

## Associate Dean for Research



**Marjolein van der Meulen**  
Associate Dean for Research

- Joined Cornell in 1996
- Swanson Professor of Biomedical Engineering, Sibley School of Mechanical & Aerospace Engineering
- Member of CU-ADVANCE Center Team
- Former Associate Director for Graduate Affairs and Director of Graduate Studies for Mechanical Engineering
- Degrees received
  - BS (Mechanical Engineering), Massachusetts Institute of Technology, 1987
  - MS (Mechanical Engineering), Stanford University, 1989
  - Ph D (Mechanical Engineering), Stanford University, 1993
- Research Focus - Orthopaedic biomechanics, mechanobiology

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## Associate Dean for Administration



**JoAnne Williams**  
Associate Dean for Administration

- Joined Cornell in December 2009
- Former Director of the Office Sponsored Programs at Cornell University
- Previously from Clemson University
- Experience includes: sponsored program administration, years of industry experience as vice president of operations, general counsel, and director of strategic accounts in a global research and development for-profit organization
- Degrees received
  - Juris Doctor, University of Detroit
  - Bachelor of Science in Engineering, McNeese State University

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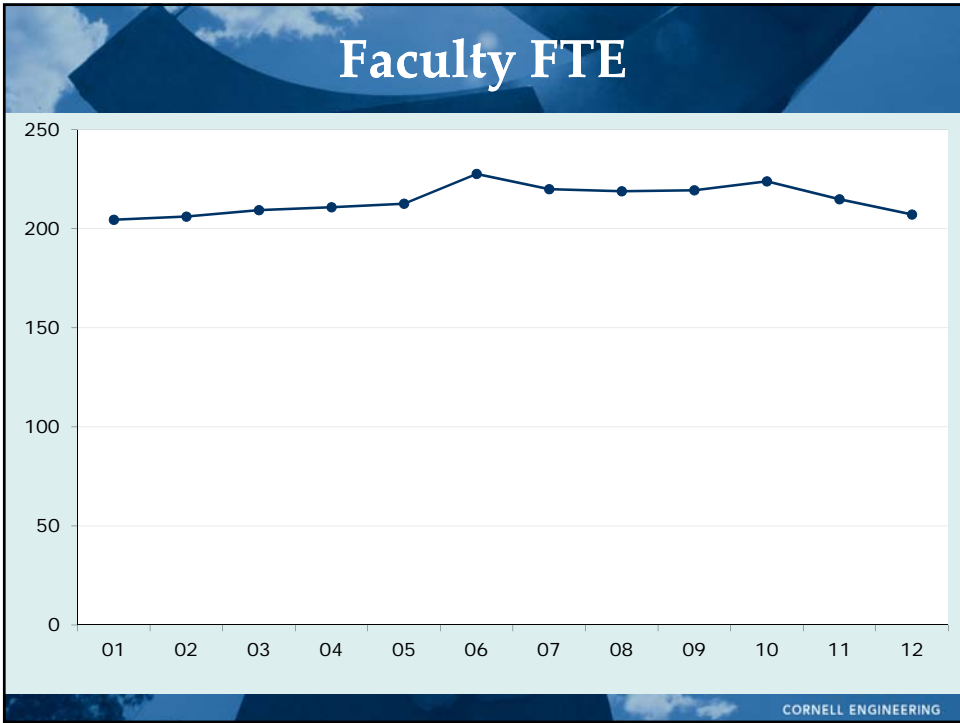
## Director of Leadership Programs

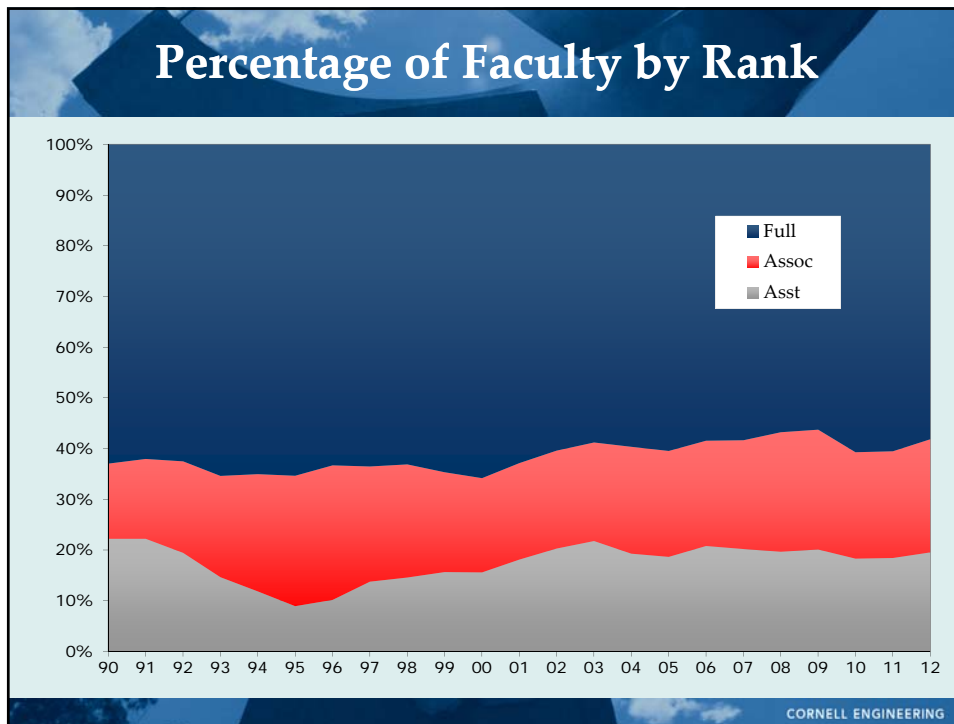


**Erica Dawson**  
Director of Leadership Programs

- Joined Cornell in May 2012
- Previous Experience:
  - Faculty, Yale School of Management
  - Visiting faculty, Johnson School and UCSD
  - Co-founder, Program on Organizational Ethics, Dalai Lama Center of Ethics and Transformative Values
- Degrees received
  - B.A. (Psychology), University of Denver, 1991
  - Ph.D (Social Psychology), Cornell, 2004
- Teaching:
  - Negotiation
  - Leadership Development
  - Behavioral Decision Making for Managers
  - Managing and Leading Organizations

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### CoE Searches 2011-2012

Department	Searches	Status
AEP	1	1 declined offer
BEE	1	4 accepted offers, (1 open search, 1 target of opportunity, 2 dual career negotiations)
BME	1	1 offer pending, Chair's search
CEE	2	2 accepted offers
CBE	0	
CS	2	1 accepted offer (Ithaca) 1 accepted offer (Tech)
EAS	1	1 accepted offer, part time, non-tenure track
ECE	3	1 accepted offer
MSE	1	1 accepted offer
MAE	2	2 accepted offers
ORIE	3	3 accepted offers
<b>Total</b>	<b>17</b>	<b>16 accepted offers, 1 pending offer, 1 declined offer</b>

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## New Faculty

			
<b>Ross Tate</b> <i>Asst. Professor, CS</i> July 2012	<b>C. Lindsay Anderson</b> <i>Asst. Professor, BEE</i> July 2012	<b>Ludmilla Aristilde</b> <i>Asst. Professor, BEE</i> July 2012	<b>Mingming Wu</b> <i>Assoc. Professor, BEE</i> July 2012
			
<b>Pierre Patie</b> <i>Asst. Professor, ORIE</i> starting December 2012	<b>Sondipon Adhikari</b> <i>Professor, CEE</i> starting January 2013	<b>Ankur Singh</b> <i>Asst. Professor, MAE</i> starting July 2013	<b>Maryam Shanchi</b> <i>Asst. Professor, ECE</i> starting July 2013

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## New Faculty

			
<b>Deborah Estrin</b> <i>Cornell NYC Professor, CS</i> starting January 2013	<b>John Thompson</b> <i>Wold Family Professor in Environmental Balance for Human Sustainability (EAS)</i> starting January 2013	<b>Robert Shepherd</b> <i>Asst. Professor, MAE</i> starting January 2013	
			
<b>Jin Suntivitch</b> <i>Asst. Professor, MSE</i> starting July 2013	<b>Pat Reed</b> <i>Asst. Professor, CEE</i> starting July 2013	<b>Krishnamurthy Iyer</b> <i>Asst. Professor, ORIE</i> starting July 2013	<b>Jim Dai</b> <i>Professor, ORIE</i> starting August 2013

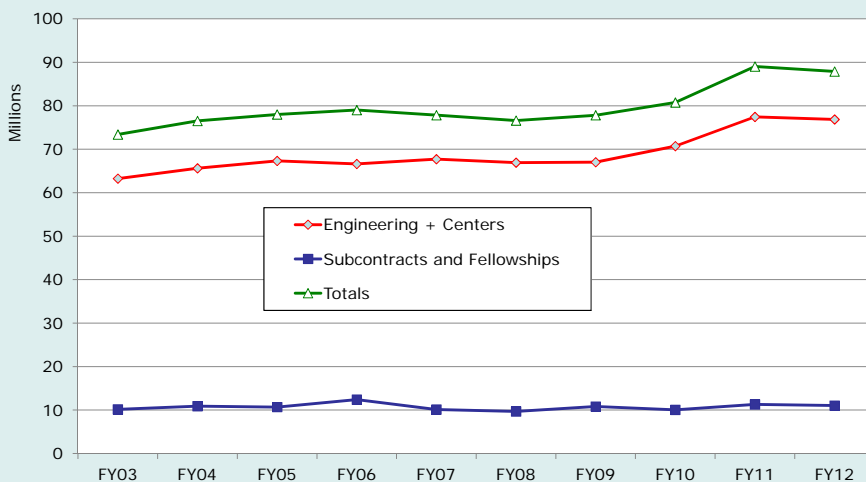
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## Major Faculty Awards

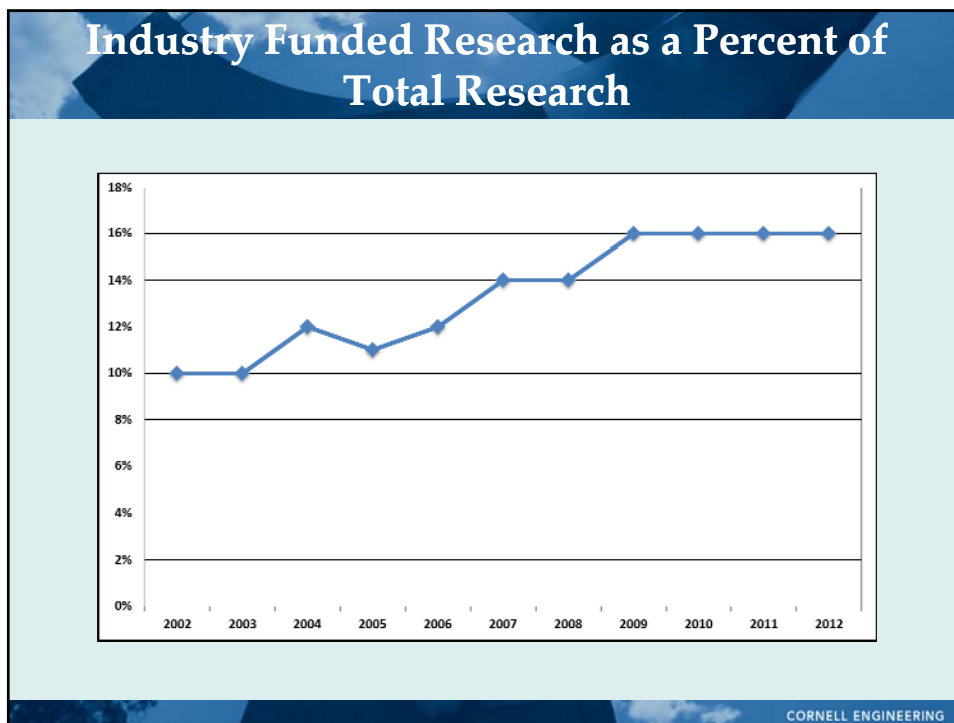
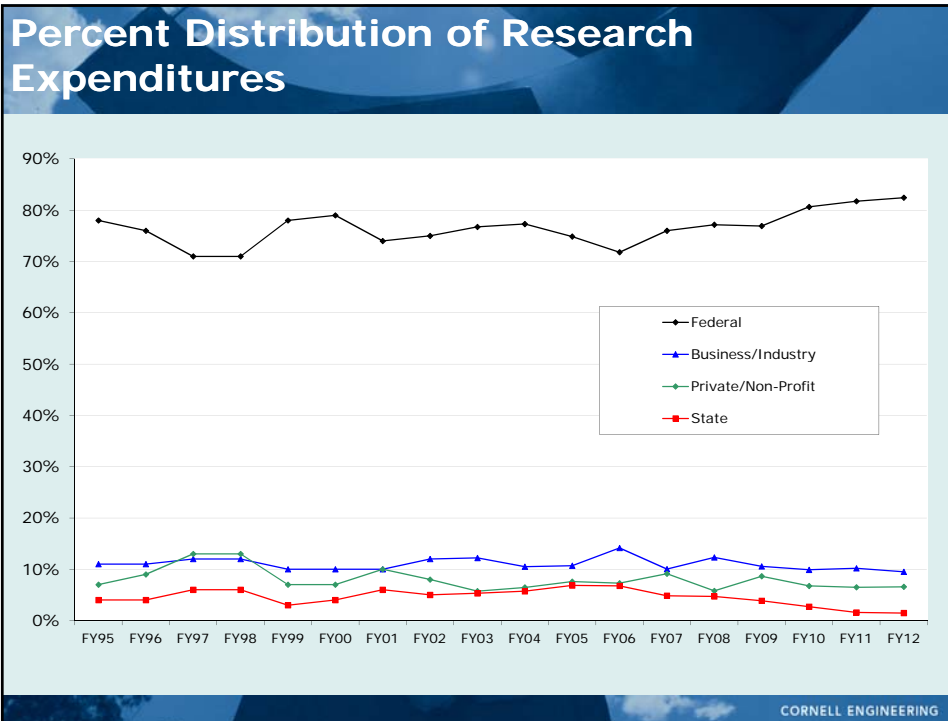
- Presidential Early Career Award for Scientists and Engineers (PECASE)
  - Kevin Tang (ECE); Craig Fennie (AEP)
- Defense Advanced Research Projects Agency (DARPA) Young Faculty Award
  - Christopher Batten (ECE); Hadas Kress-Gazit (MAE); Julius Lucks (CBE)
- Google Research Awards
  - Claire Cardie (CS); Jeff Hancock (CIS); Nate Foster (CS)
- Fulbright U.S. Scholar Grant to conduct research at the Universidad Católica del Norte in Chile during the Fall 2012 semester
  - Teresa Jordan (EAS)
- 2012 Intel Early Career Faculty Honor Program Award
  - Hakim Weatherspoon (CS)

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## Research Expenditures



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## Towards New Destinations

- Institution wide diversity planning and reporting effort initiated AY 2012-13
- Each school, college, and major unit selects five Annual Initiatives that best match their particular contexts, goals, and strategic plans
- Each unit reports annually on their progress in these areas
- Each initiative targets one of the four core diversity principles:
  - COMPOSITION
  - ENGAGEMENT
  - INCLUSION
  - ACHIEVEMENT
- And one or more of the constituent groups:
  - Undergraduates
  - Graduate and Professional Students
  - Post-doctoral and academic professionals
  - Tenure Track Faculty
  - Staff
  - Off campus (vendors, community ...)
  - Extended Community (Parents, alumni, donors, friends)

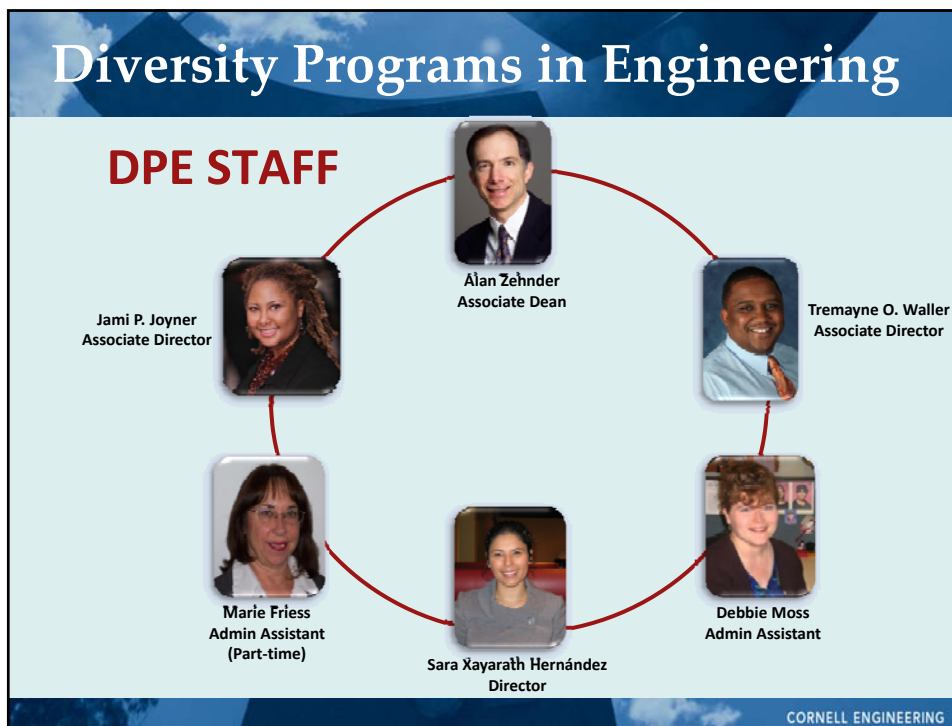
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## Engineering College Initiatives

- **Composition – Faculty**
  - Search oversight by SOC, search committee training, Dean is holding back up to 10% of resources for strategic hires and targets of opportunity, focus on retention
- **Composition – Undergraduates**
  - Added staff to admissions, continue fall/spring hosting programs, summer academies for high school students, build partnerships with pipeline programs
- **Inclusion – Undergraduates**
  - Engineering leadership program – value of inclusive teams, how to leverage diversity
- **Inclusion – Faculty, Staff, Postdocs, and Academic Professionals**
  - Respect@Cornell program (video based program) with facilitated discussions. Training focused on gender, diversity and Title IX
- **Engagement – Undergraduates, Graduates, Faculty, Staff, Postdocs, and Academic Professionals**
  - Develop a communications plan around diversity and use it to engage the entire college community.

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## Supporting Student Excellence

- Engineering Summer Scholars Program
- Academic advising, ESSP First year success, early intervention
- Strategic Actions for Excellence (SAFE)
- CU EMPOWER (peer mentoring program)
- Lunch & learn events with CU alumni
- First Friday dinners with corporate sponsors
- Master Your Future Professional development series
- CU-LSAMP Scholars Program
- CU-LSAMP Summer Research Program
- Advise student organizations: AISES, NSBE, SASE, SHPE, SWE

*most events are open to **all** students!*

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## Selected Highlights 2011-12

- DPE recognized by President Obama with a 2011 Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring
- Five of our Sloan/Colman Fellows were awarded NSF Graduate Research Fellowships in Spring 2012 – Overall, 13 URM PhD students have NSF Graduate Research Fellowships
- The Sloan Foundation allocated eight additional scholarship to Cornell in 2011-12 for newly enrolled PhD Students



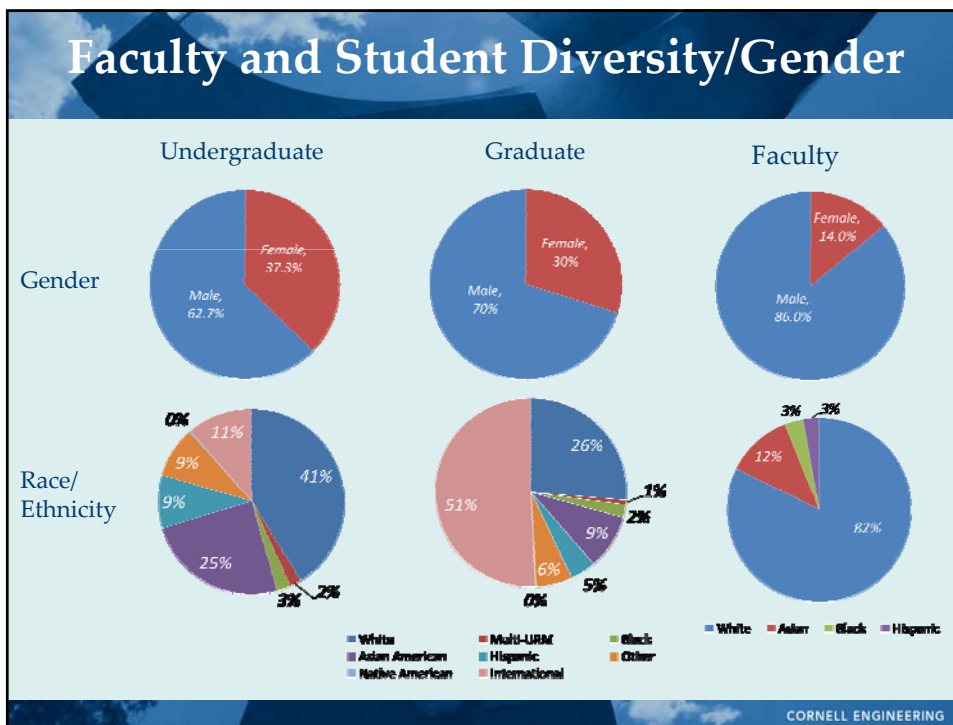
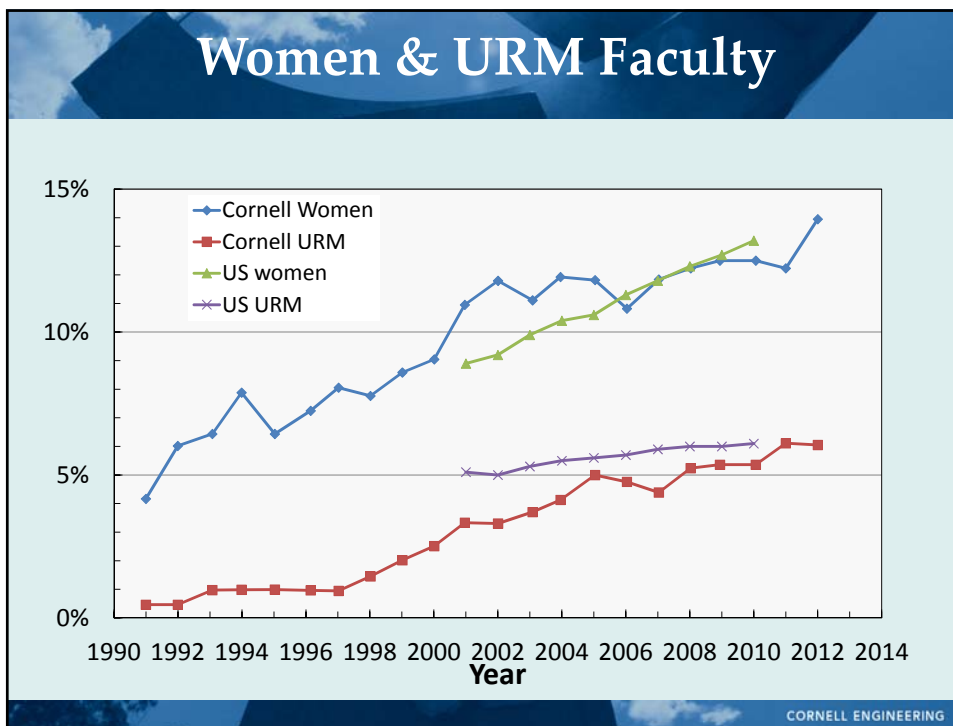
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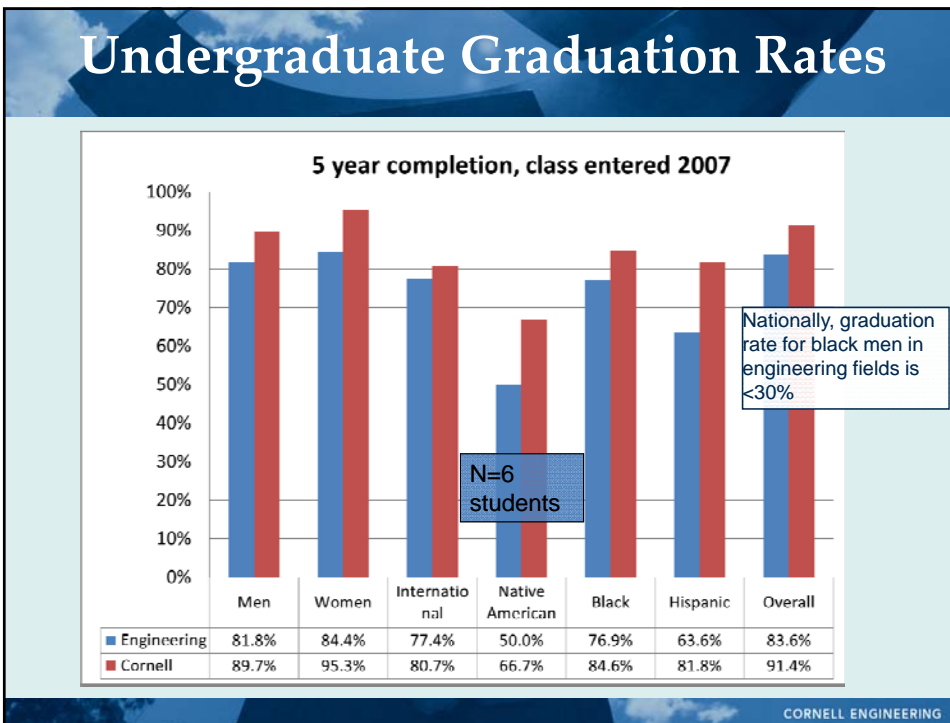
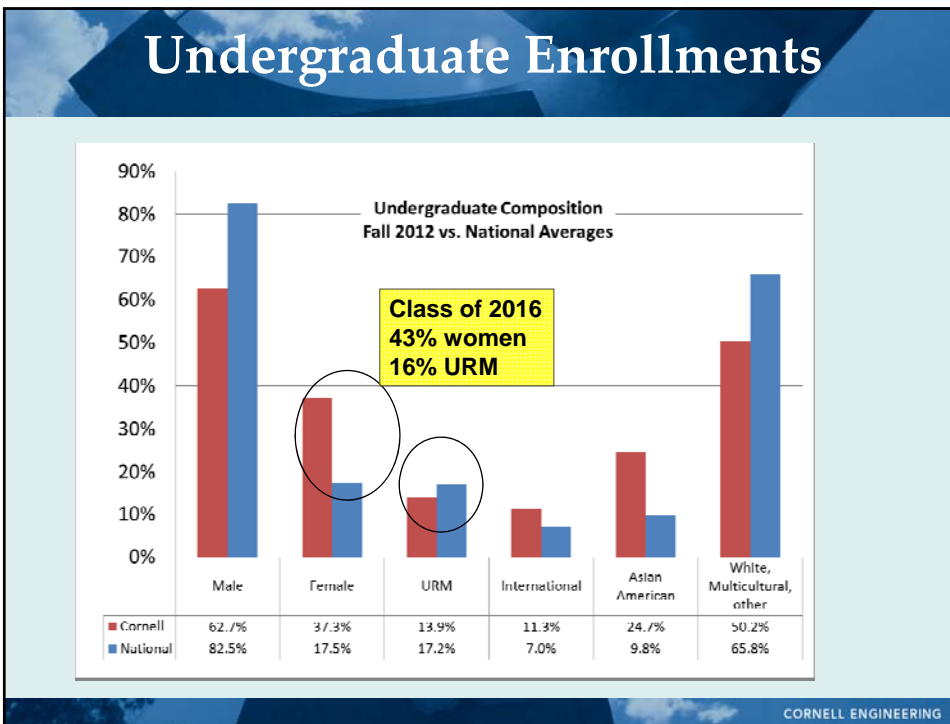
## Selected Highlights 2011-12

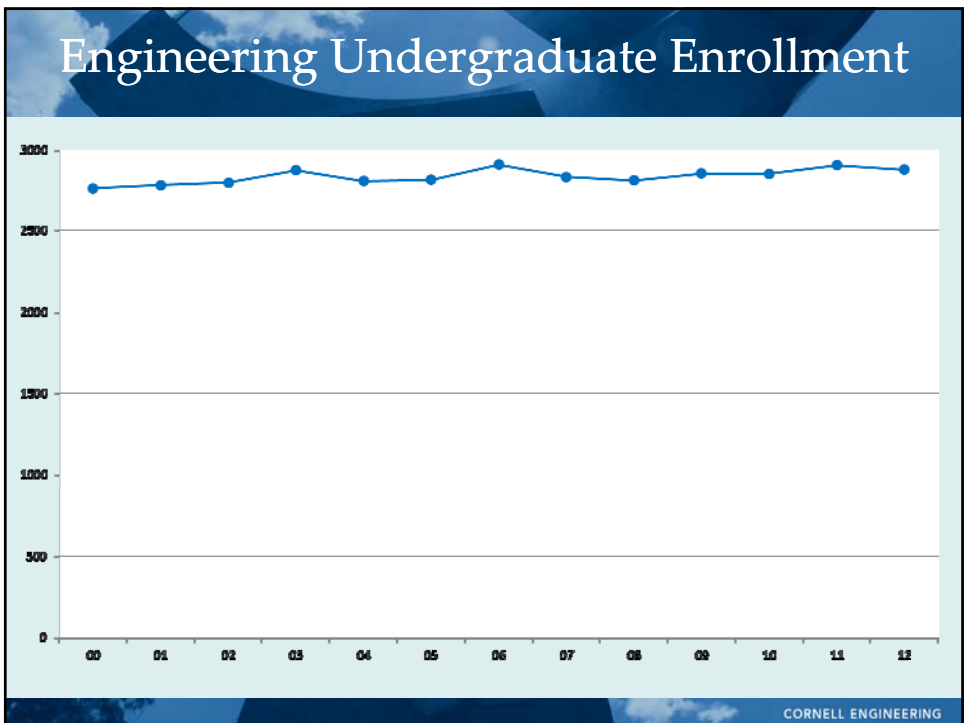
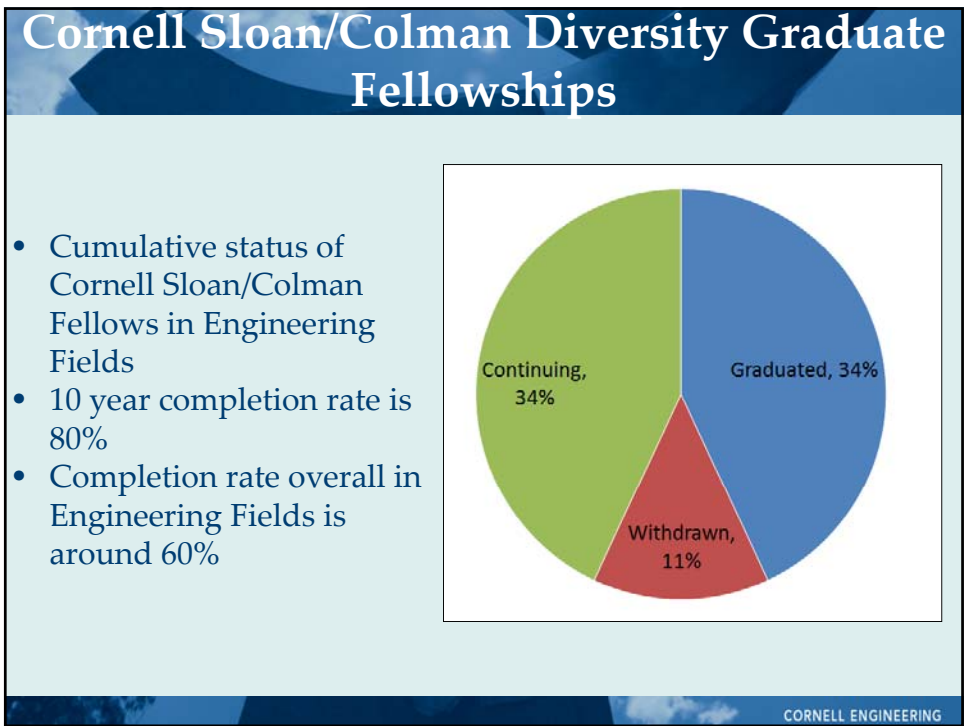
- Continue to leverage internal and external partnerships to more than double the capacity of the LSAMP Summer Research Program raising us from a limit of four scholars to twelve in 2011 and to eleven in 2012
- The Ryan Scholars Program enrolled its third cohort in summer 2012. Trustee Robert L. Ryan visited with the scholars in spring 2012.
- Striving For Excellence in Engineering (SEE) is a newly registered student organization focused on the success of URM men in Engineering
- SWE was recognized with a Gold Award for outstanding collegiate section in Fall 2011 and was recognized by CEAA in Spring 2012.
- SHPE teamed with Quisqueya to organize a service learning trip to El Limon in rural Dominican Republic in January 2012.

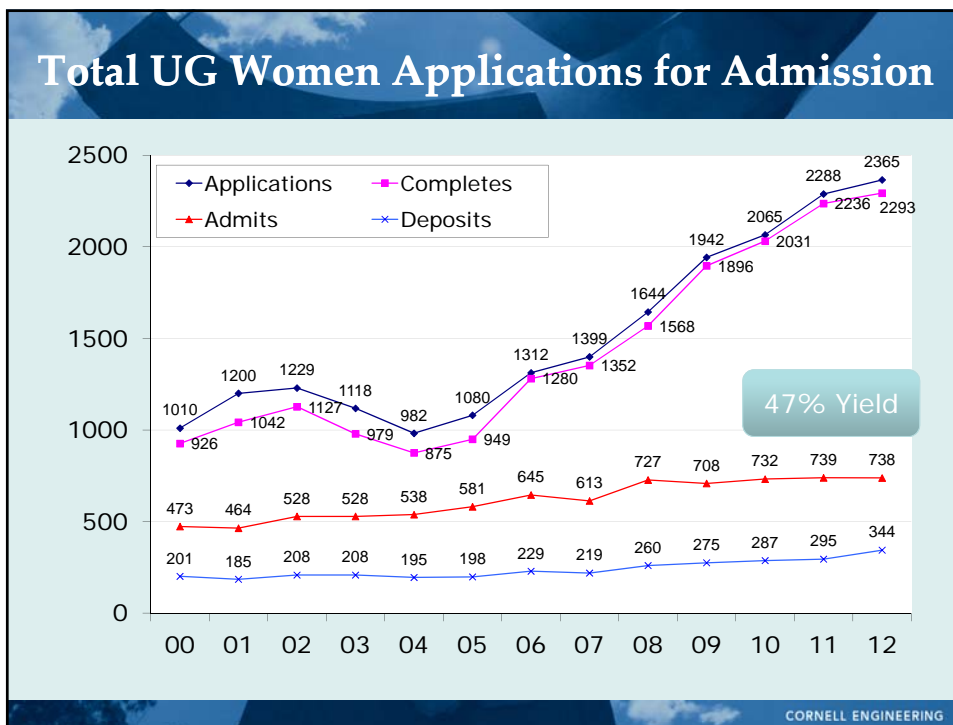
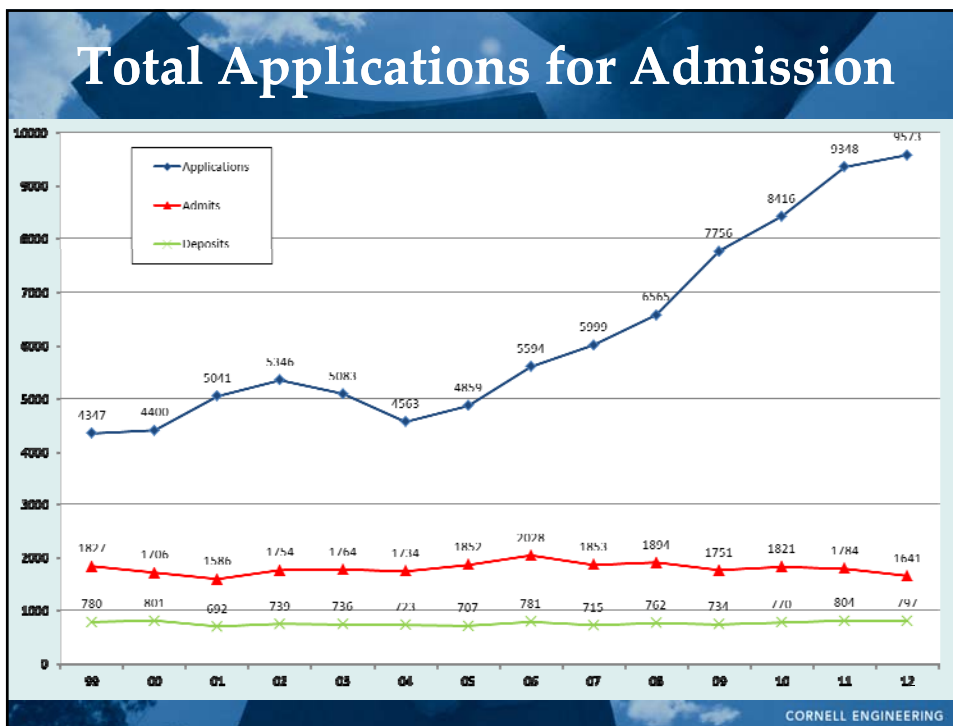


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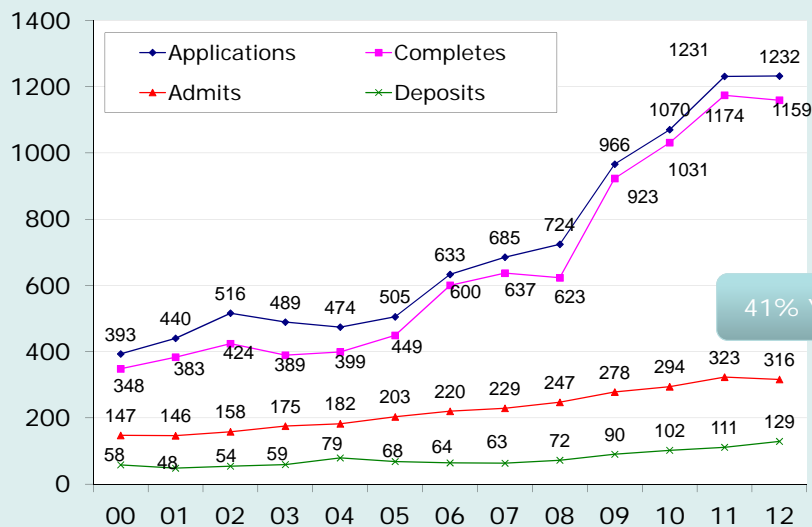






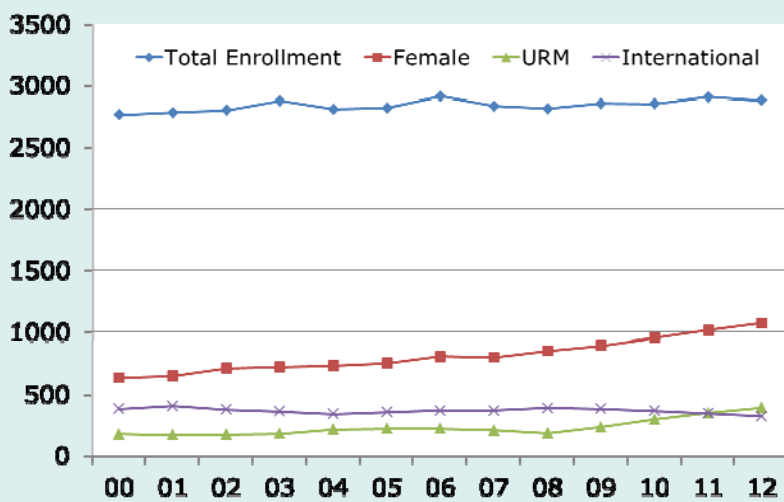


## Total UG URM Applications for Admission

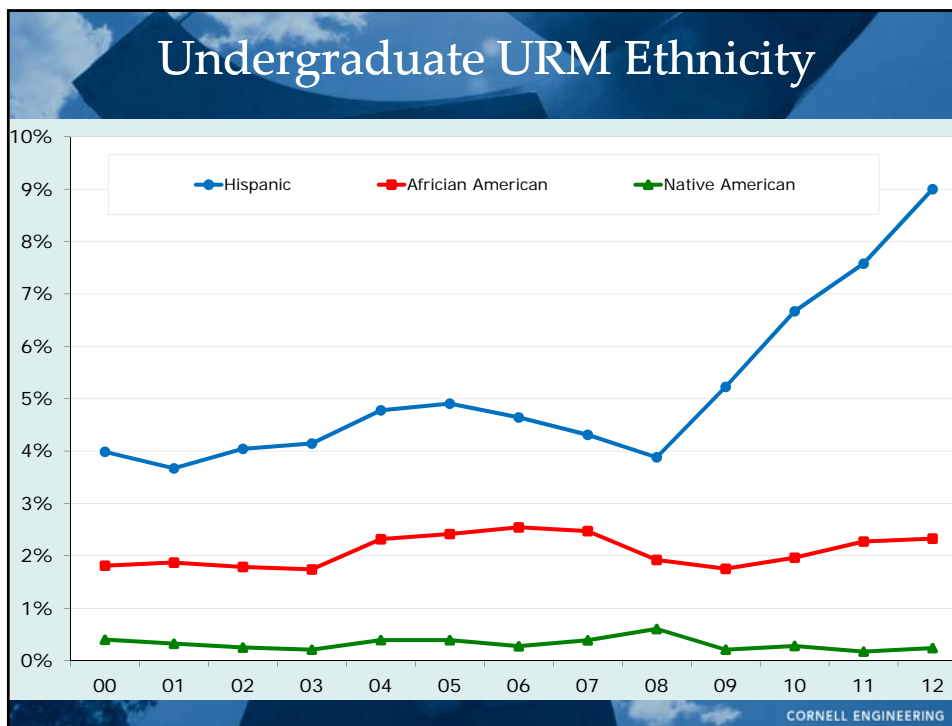


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## Undergraduate Women, Minorities and International



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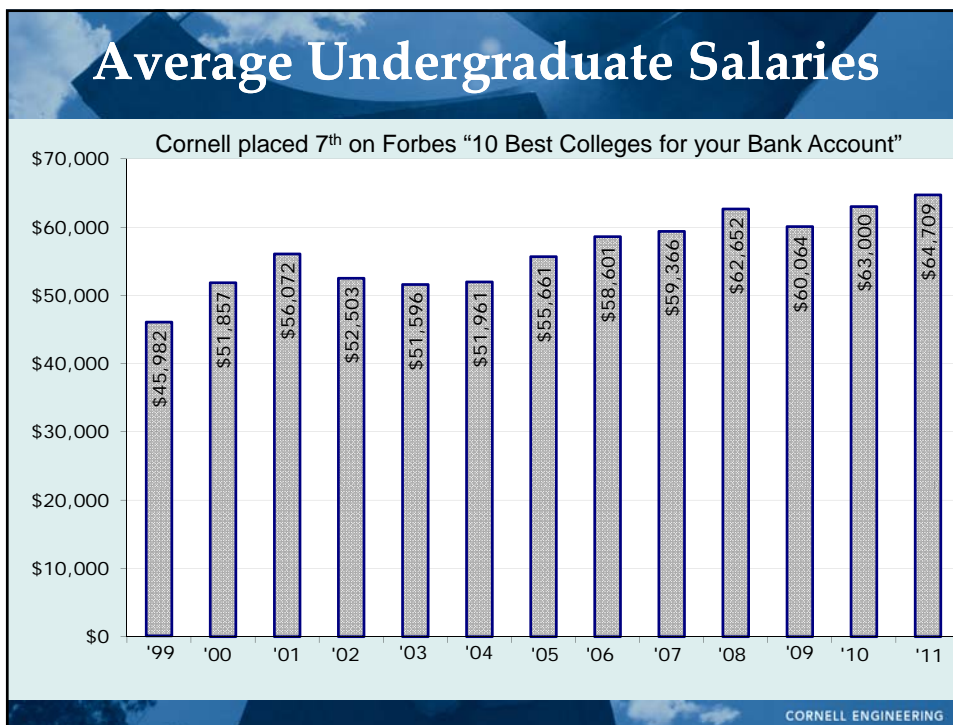
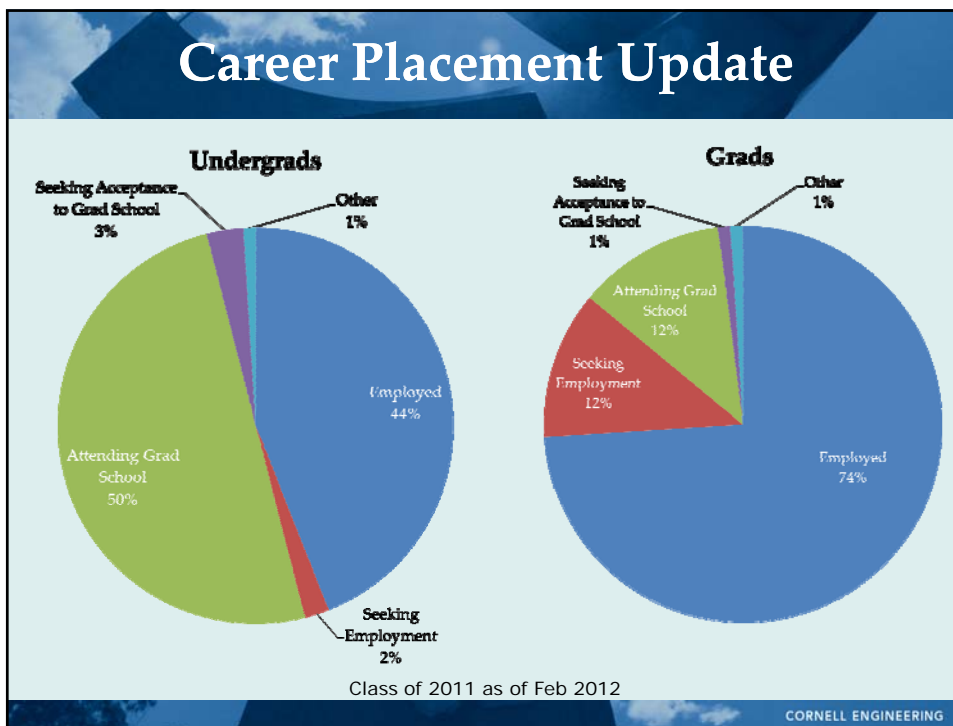
## How did we get here? Collaborations & Recruiting!

- **Special initiatives for Women and URMs**
  - Launch of a strategic communications plan targeting women and URMs focused upon building diversity within the college
  - Fall and Spring Diversity Hosting Weekends and Women in Engineering Visitation Programs
  - With shared support from CIS, hired Associate Director of Engineering Admissions with a focus on diversity recruitment and pipeline development
- **On-campus Fall/Spring hosting programs**
  - Women Hosting: Hosted 137 women overall (2011-12)
    - Spring program for admitted students: 76.5% yield rate (admit to matriculation); compared to 46% overall yield for women
  - Diversity Hosting: Hosted 121 URM students overall (2011-12)
    - Spring program for admitted students: 63.6% yield rate (admit to matriculation); compared to 40% overall yield for URM
  - Program Costs: \$60,000 for URM, \$25,000 for Women

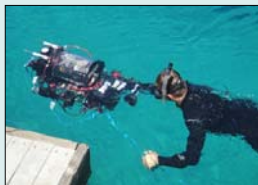
*a key partnership between Engineering Admissions and DPE*

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## Student Achievements



Cornell's 2012 Autonomous Underwater won the 15<sup>th</sup> International RoboSub Competition for the fourth time.



Students design sustainable housing for Nicaragua



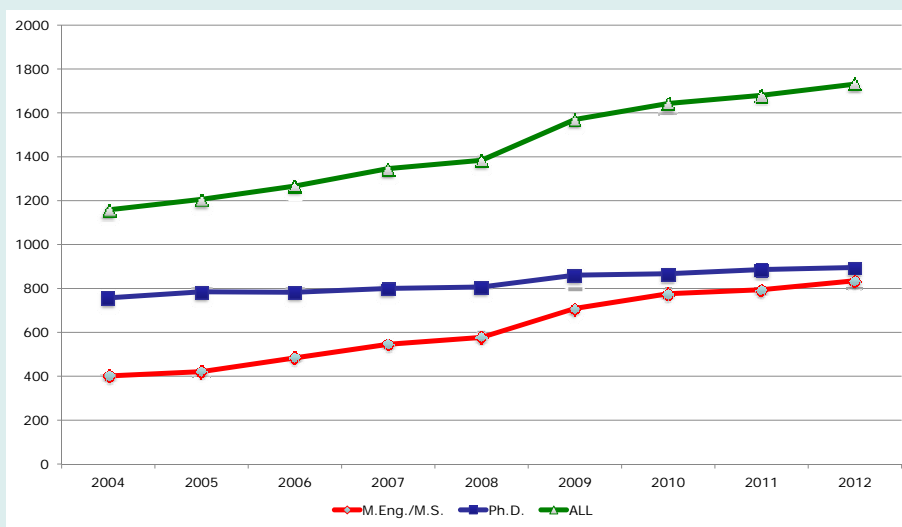
CUAir takes second place at the 2012 Student Unmanned Air Systems competition.



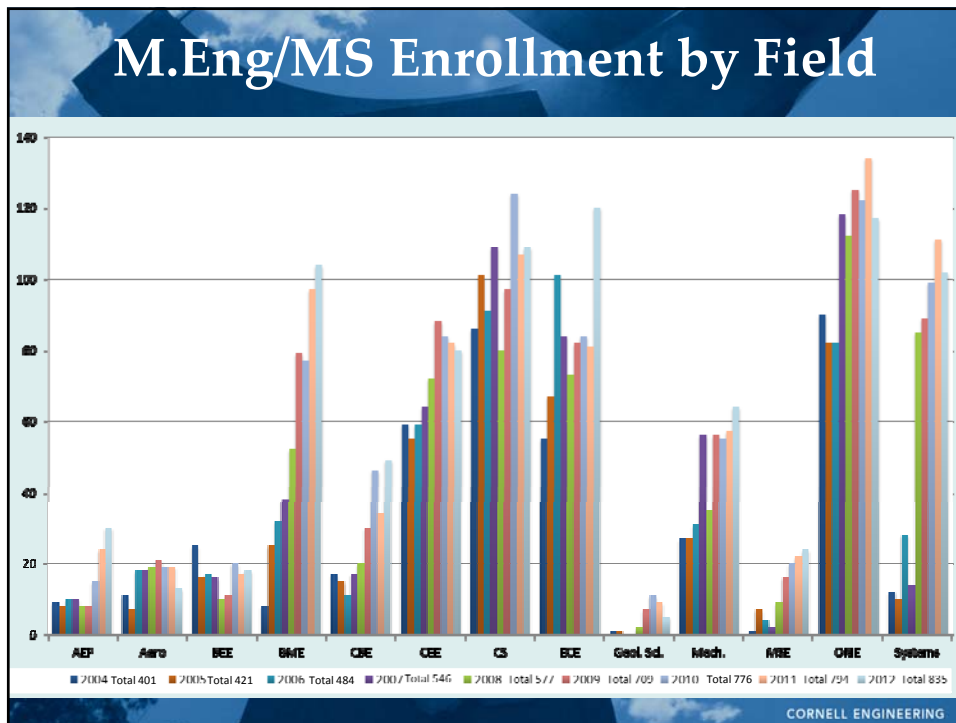
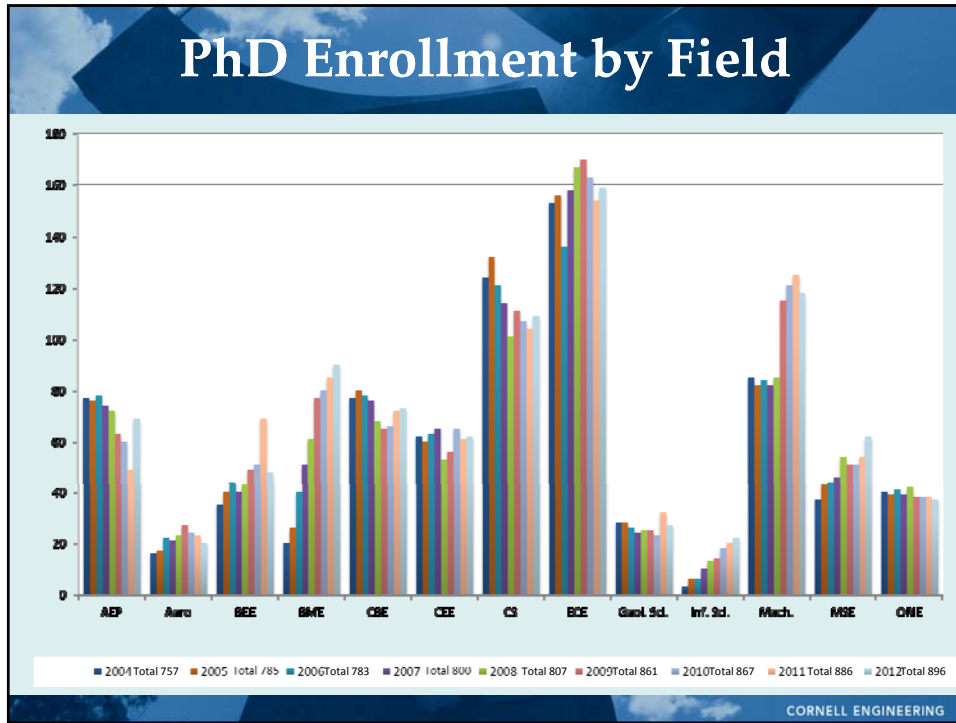
Cornell Baja SAE Racing Team  
1<sup>st</sup> Place Overall – 2012 Baja SAE East Competition.  
3<sup>rd</sup> Place Overall – 2012 Baja Midwest Competition

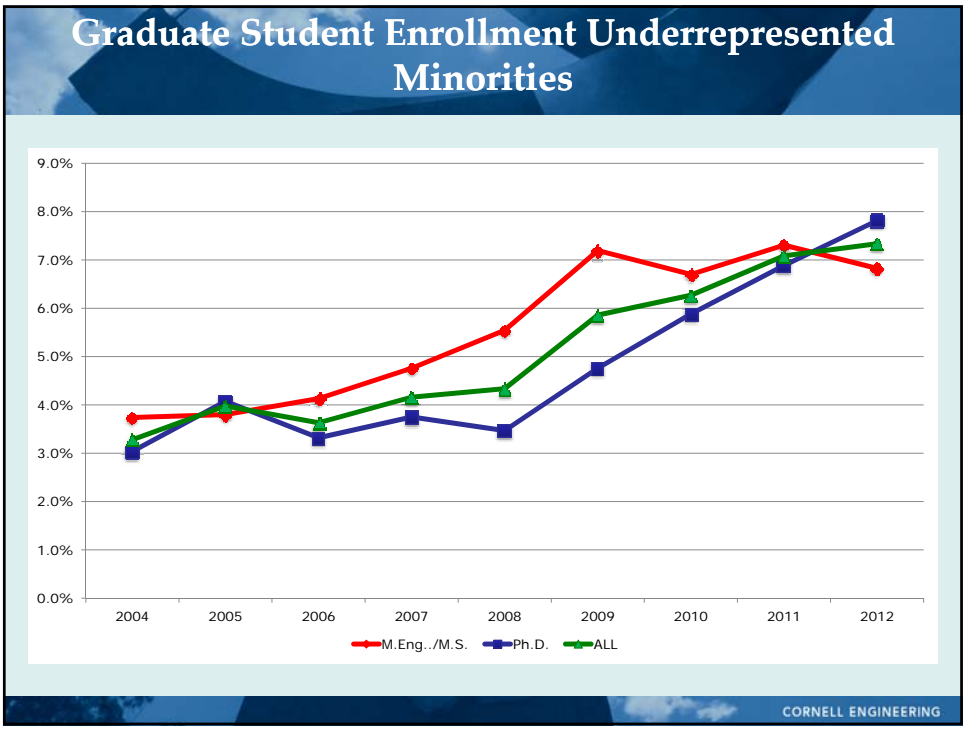
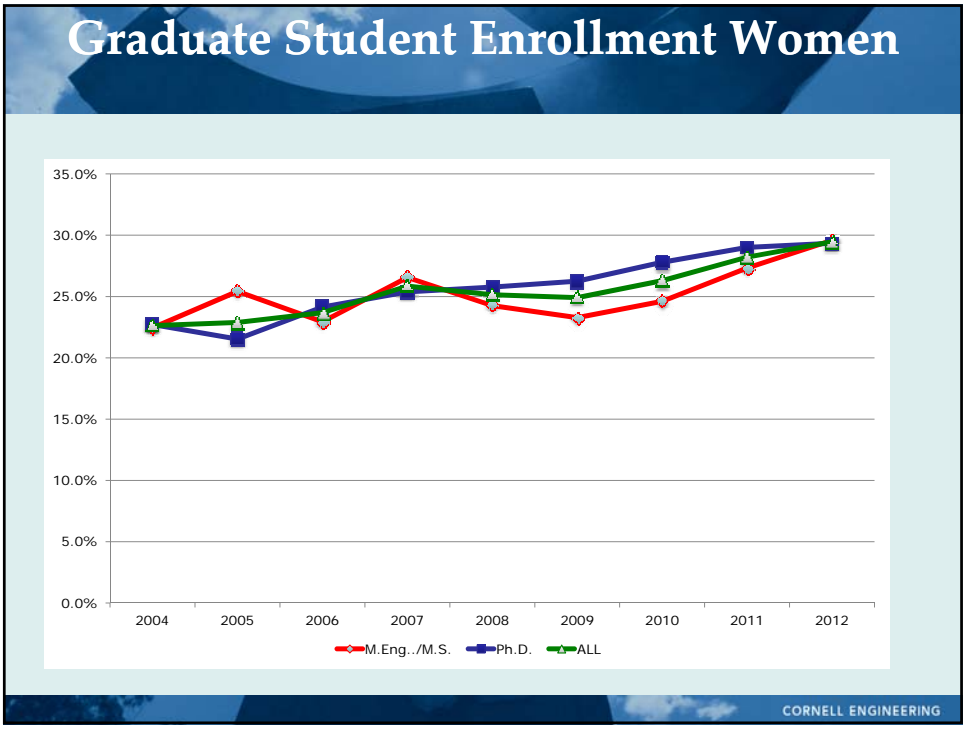
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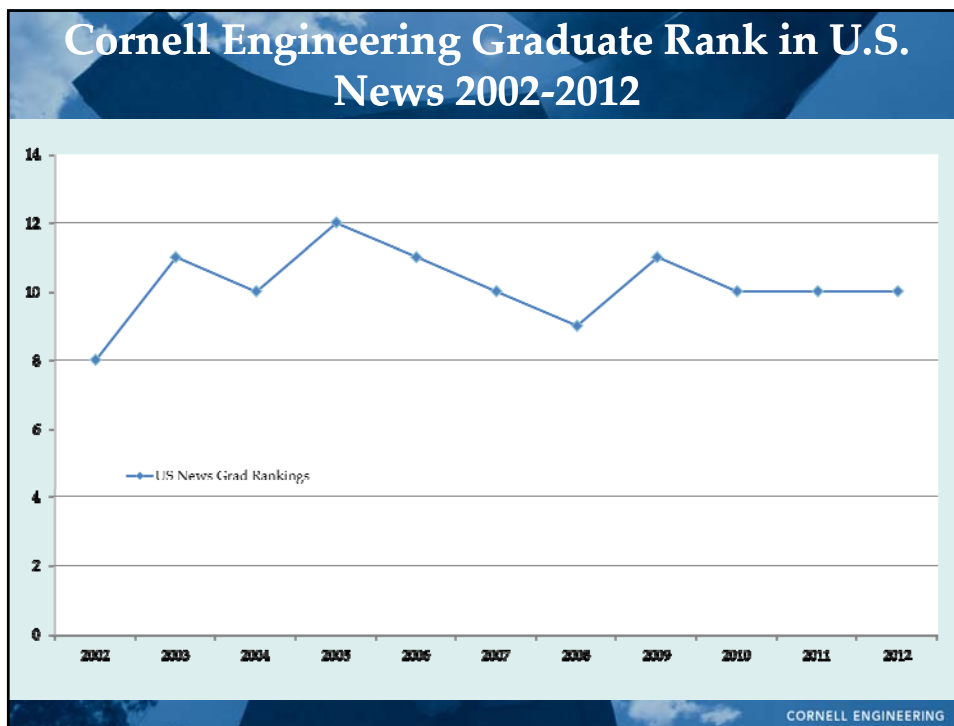
## Graduate Student Enrollment



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### Cornell Engineering Graduate Program Specialty Ranking 2002 - 2012

Data Ranking Released	April '02	April '03	April '04	April '05	April '06	April '07	April '08	April '09	April '10	April '11	April '12
Edition	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Program	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>College of Engineering</b>	8	11	10	12	11	10	9	11	10	10	10
Aerospace	10	11	9	12	7	9	8	11	12	11	11
Bio/Agriculture	NR	4	NR	NR	NR	NR	NR	1	4	4	3
Biomedical	NR	19	37	27	28	24	25	27	20	20	15
Chemical	16	17	18	18	13	4	15	16	13	13	17
Civil	9	9	11	8	9	10	10	10	10	10	8
Computer Engineering	10	10	8	9	9	11	10	9	NR	8	9
Computer Science	6	6	NR	NR	5	NR	6	NR	5	NR	NR
Electrical	8	7	9	9	9	8	9	9	9	9	9
Environmental	12	20	10	8	13	12	13	16	14	14	12
Earth Sciences	NR	NR	NR	NR	15	NR	NR	NR	13	NR	NR
Industrial	11	11	NR	9	8	8	9	8	8	8	10
Materials	9	8	10	7	9	7	10	11	8	8	10
Mechanical	10	9	7	8	8	9	9	9	8	8	9

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## Cornell Engineering Undergraduate Program Specialty Ranking 2002 - 2012

Data Ranking Released	April '04	April '05	April '06	April '07	April '08	April '09	April '10	April '11	April '12
<b>Edition</b>	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>Cornell University</b>	14	13	12	12	14	15	15	15	15
<b>College of Engineering</b>	10	9	10	7	8	9	8	9	8
Aerospace	12	14	13	10	11	13	17	15	17
Bio/Agriculture	6	NR	4	3	2	5	5	4	4
Chemical	15	14	14	13	15	14	15	14	19
Civil	9	9	9	9	9	8	9	9	10
Computer Engineering	9	9	9	8	8	10	10	10	10
Electrical	9	8	10	8	8	8	8	8	9
Engineering Physics	NR	1	1	1	1	2	3	2	1
Environmental	11	10	9	11	9	10	10	9	10
Informational	15	11	13	11	11	10	14	15	10
Materials	6	9	7	6	7	10	7	8	8
Mechanical	9	9	8	8	8	9	9	8	9

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## Status of Budget

- University has 4-year plan to balance operating budget
  - Budget reduction of \$753K distributed 50% to academic units and 50% to central, non-academic units
- Reliance on variety of revenue streams
  - MEng revenue, Faculty Renewal Funds and other gifts
  - Planned reserves for capital projects impacted
- New University Budget Model
  - Transparency and accountability
  - “Hybrid” model: Activity-based plus central allocations
  - Modeling efforts underway – decision by November 2012
  - Parallel budget analysis in current fiscal year
  - Phased implementation begins next fiscal year

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# FACILITIES

- Critical to college aspiration of “top 5”
- Updated Facilities Master Plan with Payette (\$147M over 5+ years)
  - Measured Growth Recognizes Fiscal Realities
  - Renovation of Existing Buildings
  - Targeted New Construction
- Major Projects
  - Kimball Renovation
  - Upson Full Renovation
  - New Construction for BME Growth
- Other Projects Focused on Specific Needs (Start-ups, Specialty Labs, Student Services, Classrooms, Departmental)

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# FACILITIES

- Opportunity –Kimball
  - Good Floor to Ceiling Height
  - Currently Underutilized
- Project – Renovate 2<sup>nd</sup> & 3<sup>rd</sup> Floors
  - Wet Labs & Support
  - 17,644 SF
  - For Interim BME; MAE, MSE, ECE
- Cost - \$14.8M (2011 \$)
- Schedule – Complete Apr '14
- Status – Moves & Design Starting



Kimball Wet Labs

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# FACILITIES

- Opportunity – CS to Gates in '14
- Project – Full Renewal of Upson
  - Hybrid Labs, Instructional, Offices
  - 42,854 SF Vacated
  - Consolidates MAE, ECE
  - Extends Building Life 60+ Years
- Cost – \$62.8M (2011 \$)
- Schedule – Phased; Done Apr '16
- Status – In University Approvals

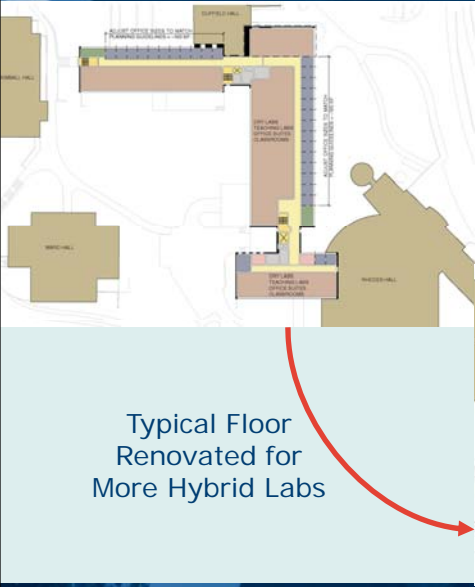



Gates Hall in Construction

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# FACILITIES



Typical Floor Renovated for More Hybrid Labs

## Upson Full Renovation



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## FACILITIES

- Challenge –BME Undergrad Prog.
- Project – New Construction
  - Need 27,681 – 41,000 SF
  - BME Research & Teaching Wet Labs
  - Department Home; Student Space
- Cost - \$55.8M w/O&M (2011 \$)
  - Requires Philanthropy
- Schedule
  - Depends on Funding; Need in 2017
- Status –Site Selection Thru Dec





Possible Additions  
(Olin, Phillips, etc.)

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## FACILITIES

- Other Current Projects
  - Instructional Lab for BME Underway in Weill Hall (\$1.1M):

- Starting Snee Trace Element Analysis Cleanroom (\$775K)
- Hollister Environmental Lab Upgrade Underway (\$600K)

- Other Projects
  - Co-Locate Admin/Student Services in Carpenter
  - Additional Hollister, Olin, Thurston Lab Upgrades
  - Improve Within Current Space for Other Departments

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# CORNELL NYCTECH

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NYCTECH

## Update

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- Currently located in Google Building (8<sup>th</sup> and 9<sup>th</sup> avenues, 15<sup>th</sup> and 16<sup>th</sup> streets)
- Dan Huttenlocher Dean and Vice Provost
- Cathy Dove Vice President
- Debra Estrin first faculty member
- Greg Pass (former CTO Twitter) Entrepreneurial Officer
- First enrolled class, Jan 2013 in CS
- Cornell NYC Tech partners with Commerce Department to innovate on how to facilitate commercialization
- Engineering Deans Institute April 14-16



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 Cornell University

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## Session 1: Defining the Culture in NYC

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- “Having new leadership spend quality time at the parent institution.”
- “I would let CNYC grow on it’s own w/o much interference from Ithaca.”
- “Let start-up organization be alone and adversarial for awhile – then rebuild collaboration.”
- “Systematic and continual exchange of people.”
- “A management model that reinforces inter-site collaboration and not inter-site competition, e.g., not site-based, but “intellectual flow” based.”
- “Common core values, well organized organizational interaction at multiple levels.”
- “Not the same thing. There is no existing NYC organization. Should be easier than a merger!”

 Cornell University

## Session 1: Defining the Culture in NYC

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- Graduate degrees – hands-on education
  - Project supervised by faculty and industry mentor
  - Practicum Friday for real-world ties and skills
- All students study a mix of technical and business classes
- Hubs build on Cornell tradition of multi-disciplinary research
- Doctoral students start in Ithaca and move to NYC in their second year (cross fertilization)

## Institutional Relationships

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- Interactions among units under development
  - Ithaca and Weill Cornell Medical Center
  - Technion-Cornell Innovation Institute (TCII)
- Relationships among different appointments
  - 100% NYC; 50% Ithaca/50% NYC; TCII
- Relationship of different student populations
- Executive Committee writing a series of Memoranda of Understanding

## Session 2: Technology transfer

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- Recognize that IP is only a tiny part of commercialization (don't stress over IP, judge by results"
- We need to keep trying things, experimenting until it is clear that spin-outs, carve outs, industry interactive, etc., etc., are running smoothly and that the "customers" are happy. We must measure and pay attention to "customer" satisfaction with the process and the results.
- "Provide the space for the startup in the university space. Include admin. Support, IT support, finance support. Help build the business until it can stand on its own with outside (VC) funding."
- "Establish frequent conferences or other meetings that bring entrepreneurs to campus."
- "We need to keep trying things, experimenting until it is clear that spin-outs, carve outs, industry interactive, etc., etc., are running smoothly and that the "customers" are happy. We must measure and pay attention to "customer" satisfaction with the process and the results"

## Session 2: Technology transfer

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- **Planned activities on the NYC campus**
  - An active incubator process, with multiple cycles of research-prototyping and external (customer/market) feedback
  - Assistance through the process provided to researchers through the "Entrepreneurial Office"
    - Led by Greg Pass (former CTO of Twitter, now Entrepreneurial Officer for Cornell NYC Tech)
  - Space for start-ups
  - Interaction spaces for industry visitors
- **Tech Transfer / IP process**
  - Communicated our initial intent to the NYC Venture Capital community
  - Very positive response so far
  - And our success will depend upon execution...
- **Recent partnership with the Department of Commerce**

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## Branding (Dawn McWilliams)

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