

REPORT FROM THE DEAN OF THE UNIVERSITY FACULTY - 2012-2013

Introduction

In this past year --my first as Dean of the University Faculty—Cornell has continued its recovery from its serious financial challenges, while simultaneously making its initial, very encouraging steps toward building the NYC campus and starting to address the revolution in higher education that distance-learning might bring. During AY2013 I have learned much concerning Cornell's broad mission and about how this renowned institution operates. The accomplishments and dedication of my faculty colleagues, the quality and openness of the central administration, the dedication and loyalty of the hard-working staff, and the helpful involvement and wisdom of the Board of Trustees have continually impressed me. Over the next years, I hope to be able to apply this new understanding to advance the parallel objectives of the University and its faculty.

The sections below address faculty consultation and governance, faculty achievements, faculty renewal, and actions taken by the Faculty Senate.

Faculty Consultation and Governance

The Provost met monthly during AY2013 with the University Faculty Committee (UFC), the executive arm of the University Faculty Senate, with the President joining these meetings as available; and he and I also met privately at least monthly. Senior administrators (representing budget, research, human resources, information technology) have discussed their specialties with the Faculty Senate, in order to broaden the latter's background about how Cornell functions. These same individuals addressed concerns of faculty standing committees, particularly the Financial Policies Committee, the Faculty Committee on Tenure Appointments, the Faculty Advisory Board on Information Technology, and the Committee on Academic Freedom and Professional Status. I also attended all of the Senior Staff meetings as well as most meetings of the college Deans. These interactions between faculty and administration, which arose out of faculty legislation on campus governance, have enhanced the communication that is crucial to implementing change successfully across the campus.

While communication and consultation between parties have improved recently owing to the efforts of several Deans of Faculty, some professors still believe the administration to be insufficiently consultative on major campus issues, including Cornell NYC Tech, distance learning and departmental closures. This is an area where, for the welfare of the entire enterprise, further effort is needed on both sides: the professorate have vast knowledge of the university and are closer to day-to-day academic issues than are administrators; meanwhile the central leadership is generally aware of more aspects of many issues, and further have responsibility for actually completing tasks. I believe that the faculty, to be effective, must become pro-active on issues rather than reactive. But to be pro-active requires advance knowledge about forthcoming issues, which will necessitate advance disclosure on the part of the central administration, and that requires faith. This is a perfect example of the proverbial chicken and egg.

The Executive Committee of the Board of Trustees and the UFC held wide-ranging, frank discussions at their October and March meetings. These gatherings allowed significant intellectual exchange on notable subjects, and demonstrated to each side how much the other cares about the University's wellbeing. Not surprisingly, these groups often share similar views on many issues; especially important information is exchanged when the groups differ on opinions or hear fresh perspectives. I thank the Board of Trustees for involving the faculty in this meaningful activity.

An example where consultation continues to be crucial concerns the further elaboration of Cornell NYC Tech. Eighteen months after Cornell's selection, perhaps the buzz has subsided a bit, but the faculty continue to have considerable interest along with some apprehension. Without knowing very much, some faculty are concerned about the nature of the academic endeavor on Roosevelt Island and the links between the NYC campus and Ithaca in the matter of faculty appointments. There remains a very significant concern on the part of some faculty that effort directed to the New York City campus will divert needed attention away from Ithaca. This is a marvelous opportunity for Cornell to redefine its land-grant mission and indeed the nature of technical universities worldwide in the next decades, but we want to get it right.

The university's strategic plan includes the aspiration to be widely recognized as among the top-ten research universities in the world. That said, many faculty at Cornell and elsewhere –ironically perhaps especially at the most highly ranked universities– are skeptical about highlighting specific rankings because they believe that the questionable metrics are too heavily weighted and the respondents often have unknown qualifications. Nonetheless, I will now report Cornell's current reputation as a research university, according to various lists. This year, for example, *US News* ranked us 6th in academic reputation according to the assessment of peer academics and 15th overall; curiously, our global ranking by the same publication was even better (14th); we reside in the same position according to *QS*, a spot better by Shanghai University's *ARWU* (Academic Ranking of World Universities), and 17th according to the English *Times Higher Education*. Probably most impressive of all is that more of our graduate fields (47, or 55%, of them), than those of any other US research university place in the top ten nationwide for that discipline, according to Academic Analytics LLC, a commercial benchmarking firm funded by most elite universities; this underscores Cornell's remarkable combination of research breadth with excellence. The University has been particularly successful in fostering interdisciplinary research programs and centers. Just because these organizations are sometimes unique nationwide, we should not abandon them.

Faculty Achievements

The Cornell faculty, now 1597 strong, are an outstanding collection of individuals who are sometimes “otherwise thinking”, always innovative and vigorous in their teaching and scholarship. The Web of Knowledge lists 9242 articles contributed to the scholarly literature by Cornell authors in 2012 and through May 2013. But this number is undoubtedly incomplete because it misses some online and conference proceedings, which are increasingly common, and because its coverage of many fields in the

humanities and the international literature is imperfect. Finally some Cornell scholarly achievements are in the fine arts and other accomplishments occur on the farms across New York State. In the fall 2012 we taught 2915 courses for 227,950 credit hours and this spring 2874 courses were offered for 217,270 credit hours; the courses were about two-thirds undergraduate and one-third graduate.

Funded research in Ithaca had \$802M in total research expenditures in 2012, of which \$509M were received through competitive grants; this comprises more than one-quarter of the Ithaca budget. Last year alone, 1900 new proposals were submitted in an intensely competitive external funding environment, a very tough climate today that is only expected to worsen as federal research support declines, and already-low success rates on proposals continue to fall. About 3700 research awards and 600 sub-awards are active, being led by 1100 principal investigators. In 2012, the Ithaca faculty had 390 disclosures of intellectual property, 184 new licenses and 158 patents granted based on previous disclosures, leading to \$12.6M in gross revenue. Seven start-up companies began.

Cornell professors continue to receive many accolades. For example, Kenneth Kemphues (molecular biology and genetics), Laurent Saloff-Coste (mathematics) and Sandra Vehrencamp (Laboratory of Ornithology) entered the American Academy of Arts and Sciences. Juris Hartmanis and Eva Tardos, both computer scientists, were elected to the National Academy of Sciences, while Andrew Schafer of medicine at Weill Cornell Medical College, and Lisa DeAngelis of neurology there, were admitted to the Institute of Medicine. Frederik Logevall of history received the Pulitzer Prize for his chronicle about the early years in the Vietnam struggle, while Douglas James (computer science) won a technical achievement Oscar for software that animates fluid motions. Cornell scholars received five NSF Early Career Development awards, two others received Guggenheim fellowships, one a Sloan fellowship and three -- the highest number awarded to any campus in the nation-- were in the inaugural class of Simon Foundation fellows.

Locally, three professors were selected in late 2012 to become Weiss Presidential Fellows, Cornell's highest recognition for teaching. Sheila S. Hemami, electrical and computer engineering, was lauded for a "creative and dynamic" teaching style, and for her "contagious excitement" about the subject matter and her focus on teaching problem-solving skills with real-world applications". David B. Lipsky, collective bargaining in ILR, was praised for an "uncommonly devoted commitment to advising, teaching and mentoring undergraduates" and for his ability to "illuminate both research findings and the art of conflict management and resolution." Karl J. Niklas, plant biology, was cited for his "lively style" and "flair for making complex physical and quantitative material intuitively obvious" while students found his labs to be "terrific learning experiences".

Faculty Renewal

Faculty renewal is, very appropriately, a major preoccupation of the university today. The central administration is concerned with funding the rebirth of the faculty, as well as which new research thrusts should be instituted and which previous areas of previous expertise should be correspondingly reduced. Many departments are consumed by this

activity: the sequential processes of choosing departmental priorities and then selecting and interviewing candidates have absorbed major fractions of faculty time, especially this spring.

If a typical academic career lasted thirty-five years, forty-five replacements would be required in an average year to replenish a faculty corps of 1575. But this underestimates today's needed hiring rate because our current faculty demographics are skewed toward older full professors. The present age distribution became emplaced during the 1960s and 1970s when Cornell and most of higher education substantially expanded, in faculty and researchers; these individuals are now in their seventies and sixties, respectively. Being one of them, I know them well. Many of these individuals are retiring and, sadly, others are passing on. The advent of the global budget crisis in 2007, exacerbated by the simultaneous realization of our own structural budget deficit, has put the University under enormous financial stress, leading five years ago to staff layoffs and stagnation in faculty hiring, just when the latter should have been expanding. In AY2010 only 27 new faculty were hired, 41 in the following year and 70 in AY2012. Hiring is equally fast-paced and stressful this year, with competition fierce for the very best academics among peer institutions who face the same ageing pressures.

The faculty renewal program, which the Trustees initiated and which is funded partly by alumni donations, has allowed departments to pre-fill some faculty positions to take advantage of the availability of exceptional candidates. This smart planning has already helped considerably. Most colleges have had considerable success in attracting both neophytes and more accomplished academics. Fortunately we have been able to sometimes employ current hiring opportunities to improve campus-wide diversity; for example, Engineering will add two Under-Represented Minorities starting next year. Flexibility sometimes allows dual-career hires, as in the case of Geological Sciences. Meanwhile, Agricultural and Life Sciences has been using its hires at both the junior and senior levels to strengthen and redirect its offerings.

Actions by the Faculty Senate

At its October meeting, the Faculty Senate approved a Master of Science Degree in Information Systems (Concentration in Connective Media), jointly between Cornell NYC Tech (our graduate fields of computer science and information science) and the Technion- Israel Institute of Technology. Although this degree represents a landmark decision as the first of the dual degrees between Cornell and Technion, the Senate's approval was handled routinely, following its earlier vetting by both the Graduate School's General Committee and by our Committee on Academic Programs and Policies.

A November incident on Ho Plaza, involving two demonstrations –one pro-Israeli and the other pro-Palestine– confronting each other highlighted the core academic issues of freedom of expression and freedom of speech. Two small committees, the first appointed by the President and the second formed by the Faculty Senate, investigated this incident to see if academic rights had been abridged and to determine whether Cornell's Campus Code was clear and correct. The University Assembly and the UFC are now further

discussing these actions, to decide whether changes need to be made to the Campus Code or to University practices.

As in the national press, the Cornell campus has been abuzz with discussions of distance learning. At the first Faculty Forum, in September 2012, Cornell experts and the leaders of two academic consortia (edX and Coursera) described the attributes of MOOCs (massive, open, online courses) and their potential educational impact. This discussion continued at a later Senate meeting. In a related event the faculty rescinded its 12-yr-old prohibition against eCornell, our wholly owned subsidiary, providing support services for courses that receive Cornell credit. With this restriction gone, eCornell can currently compete with other vendors of services for online courses. At the end of the fall term, a faculty committee advised the Provost about Cornell possibly joining a MOOC consortium. In May 2013, the UFC, acting jointly with the Provost, created a committee that is charged with developing policies for distance learning. In the short term, this group will advise the Provost on schemes to choose topics and faculty for a few MOOCs likely to be prepared in the next academic year. Longer-term policies, concerning how MOOCs operate, intellectual property ownership, and the educational goals for Cornell's participation are subjects for this committee.

The spring Faculty Forum explored the nature of research libraries in the 21st century with presentations on digital collections by two outside experts and Cornell's Librarian Anne Kenney, followed by audience participation.

Concluding Remarks

To a great extent, Cornell's professors provide the basis of the university's sterling worldwide reputation. I am extremely fortunate to serve with these outstanding individuals. We faculty get paid to do what we love. We are given the opportunity to investigate questions that we find intellectually challenging. We are privileged to interact with very bright, enthusiastic, inquisitive and questioning young minds -- in and out of the classroom. It is vital to our faculty that Cornell remains a unique, top-level institution, and accordingly we strive to contribute to that excellence. We recognize and deeply appreciate the Trustee efforts to guide, support and strengthen our beloved institution.



Report of the Dean of the University Faculty

**Joe Burns
24 May 2013**

1. Accomplishments

2. Honors

3. Issues



Accomplishments



Scholarly Literature 1/12-5/13

9242 papers

Teaching

5789 courses

445,220 credit hours

Graduates

3100 Bachelor's

1315 Master's

635 Ph.D.s

440 DVM, Law

Research Funds

\$509M (competitive)

1900 proposals

Intellectual Property

390 disclosures

158 patents

Honors:

American Academy of Arts and Sciences:

- Kenneth Kemphues (molecular biology and genetics)
- John Lis (molecular biology and genetics)
- Sandra Vehrencamp (Laboratory of Ornithology)

National Academy of Sciences

- Juris Hartmanis (computer science)
- Eva Tardos (computer science)

Institute of Medicine

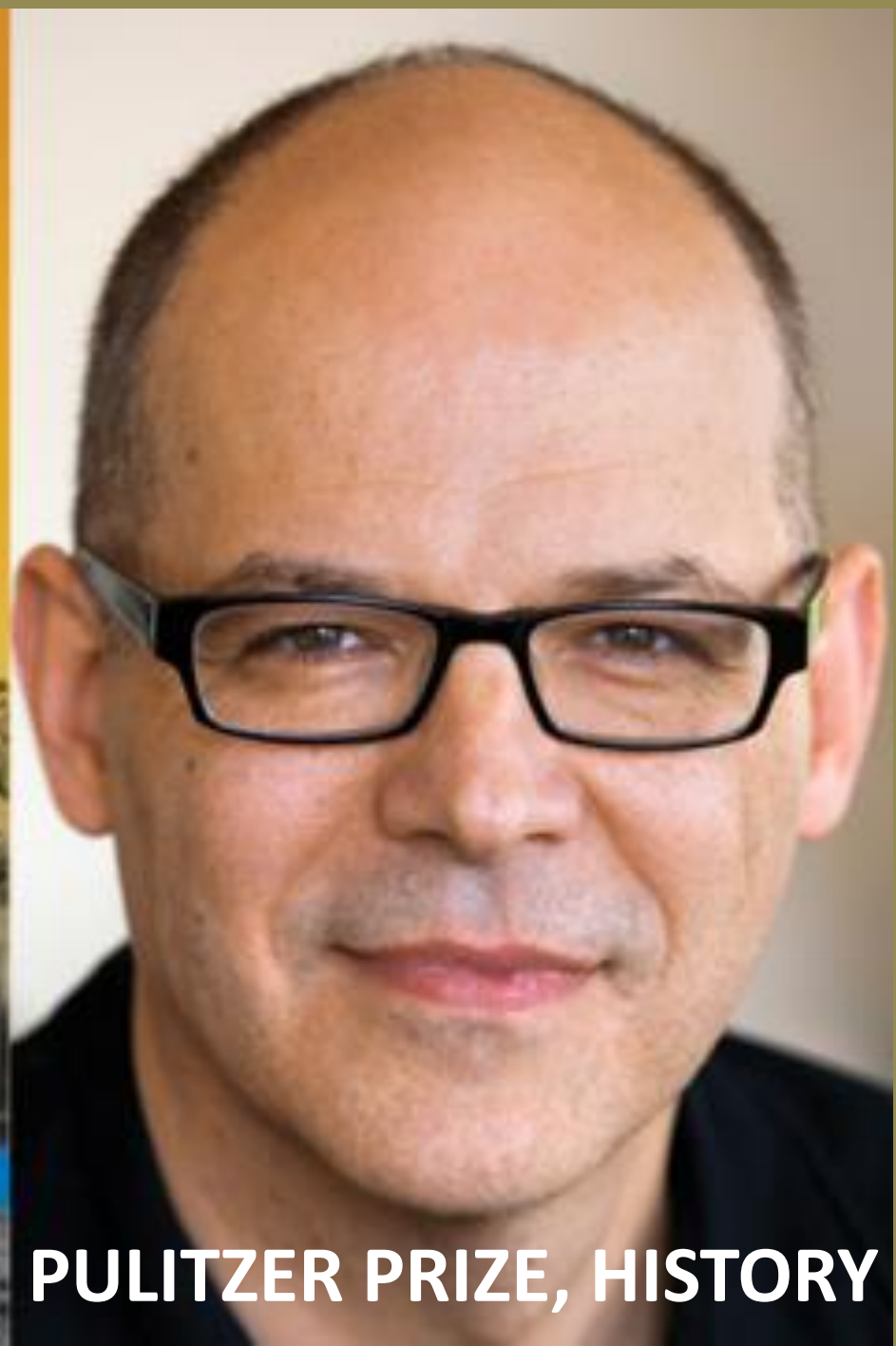
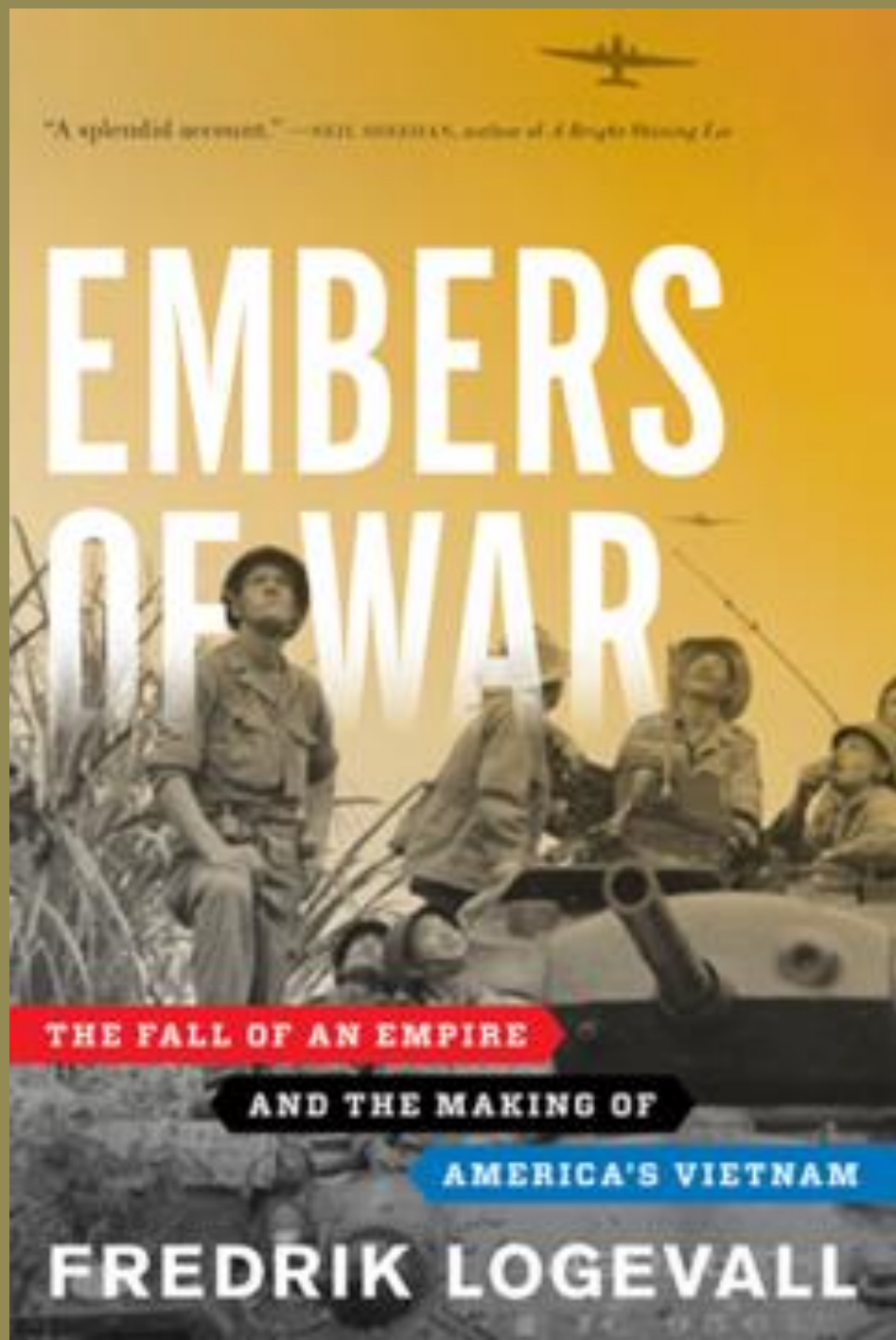
- Lisa DeAngelis (neurology)
- Andrew Schafer (medicine)

NSF Early Career Awards: 5

Alfred Sloan Fellowship: 1

Guggenheim Fellowships: 2

Simon Foundation Fellows: 3





Academy Award for
Technical Achievement

Douglas James, computer science
& Theodore Kim '01

Congratulations to our Weiss Fellows



Sheila Hemami
Elect & Comp Engr



David Lipsky
ILR: Bargaining



Karl Niklas
Plant Biology

TOPICS

Faculty Renewal
Distance Learning (MOOCs)
Cornell NYC Tech



THANK YOU!
Questions?

