among the campuses. Composite benefit rates would negatively affect research grants, for instance. The Academic Council will discuss the implementation of UC Path at its meeting tomorrow.

ANNOUNCEMENTS BY THE EXECUTIVE VICE CHANCELLOR

Chair Masters invited EVC Subramani to provide the Assembly with an update on Academic Affairs issues and initiatives. EVC Subramani reported that Linda Green, the new Vice Chancellor for Diversity, Equity, and Inclusion (VC DEI), will join the campus on January 2, 2013.

EVC Subramani announced that *Washington Monthly* ranked UCSD as the #1 public university in the nation for the third consecutive year. UCSD was lauded for providing access to low and medium income students, as well as for its involvement in local community service. UCSD has also crossed the billion dollar mark for federal grants awarded to faculty. This year, UCSD faculty secured more federal grant money than any other UC campus. In addition, recently faculty members at UCSD have been awarded the National Medal of Science for three years in a row. EVC Subramani noted that staff and students at UCSD are excelling despite budget cuts.

Academic Affairs is in the second year of a three-year recruitment plan. A couple of years ago, faculty hires were frozen due to budget cuts. At that time, UCSD had a 60% budgeted-to-filled ratio for faculty FTEs, the lowest in the UC system. Since then, an agreement between Academic Affairs and the Chancellor that allocated 65% of the revenue from non-resident student tuition to Academic Affairs allowed new faculty recruitments to begin. Over the last couple of years, over a hundred new faculty FTE have been budgeted on the General Campus. Many of these FTEs were allocated for the recruitment of faculty in the three research initiatives. Faculty recruitments at UCSD have been largely successful. Last year, the campus lost 42 faculty members due to separations or retirements. Of the faculty members who were offered a retention package, 28 out of 29 decided to remain at UCSD. EVC Subramani emphasized that successful retention efforts are a sign that faculty are generally pleased to remain at UCSD, and efforts to raid our faculty are a sign that UCSD has a high-quality faculty. Last year, the campus recruited a new Chancellor and a Vice Chancellor for Diversity, Equity, and Inclusion. This year, the campus will be recruiting two Deans (Jacobs School of Engineering and Biological Sciences) and a Provost for Muir College. The international searches will be conducted with the aid of an external search firm.

EVC Subramani also announced an initiative led by Associate Vice Chancellor for Undergraduate Education Barbara Sawrey and Dean of Graduate Studies Kim Barrett to look at issues regarding education on campus, including the use of technology in the curriculum. Faculty interested in the charge of the committee can contact him. The Joint Senate-Administration Task Force mentioned by Senate Chair Masters will have two co-chairs, one from the administration and one from the Senate. EVC Subramani expects this group to discuss how to move online education at UCSD along. The University of California has a systemwide online education program; UCSD has only one course in the program, but EVC Subramani hopes to see more in the future.

EVC Subramani announced that there are 158 total endowed chairs on campus, four of which were added last year. With regard to efforts toward furthering diversity on campus, Academic Affairs has issued small grants for the development of courses that would satisfy the new undergraduate diversity graduation requirement. These grants will provide teaching assistant support and will have to be matched by the division. Ideally, these courses would be available in every division. About \$1,500 will be given to faculty members who participate in these courses. The campus also added a number of new degree programs and organized research units last year.

Chair Masters thanked EVC Subramani for his remarks and asked whether Assembly members had questions. No questions were asked.

ANNOUNCEMENTS BY THE VICE CHANCELLOR FOR HEALTH SCIENCES DAVID BRENNER

Chair Masters invited Vice Chancellor for Health Sciences David Brenner to provide the Assembly with an update on Health Sciences issues and initiatives. VC Brenner provided Assembly with an overview of personnel at the Health Sciences, including sources of income, its administrative organization, missions, and outlook for the future. (The full presentation is appended to the file copy of these minutes as attachment 2 and can be found on the Senate's website at: http://senate.ucsd.edu/assembly/1213/Health_Sciences_Overview.pdf.)

VC Brenner explained that the Health Sciences mission included three components: education (which includes the training of M.D.s, Pharm.D.s, M.D./Ph.D.s, postdoctoral fellows, and clinical residents), patient care (which is comprised of the UCSD Medical Center in Hillcrest, the UCSD Thornton Hospital, the Moores Cancer Center, the Shiley Eye Center, and the Sulpizio Cardiovascular Center), and research in the basic sciences, clinical and translational research, and clinical trials. Ongoing research priorities in the Health Sciences include: genomics/epigenetics, computational chemistry, systems biology, bioengineering, biomedical research, and clinical research. The Health Sciences recently opened a new Clinical and Translational Research Institute (CTRI), which aims to create an environment that advances health care through interactions between basic scientists, clinical investigators, community physicians, and patients. New research and patient care facilities are in various stages of planning and construction in the next few years.

VC Brenner also discussed risks to the Health Sciences' clinical, research, and educational mission: changes in the Medicare and Medi-Cal programs and the NIH's budget and priorities are among the greatest risks. Philanthropic contributions to the Health Sciences are also important, since parts of the Health Sciences' expansion plan depend on philanthropy. Increased UC Retirement Program employer contributions increases the overall costs to grants and the campus. The five-year impact of the increased contributions is estimated to be about \$600M.

Chair Masters thanked VC Brenner for his remarks and asked whether Assembly members had questions. One member asked how the proposed rebenching process will affect the Health Sciences. VC Brenner responded that the biggest discrepancy is in terms of funding for the Health Sciences is between the UCSF School of Pharmacy School and UCSD's Skaggs School of Pharmacy and Pharmaceutical Sciences. Also, older UC schools have much better funding for medical residency programs. He said it was important to keep these discrepancies in mind.

SPECIAL ORDERS

Consent Calendar – The 2011-2012 annual report for the Academic Senate Committee on Research was received for filing without objection.

Election of Two Members to Senate Council – Chair Masters called members' attention to page 21 of the agenda packet, which reflects the current Senate Council membership, and to pages 2 and 3, which is the current listing of elected Assembly members. He explained that the Bylaws of the San Diego Division call for two elected members of the Representative Assembly to serve as at-large members on the Senate Council; alternate Assembly members are not eligible to serve. The Senate Council meets the first Monday of each month during the academic year at 3:30 p.m. Professors Roland Lee from the Department of Radiology and Constance Benson from the Department of Medicine were nominated; both had agreed to serve if elected. No other nominations were received. Professors Lee and Benson were elected unanimously by a voice vote. Chair Masters extended his congratulations and noted that the next Senate Council meeting will be on Monday, November 5 at 3:30 p.m.

REPORTS OF STANDING COMMITTEES

Committee on Planning and Budget

Chair Masters invited Professor Roddey Reid, Chair of the Committee on Planning and Budget, to present information on the University and campus budget. (The presentation is appended to the file copy of these minutes as attachment 3, and can be found on the Senate's website at http://senate.ucsd.edu/assembly/1213/CPB_Budget_Workshop.pdf.) At the end of the presentation, an Assembly member commented that the use of additional non-resident tuition revenues and the rebenching initiative are fundamental to the budget process, but are very complex issues; he asked whether CPB might be able to produce a document that would answer faculty questions about these issues. Another Assembly member stated that rebenching may not happen since it depends on the University receiving new state funds. Vice Chancellor Rue expressed concern that now that "funding streams" has been implemented and campuses keep all revenue but fund OP by paying an annual "assessment", OP may initiate systemwide projects to provide campuses with services that the campuses currently provide for themselves and may wish to continue to provide for themselves. An Assembly member requested more information on the gap in ICR rates proposed by the University and the rates approved by the federal government. Another member suggested that the Garamendi approach to funding new buildings might be becoming prohibitive for the campus. Professor Reid thanked the members for their comments and suggestions for further information; he said that CPB would consider developing material to address these topics. Chair Masters thanked Professor Reid for his presentation.

REPORTS OF FACULTIES [none]

PETITIONS OF STUDENTS [none]

UNFINISHED BUSINESS [none]

NEW BUSINESS [none]

There being no further business, the meeting adjourned at 5:35 p.m.

Julia Kwan Partridge

ACADEMIC SENATE, SAN DIEGO DIVISION
 REPRESENTATIVE ASSEMBLY
 2012-13 ATTENDANCE

| EX-OFFICIO MEMBERS | | | | | |
|---|-------|--|--|--|--|
| | 10/23 | | | | |
| T. Guy Masters (Chair of Division) | + | | | | |
| Pradeep Khosla (Chancellor) | | | | | |
| Kit Pogliano (Vice Chair of Division) | + | | | | |
| Joel Sobel (2011-2012 Chair of Division) | | | | | |
| John C. Moore (Chair, Committee on Academic Personnel) | + | | | | |
| Gail Heyman (Chair, Committee on Admissions) | | | | | |
| Anthony Davis (Chair, Committee on Diversity and Equity) | | | | | |
| Andrew Scull (Chair, Committee on Committees) | | | | | |
| Shahrokh Yadegari (Chair, Committee on Campus & Comm Environment) | + | | | | |
| Partho Ghosh (Chair, Educational Policy Committee) | | | | | |
| Timothy Rickard (Chair, Committee on Faculty Welfare) | | | | | |
| Andrew Chisholm (Chair, Graduate Council) | + | | | | |
| Roddey Reid (Chair, Committee on Planning and Budget) | + | | | | |
| Duncan Agnew (Chair, Committee on Privilege and Tenure) | | | | | |
| Isaac Martin (Chair, Committee on Research) | | | | | |
| Michael Todd (Chair, Undergraduate Council) | | | | | |
| Jean-Bernard Minster (Chair, University Committee on Planning & Budget) | + | | | | |
| Suresh Subramani (Executive Vice Chancellor, Academic Affairs) | + | | | | |
| David A. Brenner (Vice Chancellor, Health Sciences) | + | | | | |
| Catherine Constable (Acting Vice Chancellor, Marine Sciences) | | | | | |
| Sandra Brown (Vice Chancellor, Research) | | | | | |
| ELECTED MEMBERS <i>[alternates in square brackets]</i> | | | | | |
| John Hildebrand/[David Borgo] (Divisional Representative) | | | | | |
| Douglas Magde/[Anthony Edwards] (Divisional Representative) | + | | | | |
| Eric Watkins/[David Mares] (Divisional Representative) | | | | | |
| Eduardo Macagno/[Todd Kontje] (Divisional Representative) | + | | | | |
| Jan Talbot/[Gershon Shafir] (Divisional Representative) | + | | | | |
| Kenneth Kreutz-Delgado/[] (Revelle College) | + | | | | |
| Lisa Porter/[] (Revelle College) | | | | | |
| Monte Johnson/[] (Muir College) | + | | | | |
| Adam Burgasser/[Alan Daly] (Muir College) | [+] | | | | |
| /[Eva Barnes] (Marshall College) | | | | | |
| Arnold Rheingold/[Jacques Verstraete] (Marshall College) | [+] | | | | |
| Suzanne Brenner (F)/[] (Warren College) | + | | | | |
| Emily Roxworthy (W,Sp)/[] (Warren College) | | | | | |
| /[] (Roosevelt College) | | | | | |
| /[] (Roosevelt College) | | | | | |
| /[] (Sixth College) | | | | | |
| /[] (Sixth College) | | | | | |
| David Miller/[] (Emeritus Faculty) | + | | | | |
| /[] (Anesthesiology) | | | | | |
| Kathryn (Kit) Woolard/[Esra Ozyurek] (Anthropology) | [+] | | | | |
| John Watson/[] (Bioengineering) | + | | | | |
| Stephan Hedrick/[David Traver] (Biological Sciences) | | | | | |

Key: + present [+] alternate present - no member or advisor at the time of meeting

| | 10/23 | | | | |
|---|--------|--|--|--|--|
| Kaustuv Roy/[Lakshmi Chilukuri] (Biological Sciences) | + | | | | |
| Xiang-Dong Fu/[Huilin Zhou] (Cellular & Molecular Medicine) | [+] | | | | |
| Judy Kim/[Alexander Hoffman] (Chemistry & Biochemistry) | | | | | |
| Charles Perrin/[Patricia Jennings] (Chemistry & Biochemistry) | + | | | | |
| Gedeon Deak/[] (Cognitive Science) | + | | | | |
| Robert Horwitz/[Stefan Tanaka] (Communication) | + | | | | |
| David Kriegman/[Alex Orailoglu] (Computer Science & Engineering) | + | | | | |
| Steven Swanson/[Charles Elkan (Computer Science & Engineering) | [+] | | | | |
| Michelle White/[Jim Andreoni] (Economics) | | | | | |
| Mark Machina/[Chris Chambers](Economics) | +, [+] | | | | |
| Carolyn Hofstetter/[Thandeka Chapman] (Education Studies) | +, [+] | | | | |
| Shayan Mookherjea/[James Buckwalter] (Electrical & Computer Engineering) | [+] | | | | |
| Massimo Franceschetti/[Young-Han Kim] (Electrical & Computer Engineering) | | | | | |
| Chris Tomaszewski/[Gary Vilke] (Emergency Medicine) | | | | | |
| Sara Kaplan/[] (Ethnic Studies) | + | | | | |
| Allison Matthew/[Gamst Anthony] (Family & Preventive Medicine) | + | | | | |
| Tal Golan/[] (History) | + | | | | |
| Rachel Klein/[] (History) | + | | | | |
| /[] (IR&PS) | | | | | |
| Gabriella Caballero/[] (Linguistics) | + | | | | |
| Dennis Childs/[Rae Armantrout] (Literature) | + | | | | |
| William O'Brien/[Yingjin Zhang] (Literature) | + | | | | |
| Sam Buss/[Cristian Popescu] (Mathematics) | + | | | | |
| David Meyer/[Patrick Fitzsimmons] (Mathematics) | + | | | | |
| Miroslav Krstic/[] (Mechanical & Aerospace Engineering) | + | | | | |
| Daniel Tartakovsky/[] (Mechanical & Aerospace Engineering) | + | | | | |
| Joachim Ix/[David Smith] (Medicine) | +, [+] | | | | |
| Connie Benson/[] (Medicine) | | | | | |
| Katharina Rosenberger/[Tamara Smyth] (Music) | +, [+] | | | | |
| Darren Lipmoni/[Andrea Tao] (NanoEngineering) | [+] | | | | |
| Eric Halgren/[Marilyn Jones] (Neurosciences) | + | | | | |
| Robert Rissman/[] (Neurosciences) | + | | | | |
| Bobby Korn/[Linda Zangwill] (Ophthalmology) | [+] | | | | |
| Simon Schenk/[Sameer Shah] (Orthopaedics) | +, [+] | | | | |
| Henry Powell/[] (Pathology) | + | | | | |
| David Pride/[] (Pathology) | + | | | | |
| John Bradley/[] (Pediatrics) | + | | | | |
| Lynne Bird/[] (Pediatrics) | | | | | |
| /[] (Pharmacology) | | | | | |
| William Bechtel/[Gerald Doppelt] (Philosophy) | + | | | | |
| Daniel Arovas/[Elizabeth Jenkins] (Physics) | | | | | |
| Olga Dudko/[Oleg Shpyrko] (Physics) | + | | | | |
| Philip Roeder/[] (Political Science) | + | | | | |
| Samuel Kernell/[Fonna Forman-Barzilai] (Political Science) | + | | | | |
| Robert Clark/[Wesley Thompson] (Psychiatry) | + | | | | |

| | | | | | |
|--|-------|--|--|--|--|
| | 10/23 | | | | |
| Xianjin Zhou/[David Welsh] (Psychiatry) | + | | | | |
| Dave Huber/[Nicholas Christenfeld] (Psychology) | + | | | | |
| Loren Mell/[Todd Pawlicki] (Radiation Medicine and Applied Sciences) | + | | | | |
| Roland Lee/[Rosalind Dietrich] (Radiology) | + | | | | |
| Samuel Ward/[Lawrence Frank] (Radiology) | | | | | |
| David Schkade/[Allan Timmermann] (Rady School of Management) | + | | | | |
| /[] (Reproductive Medicine) | | | | | |
| Eric Allen/[Kathy Barbeau] (SIO) | + | | | | |
| Steven Constable/[Amro Hamdoun] (SIO) | + | | | | |
| Philip Hastings/[James Leichter] (SIO) | + | | | | |
| Maria (Gabi) Laske /[] (SIO) | | | | | |
| Darcy Ogden/[Dean Roemmich] (SIO) | + | | | | |
| Lynne Talley/[Brad Werner] (SIO) | + | | | | |
| Akos Rona-Tas/[Amy Binder] (Sociology) | [+] | | | | |
| Pieter Dorrestein/[Philip Bourne] (SSPPS) | + | | | | |
| Robert Asaro/[Hyonny Kim] (Structural Engineering) | | | | | |
| /[] (Surgery) | | | | | |
| /[] (Surgery) | | | | | |
| Marianne McDonald/[Ursula Meyer (W)] (Theatre and Dance) | + | | | | |
| Patricia Rincon/[Victoria Petrovich (Sp)] (Theatre and Dance) | | | | | |
| Louis Hock/[Grant Kester] (Visual Arts) | + | | | | |
| Kyong Park/[Fred Lonidier] (Visual Arts) | | | | | |
| ADVISORS | | | | | |
| Marlene Rosenberg/[Amy Tsai] General Campus Research Representative | + | | | | |
| Michael Baker/[David Boyle] Health Sciences Research Representative | + | | | | |
| Julie McClean/[David Chadwell] Marine Sciences Research Representative | + | | | | |
| , Undergraduate Student Representative | | | | | |
| , Undergraduate Student Representative | | | | | |
| Jordan Gosselin, Graduate Student Representative | + | | | | |
| Mat Jarvis, Graduate Student Representative | | | | | |

November 28, 2012

**IN MEMORIAM
WILLIAM S. ALLISON
PROFESSOR EMERITUS OF CHEMISTRY AND BIOCHEMISTRY
1935 - 2011**

Professor William S. Allison was born June 16, 1935 in North Adams, Massachusetts and spent much of his youth in nearby Williamstown. He attended Dartmouth College, where he received an A.B. in Chemistry in 1957 and an M.A., also in Chemistry, in 1959. He then moved to Brandeis University, where he received an NIH pre-doctoral fellowship and obtained a Ph.D. in 1963 with Professor Nathan O. Kaplan, who later became a Professor at UCSD. Dr. Allison carried out post-doctoral studies with Dr. Ian Harris at the Medical Research Council Laboratory of Molecular Biology in Cambridge, England on an NIH postdoctoral fellowship and then returned to Brandeis, where he served as an Assistant Professor of Biochemistry, supported by an NIH Career Development award from 1966-1969.

Dr. Allison was appointed as an Assistant Professor at UCSD in July 1969 and advanced through the ranks, becoming a full Professor in 1980. Although his appointment was in the Department of Chemistry (later renamed as Department of Chemistry and Biochemistry), he was also one of the first appointments in the fledgling School of Medicine.

Dr. Allison trained as an enzymologist and protein chemist eventually focusing on the structure and function of the mitochondrial $F_1ATPase$ (also called ATP synthase), the central enzyme in ATP metabolism being responsible for the synthesis of ATP in mitochondria. This is a very complex, multi-subunit, membrane-bound enzyme. As such, it can be viewed as one of the most complex enzymes one could study. Dr. Allison carried out extensive studies of its structure and function, relying heavily on chemical approaches to labeling the active sites of the $F_1ATPase$.

His careful analytical studies over the years laid the foundation for understanding the molecular basis for ATP synthesis. The accuracy and rigor of his work was most fully appreciated when the pioneering crystallographic achievements of John Walker were realized in 1994 with the crystal structure of the $F_1ATPase$. John Walker and Paul Boyer subsequently received the Nobel Prize for this work, and both fully acknowledged the importance of Dr. Allison's work in interpreting how the structure moved to achieve the enzymatic mechanism using the many active sites in the way Dr. Allison's mechanistic studies had indicated.

The structure led to a hypothesis that $F_1ATPase$ is a molecular motor and that ATP synthesis is driven by rotation of the $\alpha_3\beta_3$ hexamer around the γ subunit which serves as a shaft. Dr. Allison's laboratory had already conceived this model using a variety of techniques that included protein engineering and protein chemistry. His work was of the highest quality and challenged some of the established dogma. He was one of the leaders in this area of coupling protein analysis with mechanisms of bioenergetic processes. He used state-of-the-art techniques for the expression of the $F_1ATPase$ from several different species and had chemical insights that were exceptional. The growing recognition and interest in mitochondrial diseases in recent years provided a challenging new direction for his work. Dr. Allison's work defining the processes by which conformational changes are induced at the active site of $F_1ATPase$ was insightful, rigorous, and often challenged accepted dogma.

Dr. Allison's research was continuously supported by NIH grants and he also received a prestigious Fogarty grant. He always published regularly in first rate journals, especially in *Biochemistry* and the *Journal of Biological Chemistry*, and had over a hundred publications to his credit. He also presented seminars on a regular basis, often in Europe and Japan, and chaired the 1999 Gordon Research Conference on Bioenergetics.

He served for many years as the Executive Editor of *Analytical Biochemistry*, and on the Editorial Boards of the *Journal of Biological Chemistry*, the *Journal of Bioenergetics and Biomembranes*, and as an expert analyst for *ChemTracts on Biochemistry and Molecular Biology*. In addition, he served as a member of the NIH Physical Biochemistry Study Section and as an ad hoc reviewer for NSF and many journals.

At UCSD together with colleagues, Dr. Allison created the first undergraduate course in Biochemical Structure and Function and the first graduate course in Enzyme Mechanisms, both areas of his academic expertise. He also taught Biochemical Energetics and Metabolism. Much of his teaching was in the Cell Biology and Biochemistry Core Course for the first year students in the School of Medicine where he participated in many aspects of the curriculum including Physical Biochemistry, Clinical Correlates, Laboratory Workshops and

November 28, 2012

Reading Groups. Dr. Allison trained numerous graduate students and postdoctoral fellows at UCSD and for many years served as Chair of the Graduate Admissions Committee in the Department of Chemistry and Biochemistry.

Bill Allison was an avid skier dating from his days on the Dartmouth Ski Team and which he continued at his beloved Mammoth Mountain until just a couple of years before his untimely death. Bill was also an avid fisherman, a sport he pursued frequently with his colleagues from the Biomedical Sciences Building of the School of Medicine; trips were always followed by smoked albacore for his laboratory and adjacent colleagues.

Bill Allison passed away on July 30, 2011 after a two year battle with amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig's disease. He is survived by his wife Irene of 47 years, who devoted her professional time to the UCSD Biomedical Library, and by his two children Carl and Catherine.

Edward A. Dennis (Chair)
Jack E. Dixon
Elizabeth Komives
Susan S. Taylor

November 28, 2012

**IN MEMORIAM
JOSEPH KRAUT
PROFESSOR EMERITUS OF CHEMISTRY AND BIOCHEMISTRY
1926 - 2012**

Joseph "Joe" Kraut, one of America's premier protein crystallographers, died Friday, May 25, 2012, at the age of 85. He was one of the first practitioners of what in the 1950's was a new science, the application of X-ray diffraction to elucidate the molecular structure of proteins in general and enzymes in particular, which are those proteins that catalyze chemical reactions. Although it was known for a long time that three-dimensional structures could be determined by an informed analysis of patterns generated by diffracted X-rays, until 1958 the technique had been limited to molecules much smaller and less complex than proteins. At that point workers in Cambridge, England, led by John Kendrew and Max Perutz after years of arduous data collection and calculation, solved the structure of the iron-containing proteins myoglobin (1958) and hemoglobin (1960). They would later receive the Nobel Prize for this work.

Professor Kraut's introduction to protein crystallography was timely. He had received his Ph.D. from the California Institute of Technology in 1950, after which he did postdoctoral work at the University of Washington, at the time a hot bed of research on proteases, enzymes that catalyze the breakdown of other proteins. Along with several others, Kraut was set to work on the characterization of chymotrypsin, a digestive enzyme found in animal intestines.

In 1955 he received a prestigious Howard Hughes fellowship that allowed him to go off to Cambridge to learn the latest developments in protein crystallography. Linus Pauling, who had been Kraut's Ph.D. advisor, wrote to John Kendrew that Kraut "is a well trained physical chemist, with a good knowledge of physics and mathematics as well as chemistry...(and)...I would expect him to get something significant done," a prophesy that would be well fulfilled.

In 1956, Dr. Kraut returned to the University of Washington as a member of the faculty and, greatly stimulated by his Cambridge experience, began a large-scale assault on the crystal structure of chymotrypsinogen, the precursor protein that is converted to chymotrypsin.

In 1962, Professor Kraut moved to the fledgling campus of the University of California in La Jolla, where he would remain until his retirement in 1999. During that period he completed the structure of chymotrypsinogen and several other enzymes. He was soon recognized as a leading authority on how enzymes catalyze chemical reactions. One of his most enduring contributions was the high-resolution structure of the proteolytic enzyme called subtilisin, a protein made by a bacterium from the soil. He then compared the structure of the enzyme from the bacterium with that of mammalian chymotrypsin. Remarkably, although the two structures had completely different overall structures, natural selection had managed to arrange three key amino acids in the same orientation. This is the juxtaposition that allows the concerted proton transfers and nucleophilic additions that are the steps necessary for catalyzing the splitting of bonds in other proteins. To this day it remains one of the most striking examples of convergent molecular evolution.

In his studies of subtilisin, Professor Kraut was one of the first biochemists to apply the theory of his mentor, Linus Pauling, that enzymes should associate more strongly with synthetic molecules more closely resembling the transition state in their catalytic mechanism than they do with the molecules they actually convert. He was able to show that boronates that form intermediates resembling the transition state for one of the steps in the reaction catalyzed by the enzyme associated tightly with subtilisin and formed a complex that identified the amino acids involved in its catalysis. Such analogues of intermediates in enzymatic reactions are now widely used as highly specific drugs by the pharmaceutical industry. These experiments are an example of one of the most characteristic aspects of Professor Kraut's career. Instead of producing crystallographic molecular models of many different proteins, he would study each protein he chose to examine in great detail until he had learned as much as he could about their catalytic mechanisms. In this sense, he was more a chemist than a crystallographer.

Professor Kraut's group also worked out the detailed structures of iron-sulfur proteins that are critical to much of cellular metabolism. In this regard, they were the first to demonstrate that inorganic metal clusters could act as prosthetic groups in proteins that catalyze chemical oxidations and reductions. They also determined

November 28, 2012

crystallographically the structure of dihydrofolate reductase, an important enzyme in nucleic acid metabolism, and a frequent target in cancer treatments. His group's later work involved structural studies of a DNA polymerase, an enzyme that is responsible for replicating DNA.

During his long career at UC, San Diego, Kraut trained numerous young crystallographers, many of whom went on to distinguished careers of their own.

In 1978, Dr. Kraut joined Mel Simon and John Abelson in founding the Agouron Institute (the name referred to the Agora of Athens where Socrates met with friends to discuss ideas, but the inadvertent mutation in spelling came closer to other interpretations). The goal was to establish an independent research institute free of that eventually could be coupled to a separate, more business-like venture, an offspring that eventually became Agouron Pharmaceuticals. It was a huge success, and many of its most rewarding findings were direct outgrowths of structural projects conducted by former researchers from Professor Kraut's lab. They and Professor Kraut were pioneers in what would subsequently be called structure-based drug design.

Joe Kraut was born in New York City in December, 1926. After a stint in the military at the end of World War II, he attended Bucknell University in Lewisburg, Pennsylvania. He was elected to Phi Beta Kappa and graduated in 1950, after which he began his Ph.D. studies at Cal Tech. In 1980 Joe received the prestigious Keilin Medal from the British Biochemical Society, and in 1988 he was elected to the U.S. National Academy of Sciences. He is survived by his three children, Isabel Kraut of Brooklyn, Rachel Kraut of Singapore, and Sam Kraut of California. His wife Jean died in 2000.

Russell Doolittle, Chair
Patricia Jennings
Jack Kyte
Xuong Nguyen-Huu

November 28, 2012

**IN MEMORIAM
STANLEY L. MILLER
PROFESSOR EMERITUS OF CHEMISTRY AND BIOCHEMISTRY
1930 – 2007**

Stanley L. Miller, the father of prebiotic chemistry – the synthetic organic chemistry that takes place under natural conditions in geocosmochemical environments – passed away on May 20, 2007 at age 77 after a lengthy illness. Stanley was known world-wide for his experimental demonstration of the synthesis of organic compounds with relevance to the origin of life. On May 15, 1953, while Miller was a graduate student of Harold C. Urey at the University of Chicago, he published a short paper in *Science* on the prebiotic synthesis of amino acids under simulated early Earth conditions. This paper and the experiment it described had a tremendous impact and immediately transformed the study of the origin of life into a respectable field of inquiry.

Stanley Lloyd Miller was born in March 7, 1930, in Oakland, California, the second child (the first was his brother Donald) of Nathan and Edith Miller, descendants of Jewish immigrants from Belarus and Latvia. Both parents attended the University of California, Berkeley (UC Berkeley), where they met. Stanley's father became a very successful attorney who was appointed a Deputy District Attorney in 1927 by Earl Warren, who was then the District Attorney in Alameda County and who eventually became the 30th Governor of California and the 14th Chief Justice of the United States Supreme Court.

From an early age Stanley was an eager learner and avid reader. He easily advanced through Oakland High School, where he was known as "a chem whiz". He also had an interest in the natural world and became involved in the Boy Scouts, achieving the level of an Eagle Scout. Stanley particularly liked Boy Scout summer camp because he could get away from people, enjoy the beauty of nature, and read undisturbed. After he returned to California in 1960 as a faculty member of the new University of California, San Diego campus he often spent summers in the Sierra Nevada Mountains.

Like his parents before him, Stanley as well as his older brother Donald, went to UC Berkeley for their undergraduate studies. Because his brother had chosen to study chemistry, Stanley decided to follow in his footsteps, mainly because he knew his brother would help him if had trouble with his courses. He had taken most of the undergraduate chemistry classes by the end of his junior year and as a senior took graduate courses and carried out a senior thesis research project. Stanley did extremely well at UC Berkeley and his first two published papers were based on his undergraduate research.

When Stanley decided to go to graduate school, he consulted with several of his professors, who came up with a short list of schools they recommended. At the top of the list were the University of Chicago and the Massachusetts Institute of Technology. He applied to both, but after receiving a telegram from the University of Chicago in February of 1951 notifying him of his acceptance, including an offer of a teaching assistantship, he quickly accepted. Stanley graduated from UC Berkeley in June of 1951 and then headed for Chicago.

During his first semester, in the fall of 1951, Stanley went to a seminar in which Professor Harold C. Urey presented his ideas about the origin of the solar system and the chemical events associated with this process. One of the points that Urey made was that the atmosphere of the primitive Earth was much different from the modern atmosphere and likely consisted of a highly reducing mixture of methane, ammonia, hydrogen sulfide and hydrogen. Urey further suggested that with such an atmosphere it might be possible to synthesize organic compounds that in turn could have provided the raw materials needed for the emergence of life. This seminar obviously left a lasting impression on Stanley because he could still remember aspects of the lecture many years later.

At the start of his second year at Chicago, Stanley began thinking about a suitable Ph.D. thesis topic. He approached Urey in September of 1952 about the possibility of doing a prebiotic synthesis experiment using a reducing gas mixture. Urey was not very enthusiastic. He felt, with some justification, that graduate students should do only those experiments that had a reasonable chance of working, rather than taking a leap into the unknown. He suggested instead that Miller work on determining the amount of the element thallium in meteorites, a safe and pedestrian topic. Urey's reasoning was that the abundance of thallium seemed higher in the crust than in meteorites, but Urey felt the data were too inadequate to confirm this, and the issue could be resolved only with further careful analyses. But Miller was persistent about the prebiotic synthesis project. Urey finally relented and

November 28, 2012

agreed to let him try some experiments, but specified that there must be signs of success within a year or the project should be abandoned.

The first challenge was to design an apparatus for the experiment. Some sort of high-energy input to induce chemical reactions was required. Miller knew that chemists had been experimenting with electric sparks in gas mixtures since the pioneering work in the 18th century by Lord Cavendish, who showed that the action of a spark discharge in air results in the production of nitrous acid. However, it appeared that no one had thought about how this might relate to prebiotic syntheses and the origin of life. Stanley realized that such discharges were probably common on the early Earth. The atmosphere at the time must have been subject to extensive lightning, along with corona discharges, and lightning would also have been associated with volcanic eruptions that were common on the primitive Earth. In the laboratory, a spark discharge simulating these processes could be easily made using a simple commercially available Tesla coil.

The eventual apparatus that was designed was meant to simulate the ocean-atmosphere system on the primitive Earth. The apparatus consisted of two glass flasks connected by glass tubing. One flask contained only water, while the other had electrodes and contained the reduced gases methane, ammonia and hydrogen (most of the ammonia gas dissolved into the water flask during the experiment). One tube directly connected the water flask to the gas/electrode flask. The other tube was U-shaped and connected the two flasks. At the top of the U-tube was a condenser that acted to condense water from the gas flask, allowing it to flow back into the water flask. Water vapor produced by heating the water flask would be like evaporation from the oceans, and as it mixed with the reduced gases, it would mimic a water vapor-saturated primitive atmosphere. The condenser returned any compounds produced in the gas phase back into the water, much as rain and river discharges transport compounds from the atmosphere into the oceans.

Intriguing results were produced almost as soon as Stanley began the experiments in the fall of 1952. Although the methods available to Stanley were crude in comparison with contemporary analytical tools, he was able to demonstrate that glycine could be detected after only two days of sparking the gaseous mixture. After repeating the experiment and sparking the gas mixture for a whole week, he noticed that the inside of the sparking flask was coated with a dark, oily material and that the water had a yellow-brown color. When two-dimensional paper chromatography with ninhydrin detection was used to analyze the water solution, the glycine spot was much more intense, and spots corresponding to several other amino acids were also detected.

When Miller showed the results to Urey, they decided that it was time to write a manuscript describing the experiment and submit this for publication, preferably in a leading journal. Stanley completed a draft of the manuscript and asked Urey for his comments, which he promptly provided. Urey also declined Stanley's offer to be co-author because otherwise Stanley would receive little or no credit. Urey then contacted the editors of *Science* and asked them to quickly review the manuscript and publish it as soon as possible. The manuscript was submitted to *Science* on February 10, 1953 and published 3 months later.

Although Stanley's experiments and publication of the *Science* paper laid the foundation for the field of prebiotic synthesis, further work was needed to validate the results. Thus, Miller started to refine the details and the analytical aspects of the experiment. The first order of business was to identify the amino acids more rigorously. He used melting point determinations, which at that time were considered to be the most conclusive way to identify organic compounds. These tests confirmed the identities of the amino acids Miller had found earlier, and also showed that an even wider variety of amino acids had been made than he had first thought. At the end of all this painstaking work, nine different amino acids had been positively identified, and a host of others whose identity was uncertain were also shown to be present. Some of the ones that had been identified, such as glycine, alanine and glutamic acid, are found in proteins, but others, such as β -alanine, are not.

Amino acids were not the only compounds produced in the discharge apparatus. Miller found another class of closely related compounds called hydroxy acids. The simplest of these was glycolic acid, the analog of glycine. The hydroxy acid relative of alanine, lactic acid, was also found, as were the hydroxy acids corresponding to many of the other amino acids that had been produced in the experiment. This led Stanley to suggest that the amino acids had been synthesized by the Strecker reaction, which had been discovered in 1850. In this synthesis, hydrogen cyanide reacts with aldehydes and ketones in the presence of ammonia to first form amino nitriles that when hydrolyzed yield amino acids. By painstakingly carrying out a time-series sampling of the water solution from the spark discharge apparatus, Stanley was able to demonstrate that cyanide and aldehydes were produced during the course of the experiment, thus supporting the surmise of a Strecker-based synthesis.

November 28, 2012

After Miller earned his Ph.D. in Chemistry in 1954, he moved to the California Institute of Technology, where he was an F.B. Jewett Fellow from 1954-1955. During this period, he worked on determining the mechanisms involved in the amino and hydroxy acid synthesis. Stanley then joined the Department of Biochemistry at the College of Physicians and Surgeons, Columbia University, where he stayed until he was appointed in 1960 the first Assistant Professor in the Department of Chemistry at the new University of California, San Diego. He was quickly promoted to Associate Professor in July of 1962 and to Professor in July of 1968. Stanley retired from active service on June 30, 1994, but continued to run his research program and act as a mentor for graduate and undergraduate advisor when he returned as a Research Professor from October 1995 to September 1997. During this period, he mentored his last graduate student, Henderson James Cleaves, who received his Ph.D. in 2001.

He was a conscientious citizen of the Department of Chemistry and Biochemistry, teaching laboratory courses in analytical chemistry and a course on Biochemical Evolution, planning the construction of the Undergraduate Sciences Building (now York Hall), serving as Chair of the Undergraduate Curriculum Committee, where he established a forward thinking major in Environmental Chemistry, and directing the research of a dedicated group of undergraduate and graduate students.

Miller continued to carry out research in various aspects of prebiotic chemistry and the origin of life throughout his career. His main interest was not only the synthesis of key biochemical components under plausible conditions on the early Earth and elsewhere, but also the question of their stability in geocosmochemical environments. Stanley was particularly interested in how the transition from simple abiotic chemistry to biochemistry took place and in the nature of the first entity that could undergo self-sustaining replication, however imperfect. This was reflected in his experimental analysis of the stability of RNA components; the prebiotic synthesis of alternative nucleobases that could substitute for those present in present-day RNA and DNA; and the synthesis under possible prebiotic conditions of the subunits of peptide nucleic acids, which are considered by some to be the prototype molecular entity capable of self-sustained self-replication.

Although Stanley is best known for his work in prebiotic chemistry, he also made significant contributions in other fields. He was interested in gas clathrates (hydrates), icy solids made of water molecules that contain "cages" in which small gas molecules can be entrapped. He published several papers on the occurrence of hydrates on Mars and in Antarctic ice, as well as their possible role in anesthesia. In his research on the clathrate of air, he predicted it would form at the depth where gas bubbles in the Antarctic ice sheet disappeared. Stanley proposed the name for this natural occurring air clathrate "Craigite" in honor of his UCSD colleague, friend, and fellow Urey graduate student Harmon Craig. It was soon jokingly noted by various colleagues that when "Craigite" melts at atmospheric pressure, it spontaneously explodes to hot gas and water, in reference to Craig's sometime volatile personality. Others soon confirmed the presence of "Craigite" in Antarctic ice.

In addition, it was only logical that with his research into the origin of life, Stanley was also interested in the possibility of life beyond Earth, in particular on Mars. Stanley considered amino acids to be the best compounds to detect for possible evidence of either prebiotic chemistry or life beyond Earth because of their ubiquitous role in terrestrial biochemistry and the ease by which they could be synthesized under prebiotic conditions. He received a grant from NASA to develop a miniaturized extraction system and an amino acid analyzer that could be deployed on a future mission to the red planet. Stanley was able to construct a functioning prototype of the instrument that was about the size of a shoebox (compare this to the standard laboratory amino acid analyzer, which at the time was about the size of a refrigerator). With prototype instrumentation in hand, Stanley decided to try to use it to answer the question of life beyond Earth once and for all – he proposed the amino acid instruments as part of the experimental package for the NASA Viking missions that landed two spacecraft on the surface of Mars in 1976. He was disappointed when he learned that his instrument was not selected, and in his final report to NASA Stanley mentioned that he hoped that something along the lines of his proposed design might someday fly to Mars.

Although Miller was a dedicated scientist, he also had many outside interests and activities. He was an avid traveler and he documented his travels with slides, which he eagerly showed to his friends when he returned home. His 1957 trip to Moscow to attend the First International Conference on the Origin of Life was his first trip to Europe and was probably his first on an airplane. He kept a detailed record of the people he met, the food he sampled, and the various places he visited, a practice he would follow in most of his subsequent trips. Stanley was also a railroad enthusiast and especially liked steam locomotives, which was perhaps a carryover from the

November 28, 2012

times he traveled to Chicago and later New York when train transportation was often the only affordable means of travel. Miller frequently went on trips in Europe and elsewhere by train, including taking the Trans-Siberian railroad from Moscow to Vladivostok, as well as train trips across India and to various areas in Japan. After traveling in India, Miller took a bus through the Khyber Pass in the Hindu Kush Mountains between Pakistan and Afghanistan. He then traveled on to Iran and other places in the Middle East, which today is not a very feasible or recommended trip.

Miller especially enjoyed riding his bicycle and often rode from his home to UCSD as well as riding to various regions of San Diego County. One of his favorite activities was to take bicycling tours in Europe that involved staying at hotels with outstanding restaurants nearby. He felt he could indulge himself with excellent meals because he would get plenty of exercise the next day. Miller often returned in the summer to the Evergreen Lodge just outside Yosemite National Park, where he would ride his bicycle to various places in the area.

Miller went on several expeditions with colleagues from the Scripps Institution of Oceanography. He traveled in 1966 and 1967 to Australia's Great Barrier Reef and to the Brazilian Amazon River to take part in research onboard the RV Alpha Helix. He also traveled across South Africa, Kenya and Tanzania with one of us (JLB) during research trips to collect samples for a study of the geochemistry of amino acids in fossil bones. The places visited in Tanzania included Olduvai Gorge, where we were hosted by Mary Leakey.

Besides these activities Miller enjoyed opera. He read extensively on the history of World War II, possibly because part of his family suffered greatly during this period. He also was an avid reader of books on Winston Churchill and maritime warfare.

Miller was awarded numerous honors throughout his career. He was president of the International Society for the Study of the Origin of Life (ISSOL) from 1986 to 1989, and the Society awarded him the Oparin Medal in 1983 for his work in the field. He was selected as an Honorary Councilor of the Higher Council for Scientific Research of Spain in 1973. Miller was elected to the U. S. National Academy of Sciences in 1973. In 2009, his 1953 paper in *Science* was selected by the Division of the History of Chemistry of the American Chemical Society for one of their Chemical Breakthrough awards. Miller belonged to Sigma Xi and Phi Beta Kappa and was a member of the American Chemical Society, the American Association for the Advancement of Science, and the American Society of Biological Chemists.

Jeffrey L. Bada, Chair
Charles L. Perrin
Patricia A. Jennings



Martha Kendall Winnacker, J.D.
Telephone: (510) 987-9458
Fax: (510) 763-0309
Email: martha.winnacker@ucop.edu

Executive Director
Universitywide Academic Senate
University of California
1111 Franklin Street, 12th Floor
Oakland, California 94607-5200

August 9, 2012

CHAIRS OF SENATE DIVISIONS
CHAIRS OF SENATE STANDING COMMITTEES

Dear Division and Committee Chairs:

On behalf of Academic Council Chair Bob Anderson I am forwarding for full Senate review a proposed Open Access Policy developed by the University Committee on Library and Scholarly Communication (UCOLASC). The policy would expand open access to research publications by University of California faculty by changing the default relationship between faculty authors and scholarly publishers to one in which authors grant the University a non-exclusive license to the work. The proposed policy would also require that authors deposit a digital copy of the final version of their published works with the California Digital Library. Authors would be allowed to opt out of the license grant at their own discretion. However, publishers that demand exclusive rights would need to ask authors to choose to opt-out. The proposed policy, UCOLASC's transmittal letter, and a paper responding to specific faculty concerns are attached. Additional material will also be made available on the web over the coming months.

Because the proposed policy touches on core faculty concerns, Council encourages every division and committee to engage a broad constituency in discussing it. Representatives of UCOLASC are prepared to offer input into your discussions if this would be helpful, and my office will be ready to assist with the necessary arrangements if needed.

Please provide comments by January 11, 2013. In the meanwhile, please feel free to contact me or 2012-13 Council Chair Bob Powell at any time if you have questions or concerns about how to conduct this review.

Sincerely,

Martha Kendall Winnacker, J.D.
Executive Director, Academic Senate

Encl. (4)

Cc: Division directors
Committee analysts



UNIVERSITY COMMITTEE ON LIBRARY AND SCHOLARLY COMMUNICATION
Christopher Kelty, Chair
ckelty@UCLA.EDU

Assembly of the Academic Senate
1111 Franklin Street, 12th Floor
Oakland, CA 94607-5200
Phone: (510) 987-9466
Fax: (510) 763-0309

Monday, July 16, 2012

Robert Anderson, Chair
ACADEMIC COUNCIL

RE: Proposed Policy to Expand Open Access to Research Publications at the University of California

Dear Bob,

I hereby submit for review by the Academic Council a policy to expand open access to research publications by University of California faculty. UCOLASC requests that Academic Council adopt this policy and forward it to the President for implementation as a presidential policy.

The proposed policy is one strategy in an ongoing effort at UC to transform the scholarly publishing industry and improve the accessibility and visibility of our scholarly research. UCOLASC has worked continuously for the last 8 months to understand the issues, address diverse concerns and to prepare a policy we think will both benefit and protect the UC system and the faculty. The proposed policy will provide unprecedented access to research publications by the public and send a strong message to scholarly publishers that any changes to the scholarly publishing system must include full and permanent open access to our research publications.

The key function of this policy is to *change the default relationship that faculty have with scholarly publishers*. Currently, each faculty member must individually negotiate open access rights with each individual publisher for each publication. The proposed policy would invert that relationship. It would make open access the default right of faculty and instead force publishers to request exclusive rights (by asking authors to opt-out). By making this a collective policy, individual faculty benefit from their membership in the policy-making group. Moreover, under this policy faculty members both retain ownership of their copyright and have an unobstructed right to opt out of the license for any reason.

Over 140 universities worldwide have implemented policies such as the one we propose here, including most recently our own UCSF, who voted on May 21st to implement a nearly identical strategy. Faculty at peer institutions such as Harvard, Duke, Princeton, MIT, Kansas University and many others have passed policies promising to make their work available to the world via open access digital repositories. Many of these policies were based on lessons learned from UC's own previous attempt to formulate an open access policy in 2007. As a result, there is now much experience on which to assess the effects of this policy.

All current policies are similar in design to the one proposed here. Although they differ in minor details, they each do basically the same two things. First, they collectively grant to the university a non-exclusive license for each research publication so that the university might make a version of that work available via an open access repository. Second, they obligate faculty to assist in this effort by providing a copy of each article (or the URL of an open access version) to that repository—in our case the well-established eScholarship repository run by the California Digital Library. eScholarship is prepared to begin implementation immediately.

The current proposed policy has been crafted in conversation with many constituencies. It has been extensively discussed and has the support of the Library and COLASC committees of all ten campuses, The California Digital Library, the University Council of Librarians, several Graduate Student Associations, the Library Association of the University of California, as well as the University Committee on Academic Personnel (UCAP) and the University Committee on Research Policy (UCORP). The University Committee on Academic Freedom (UCAF) and the University Committee on Faculty Welfare (UCFW) both communicated concerns that were discussed and addressed at UCOLASC's May 25th meeting. UCOLASC has replied by letter addressing these concerns in detail.

The issue of open access to scholarly publications is a thorny and complicated one involving many technical issues related to copyright law, the rapid transformation of new information technologies and the changing practices of publishers and libraries. It is clear to UCOLASC that the current system is both economically unsustainable for UC and its libraries and that it does not function in our interests. There are many different ideas circulating for how to make open access both possible and sustainable, and the scholarly publishing ecology changes rapidly. Many publishers have already committed to open access, but others (especially the largest and most profitable) have not: they remain committed to a subscription-based model that puts artificial and insupportable restrictions on scholarly research and excessive strain on library budgets.

The proposed open access policy is a single component in an effort to transform this system; it is not an overnight solution to the challenges of scholarly publishing; but in our considered opinion, neither is it a dangerous one. It is, however, a crucial and necessary first step in transforming our collective relationship to publishers, it sends a powerful message from the largest public university in the world, and it charts a path towards a sustainable, healthy scholarly publication system openly available to everyone.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Christopher M. Kelty', written over a horizontal dashed line.

Christopher M. Kelty, Chair, UCOLASC

Encl:

The Final Draft Open Access Policy

Presentation “An Open Access Policy for the University of California”

Proposed UC Open Access Policy: Questions and Concerns

Final Draft of Proposed Open Access Policy for the University of California

The Faculty of The University of California is committed to disseminating its research and scholarship as widely as possible. In particular, as part of a public university system, the Faculty is dedicated to making its scholarship available to the people of California. In keeping with this commitment to open dissemination and public access, the Faculty adopts the following policy:

Each Faculty member grants to the University of California a nonexclusive, irrevocable, worldwide license to exercise any and all rights under copyright relating to each of his or her scholarly articles, in any medium, and to authorize others to do the same. The policy applies to all scholarly articles authored or co-authored while the person is a member of the Faculty except for any articles published before the adoption of this policy and any articles for which the Faculty member entered into an incompatible licensing or assignment agreement before the adoption of this policy. This policy does not transfer copyright ownership, which remains with Faculty authors under existing University of California policy. Application of the license will be waived for a particular article or access delayed for a specified period of time upon express direction by a Faculty member to the University of California.

To assist the University in disseminating and archiving the articles, each Faculty member will provide an electronic copy of his or her final version of the article to the University of California by the date of its publication. The University of California will make the article available in an open access repository. When appropriate, a Faculty member may instead notify the University of California if the article will be freely available in another repository or as an open-access publication.

The Academic Senate and the University of California will be responsible for implementing this policy, resolving disputes concerning its interpretation and application, and recommending any changes to the Faculty. The Academic Senate and the University of California will review the policy within three years, and present a report to the Faculty.

The Faculty calls upon the Academic Senate and the University of California to develop and monitor mechanisms that would render implementation and compliance with the policy as convenient for the Faculty as possible.