# Academic Programs in the Environment
# Report of External Review Committee

**Environmental Program Review Committee:**
**Lisa Graumlich, Chair (Dean, College of the Environment, University of Washington)**
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**November 11, 2015**

## Executive Summary

The Environment Program Review Committee was charged to conduct an assessment of academic programs in the environment and sustainability at the University of Michigan, with particular focus on the School of Natural Resources and the Environment (SNRE), The Graham Sustainability Institute, the undergraduate Program in the Environment (PitE) housed in the College of Literature, Science and the Arts (LS&A) and the Erb Institute (a joint SNRE and Ross School of Business institute, which provides a combined MBA/MS degree).

We find that research, teaching, policy engagement and campus action around the environment and sustainability are increasing in importance, span a wide range of issues, are often best addressed through interdisciplinary work, and cut across existing organizational structures. UM has substantial excellence in the area of environment and sustainability, broadly defined, and there are considerable opportunities associated with such a strong set of scholars if they could pull together.

However, the faculty responsible for the existing undergraduate and graduate programs are somewhat siloed and they and several deans have overly engaged in turf battles. With notable exceptions, cross-campus collaboration on large-scale interdisciplinary research projects is limited. All programs could do more to

contribute to the overall profile of environment and sustainability at Michigan. For example, the Graham Institute could be more inclusive and better represent university-wide environmental activities, SNRE needs to integrate and collaborate more effectively with others who work in environment and sustainability, including both teaching and research, and campus sustainability initiatives are only modest and weakly linked to faculty and student-led research and learning. There is needless conflict across the different entities involved in environment and sustainability that limits the effectiveness of all and compromises UM's reputation and impact in this increasingly important area.

After reviewing several models to organize environment and sustainability across the UM campus, we recommend that UM create a *School of Environment and Sustainability* that integrates SNRE, PITE, and the Graham Institute, is a (co) home for environmental degree programs, and engages faculty with relevant interest and expertise from other units (e.g. Literature, Science and the Arts; Engineering; Architecture). Such a change would leverage the considerable expertise across campus, provide substantial new opportunities for public and private funding, and thus add to the impact and standing of UM.

**Background and Charge to the Committee**

The Environment Program Review Committee was charged to conduct an assessment of academic programs in the environment and sustainability at the University of Michigan, with particular focus on the School of Natural Resources and the Environment (SNRE), The Graham Sustainability Institute (research center), the undergraduate Program in the Environment (PitE) housed in the College of Literature, Science and the Arts (LS&A) and the Erb Institute (a joint SNRE and Ross School of Business institute which provides a combined MBA/MS degree). The Committee also considered relationships with three related academic departments: Earth and Environmental Sciences (EES) in the College of LS&A; and Atmospheric,

Oceanic and Space Science (AOSS) and Civil and Environmental Engineering in the College of Engineering. The charge letter is included as Appendix A.

The Committee was provided with extensive background information including program reviews and profiles of the various units (Appendix B). We visited the campus on September 29-30, 2015, and met with key deans, directors, department heads, faculty and students (Appendix C).

In this report we address the two questions asked by the Provost:

1. How does the University of Michigan-Ann Arbor compare to its peers in our research and teaching programs in the environment and sustainability? Do we have distinctive strengths? If so, what important gaps do we have that, if filled, would enable us to build on those strengths?

2. Are we optimally organized for success in this area, and if not, what changes should we consider? In particular, are there innovative and even radically new approaches to structuring our academic work in the environment and sustainability that would catapult our success in this area?

**Context**

*Why environmental research, teaching and outreach are critical to a university mission*

Growing population and economic output are increasing the impact of humanity on the resources, ecosystems and traditional social structures that support all life, including ours. The human ecological footprint is now so large many believe we are living in a new geological age, the Anthropocene, an epoch in which human activity is changing the climate, ecosystems, and other key resources in unprecedented ways

and with unparalleled scale and speed. Environmental change and the challenge of building a sustainable world that meets the needs of current and future generations are now an important strategic theme for contemporary university research, teaching and outreach. The environment has long been a significant concern of the biological and earth sciences, forestry and agriculture, planning and engineering, and anthropology and geography. But interest and expertise in the environment and sustainability are now pervasive across a much wider range of disciplines and professions and found almost everywhere in a large university. Environment is a hub for interdisciplinary collaboration, funding and connection to governments, businesses, civil society organizations, and the public.

Environmental literacy has become a recognized element of a liberal arts education and professional degree programs ranging from natural resources, health, and public policy to architecture, business and law. Across the sciences, specializations such as ecology, earth and climate science, environmental chemistry and environmental engineering are generating scientific knowledge and new innovations, preparing students for a range of careers, and connecting science to societal concerns. The environment has become a track within the social sciences and humanities including environmental anthropology, economics, geography, history sociology, and politics. For many universities and researchers the focus has shifted from a narrow conception of "the environment" to the broader concept of sustainability, which seeks a future in which economic growth, social wellbeing and environmental quality are deeply embedded and must be linked to enable current and future generations to thrive. Many top universities have made a 'sustainable campus' a priority, investing in renewable energy, energy efficiency, recycling, green buildings and lower carbon emissions, and using campus sustainability initiatives as learning and leadership opportunities for students, staff, faculty and other members of the community.

The world's top ranked universities increasingly include expertise in environment and sustainability research, education and service as a strategic focus. They often

compete for students and research dollars in these areas. Hundreds of millions of research dollars have been allocated to environment and sustainability by Federal and State agencies, philanthropic foundations and the private sector. This is only likely to grow as further economic and population growth intensify the pressures on natural resources, the climate, and ecosystems.

***All of these are reasons for a top ranked university like the University of Michigan to host, promote and invest in environment and sustainability.***

*Models for organizing environment and sustainability on campus*

Almost all major universities now have a coordinating unit that brings together environment and sustainability capabilities. Models range from a university-wide network or institute to colleges or schools of the environment. Table 1 outlines some of the alternative models.

There are advantages and disadvantages to each model.

For example, professional Schools of Natural Resources, Schools of Sustainability, and Colleges of Environment that cluster departments or have interdisciplinary full-time faculty offer a high profile nexus for students and the public and a core of expertise. But they can create artificial barriers to the participation of other faculty with research and teaching interests in environment and sustainability, and a sense of exclusion in an era where environment and sustainability expertise can be found in almost every college and department in a major research university.

University-wide networks or institutes are more inclusive but may lack the power and funds to foster innovation and attract faculty and may have such a large faculty that it is hard to keep everyone involved.

Single departments that add environment or sustainability to their title rarely include the necessary range of expertise to tackle the complexity and interdisciplinarity of the issues and do not have the legitimacy to coordinate a university wide network.

Whichever model is chosen, the outside world almost always prefers a single point of entry to find out about what is going on with environment and sustainability at a University and is confused by multiple units with similar titles.

| Model | Organization | Examples |
|---|---|---|
| Colleges/Schools of the Environment | Include several departments and disciplines (such as earth and ocean sciences, ecology, and natural resources | Nicholas School of the Environment at Duke, University of Washington |
| Professional Schools of the Environment | Many historically created as forestry or natural resource programs | Yale School of Forestry and Environment; Forestry and Natural Resources at UC Berkeley |
| Department/School of X and environment or sustainable X | Units across the university adding environment or sustainability to their titles. May offer undergraduate environmental science or studies degree | Earth and environment, Ecology and environment, Planning and environment, Geography and environment, Environmental Science, Environmental Studies |
| Schools of Sustainability | Interdisciplinary faculty hired within a single unit, sometimes with affiliated faculty from others | ASU; Earth Institute at Columbia; School of Environment and Sustainability at U Colorado |
| Institutes of the Environment/Sustainability | Nodes or umbrellas for coordinating environmental activities across campus with some hosting environmental degree programs and others coordinating environmental research | Wisconsin, UCLA, Minnesota, U. Arizona, UC Davis, Colorado State, Cornell, Penn State |
| Campus Sustainability units and offices | Focus on the sustainability of the university campus and rarely on scholarship or teaching | Almost everywhere, including Harvard, MIT, Stanford, etc. (though often in conjunction with other academic units such as those above) |

Table 1. Alternative models for organizing around environment and sustainability

## UM Strengths In Environment and Sustainability

The University of Michigan has world-class expertise in environment and sustainability across many units. It includes several units with a dominant focus on environmental issues such as the School of Natural Resources and the Environment and the Department of Climate and Space Sciences and Engineering, and excellence also includes numerous other faculty across the College of Literature, Science and the Arts, the College of Engineering, the School of Architecture and Urban Planning and other Colleges. It is important to recognize that although those inside the university or in particular disciplines and professions might associate Michigan's scholarly excellence with individual units, the outside world is much more likely to identify excellence with particular topics or projects or with the achievements of particular faculty.

During our visit we were struck by a tendency to focus on units and turf rather than themes, opportunities or areas of excellence. We also found a surprising reluctance to identify star faculty or themes where Michigan is world class. Our own initial assessment is, of course, partial given the brevity of our visit and our areas of professional expertise. There is at present no single portal to environment and sustainability at UM, nor a comprehensive, central way to identify environmental experts at the university (the Graham Sustainability Institute has a list of experts but no narrative that provides a useful summary of environment and sustainability expertise at Michigan).

Our brief review suggests a non-exhaustive list of Michigan's research expertise and experts (using examples mostly of faculty at full professor level) could include:

- Climate science and impacts: Michigan has excellence in climate science and modeling, paleoclimate studies, and climate-biosphere interactions as well as in understanding climate impacts on society, climate policy, and climate adaptation (e.g. Richard Rood, Joyce Penner, Christopher Poulsen, Barry Rabe, Joe Arvai, Rosina Bierbaum, and Maria Lemos).

- Freshwater management: Michigan has considerable prominence in water research, with great regional strength in the Great Lakes region (e.g. Allen Burton, Don Scavia, George Kling).

- Environmental Justice and Governance: Michigan was one of the places where research and practice on environmental justice came together in the United States and where scholars of color came together around the topic (e.g. Dorceta Taylor, Paul Mohai, Bunyan Bryant, Robert Marans). There are also well known scholars of environmental governance with a justice perspective (e.g. Arun Agrawal, Maria Lemos, David Uhlmann).

- Business, industry and the environment: Michigan has substantial expertise in research and teaching on business, consumption and the environment (e.g. Andy Hoffman, Tom Gladwin, Greg Keoleian, Tom Lyon).

- Environmental Humanities: Another distinctive area of excellence is the cluster of faculty with interests in environmental history, literatures, and indigenous peoples issues (e.g. Phil Deloria, Jessica Fogel, Linda Groat, Greg Crane, Susan Scott Parrish).

- Land use and ecosystems: Michigan has distinctive strength in the functioning and patterning of land use and ecosystems including expertise in ecology and geographical information systems (e.g. Dan Brown, Brad Cardinale, Ivette Perfecto, Steve Yaffee, Bobbi Low, Mark Hunter, Paul Webb, John Vandermeer, Robert Grese, Joan Nassauer, Mercedes Pascual).

- Energy. The University of Michigan Energy Institute brings together faculty with energy expertise, especially from Engineering (e.g. Mark Barteau, John De Cicco).

The University of Michigan has a number of top ranked social science departments (e.g. Anthropology, Economics, Sociology, Political Science) and houses the international known Institute for Social Research. However these departments do not identify environmental social science as a priority or area of expertise (at least based on a quick review of web sites). The social science discipline with traditional links to the environment – geography – was eliminated at Michigan several decades ago.

Although the University of Michigan has several environmental and sustainability faculty who are Fellows of the American Association for the Advancement of Science (e.g. Bierbaum, Brown, Deloria, Penner, Perfecto), and the university overall has a number of members of the National Academies, few in the environmental area are members of the NAS compared to other top ranked universities. There are sections of the NAS devoted to Environmental Sciences and Ecology and Human-Environmental Sciences as well as several for natural and for social sciences (with members who could be considered for high profile hires). UM faculty do serve on National Research Council committees (e.g. Arvai, Hoffman, Lemos, Bierbaum, Brown and Penner) on various environmental/global change committees of NRC) and other key international committees (e.g. Cardinale on Future Earth and Diversitas of ICSU).

We did not have the opportunity to investigate the sustainability of the University of Michigan campus in terms of its energy and resource footprint during our visit but several people mentioned that the university could do a lot more and that sustainability was not a strong identity for the campus. For example, many top universities have adopted ambitious goals for campus greenhouse gas emission reductions, including Yale (43% by 2020), Cornell (100% by 2035), and Duke (100% by 2024). Stanford has already cut emissions dramatically through its new heat-recovery central heating/cooling system, and will generate the majority of its electricity from renewable sources by 2017. Nearly 700 universities have already committed to become climate neutral and have reduced their emissions an average of 21% in the last seven years. Most report that these cuts generate economic

savings as well. At these universities, "greening" the campus infrastructure and operations offers concrete, real-world opportunities for research and learning in environment and sustainability.

**General Observations**

- Programs in environment and sustainability at UM are strongly siloed, both cause and consequence of decades of conflict among deans and units over roles and resources. The persistent invocation of historical conflicts has a chilling effect on junior faculty as well as students. Further, UM's decentralized governance structure, in which schools and departments have a great deal of autonomy, creates tension and turf battles around environment and sustainability, which by its nature is cross-disciplinary and cannot be "owned" by any one unit. The problems manifest as grievances about and disputes over the control of curricula and credit for teaching in a number of programs, competition for donors, and poor coordination in research and governance, among others.
- The University of Michigan has a number of top ranked social science departments (e.g. Anthropology, Economics, Sociology) and houses the international known Institute for Social Research. But these programs do not identify environment as an area of excellence. There are some strong social scientists in units such as SNRE including those taking a critical perspective.
- UM's efforts to increase the sustainability of the UM campus appear poorly coordinated and are not at the level of peer institutions.
- The strengths and achievements of the environment and sustainability faculty and programs are not effectively communicated internally or externally. Cross-campus opportunities and events are not shared or advertised adequately among units.

**Pathways for Organizing Environment and Sustainability at UM**

We see tremendous opportunities to build on UM's cross-campus strengths in environment and sustainability to create new opportunities for innovation in scholarship, learning and engagement. After considering the six models for creating integrated environment and sustainability programs described above, we strongly recommend a bold reorganization including:

- Create a School (or College) of Environment and Sustainability. Core faculty and staff would be drawn from current SNRE, PitE (especially those with lines in the unit), Erb, and Graham faculty and staff members. The proposed school should provide options for faculty with appointments in LSA, Architecture, Engineering, Ross and other schools to affiliate with the new unit ("dry appointments") and funds to engage them in its activities. Undertake a 'cluster hire' to attract new outstanding faculty to the new School. Under this model, SNRE, Graham, and PiTE would be consolidated into a new "School of Environment and Sustainability" (or similar name). Importantly, a new vision and mission should reflect inclusive and fresh strategic thinking. The broader scope and role would be fostered by the dean of the new school, who could also serve as the director of the Graham Institute.
- Greatly expand the scope of and faculty participation in the Graham Institute within the new School of Environment and Sustainability. Using the new School as a base, the Graham Institute should reach across campus to develop projects and programs addressing sustainability through integration of natural sciences, social sciences, and humanities. Graham would further benefit from adopting the governance structure and policies of more prestigious environmental institutes, including a meaningful faculty affiliate program and an inclusive and active faculty advisory committee, proactive engagement with campus leadership, including deans and department heads, and an advisory board that can help steer Graham towards national and international prominence. The Graham Institute Director should report to the Provost, as would be the case assuming that the Graham Institute director is also the dean of the new School of Environment and Sustainability.

We recognize that this level of restructuring is not trivial. However, given the strengths of the UM faculty in environment and sustainability, investments that create synergies across the campus will surely result in increased success in 1) recruiting the best undergraduate and graduate students and faculty, 2) funding large and innovative research projects, and 3) attracting significant donor investments.

There are alternative, more modest changes that might address some of the issues identified in our review. UM could continue with its current departmental organization while seeking to rationalize tuition-based revenue flows and encouraging all units to work more collaboratively. For example, The Graham Institute could become more inclusive and better promote university wide excellence and SNRE could promote research and teaching excellence while maintaining its professional commitment. While these options would somewhat ease current tensions and likely lead to program expansion, they do not offer the opportunity to significantly raise the national profile of environment and sustainability at UM.

The following recommendations address more specific opportunities:

- *Capitalize on the Ross School's interest in expanding their curriculum in sustainability*. In partnership with the new School of Environment and Sustainability, develop a certificate program that addresses sustainability broadly (i.e., environmental, social, *and* economic sustainability). Use the opportunity of developing the new School of Environment and Sustainability to revisit the previous SNRE-Erb model with the goal of creating a high quality joint degree that can be completed in a timely fashion.

- *Create a fast track program for undergraduates to graduate school.* The faculty now in SNRE and PITE could co-manage undergraduate programs with an optional 2 year track for juniors and seniors in the new proposed School of

Environment and Sustainability. Similarly, a 4+1 BA/BS plus masters program administered by the new School would be an attractive option for students.

- *Raise the profile of environmental social science at UM*. Implement a strategy to recruit environmentally-oriented social science faculty both in the core social science departments and in the new School of Environment and Sustainability. Prioritize hiring of faculty with a track record of interdisciplinary collaboration. Consider cluster hires to optimize investments across units and foster collaboration between units.

- *Use the UM campus as a laboratory for research and student learning as well as public engagement in sustainability*. Recruit and empower a senior professional staff member to coordinate sustainability across the campus and ensure UM's innovations and achievements are reflected in national sustainability rankings.

- *Develop a campus-wide communication and marketing plan* that reflects the strengths and aspirations of the proposed new School of Environment and Sustainability, and that maps onto the larger UM messaging framework. Foster awareness of cross-campus expertise with an engaging weekly calendar of environment and sustainability events and opportunities. An annual report on Environment and Sustainability across the university should be produced, including research, teaching, policy impact, and campus sustainability. Narratives should emphasize people, projects, collaborations, and impacts and de-emphasize organizational affiliations.

Appendix A:
Review Committee Charge
University of Michigan
Academic Programs in the Environment
July 2015

The purpose of the review is to conduct an assessment of our academic programs in the environment at the University of Michigan. We have a strong commitment to research and education on this critical topic, and with the recent departure of our School of Natural Resources and the Environment Dean, we are at a moment where a careful critique by outside experts can enable us to make good decisions about how to ensure our strength in environmental research and education.

**Scope of the External Review**
The major units for review are the School of Natural Resources and the Environment (SNRE), the Graham Sustainability Institute (research center), the undergraduate Program in the Environment (PitE) housed in the College of Literature, Science and the Arts (LS&A), and the Erb Institute (a joint SNRE and Ross School of Business institute which provides a combined MBA/MS degree).

The review team should also be cognizant of three related academic departments, and their connections to the units mentioned above: Earth and Environmental Sciences (EES) in the College of LS&A; and Atmospheric, Oceanic and Space Science (AOSS) and Civil and Environmental Engineering in the College of Engineering. However, these departments are not a core focus of the review.

**Charge to the Review Committee**
The *Review Committee* will be provided with background information that can form the basis of discussion with the units' faculty, staff and students during a day-and-a-half site visit. We specifically seek the committee's advice on the following two sets of questions:

1. How does the University of Michigan-Ann Arbor compare to its peers in our research and teaching programs in the environment and sustainability? Do we have distinctive strengths? If so, what important gaps do we have that, if filled, would enable us to build on those strengths?
2. Are we optimally organized for success in this area, and if not, what changes should we consider? In particular, are there innovative and even radically new approaches to structuring our academic work in the environment and sustainability that would catapult our success in this area?

We ask the committee to prepare a final exit assessment (approximately 5-8 pages) that summarizes the Committee's findings within three weeks after your visit to campus. The questions above are intended to serve as a basis but not a boundary for your deliberations and your assessment. We welcome your views on these questions, on the questions posed by the background materials, and also about any other matters about the University of Michigan's success and future in our research and teaching programs in the environment and sustainability. We also recognize that the committee may not reach consensus about all matters; we are just as eager to hear your views about topics where you do not agree as those where you do agree.

## Appendix B:
## External Review Reference Materials

General Overview Documents

1. Background Information on U-M and Units Involved in the Review
2. Main Website Addresses
3. SNRE-Graham Institute Awarded Proposals in FY 2013-2015 or current

Financial Documents

(For SNRE, PitE, LSA-EES, Graham Sustainability Institute, Erb Institute, CoE-CEE, and CoE-AOSS)

1. Budget Overview for Environmental Units
2. Program Financials FY 15
3. 5 Year Financial History

School of Natural Resources and the Environment (SNRE)

1. SNRE Overview
2. Rackham Program Review SNRE 2013
3. SNRE Collaborative Teaching

PitE

1. A Brief Introduction to PitE
2. LSA EC Response to PitE Response
3. PitE External Review Report

Graham Sustainability Institute

1. Graham Overview
2. 2015 SmartStart Evaluation of the UM Graham Sustainability Institute

Erb Institute

1. Erb Overview
2. Erb Deans' Report 2015
3. Erb Annual Report 2013
4. Erb Student Surveys 2013,2014 and 2015

College of Engineering

1. Information on Breath of Work in Sustainability in the College of Engineering

## Appendix C: Environment/Sustainability External Review

### *Interview Schedule*

| September 29th | Time | Group |
|---|---|---|
| Breakfast (Campus Inn) | 7:30-8:30 a.m. | Martha Pollack, Provost and Executive Vice President for Academic Affairs |
| **Travel/Break** | **8:30-9:00 a.m.** | |
| Meeting #1 | 9:00-10:00 a.m. | SNRE Leadership<br>• Dan Brown, Interim Dean<br>• Don Zak, Associate Dean<br>• Maria Carmen Lemos, Associate Dean |
| Meeting #2 | 10:00 - 10:45 a.m. | PitE (history, mission)<br>• Phil Deloria, LSA<br>• Barry Rabe, Public Policy and LSA (PitE)<br>• Gregg Crane, Director of PitE (LSA) |
| **Break** | **10:45 - 11:00 a.m.** | |
| Meeting #3 | 11:00 a.m.-12:00 p.m. | Graham Sustainability Institute<br>• Don Scavia, Director<br>• Drew Horning, Managing Director |
| **Lunch** | **12:00** | **Committee Only** |

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|---|---|---|
| | **-1:00 p.m.** | |
| Meeting #4 | 1:00-1:30 p.m. | Erb Institute (Institute leadership)<br>• Joe Arvai, Director (SNRE)<br>• Andy Hoffman, former Director (Ross) |
| | 1:30-2:00 p.m. | Erb Institute (Ross School of Business)<br>• Alison Davis-Blake, Dean, Ross School of Business<br>• Wally Hopp, Senior Associate Dean, Ross School of Business<br>• Amy Dittmar, Associate Dean for Graduate Programs, Ross School of Business |
| Meeting #5 | 2:00-3:00 p.m. | LSA (Leadership, PitE, EES, EEB)<br>• Andrew Martin, Dean<br>• Doug Richstone, Associate Dean for Natural Sciences<br>• Gregg Crane, Director of PitE<br>• Nathan Sheldon, Associate Director, PitE<br>• Chris Poulsen, Chair, Dept of Earth and Environmental Sciences (EES)<br>• Joel Blum, Former Chair, EES<br>• Diarmaid O'Foighil, Chair, Ecology and Evolutionary Biology (EEB)<br>• John Vandermeer, EEB |
| **Break** | **3:00-3:15 p.m.** | |
| Meeting #6 | 3:15-4:00 p.m. | Engineering *(others may be added)*<br>• David Munson, Dean, College of Engineering<br>• Mark Barteau, Chemical Engineering, Energy Institute<br>• Kim Hayes, Civil and Environmental Engineering<br>• Nancy Love, Civil and Environmental Engineering (via conference call) |

| | | |
|---|---|---|
| | | • Richard Rood, Atmospheric, Oceanic and Space Sciences<br>• Steve Skerlos, Mechanical Engineering |
| Meeting #7 | 4:00-5:00 p.m. | SNRE Faculty<br>• Arun Agrawal<br>• Greg Keoleian<br>• Shelie Miller<br>• Michael Moore<br>• Ivette Perfecto<br>• Doreceta Taylor<br>• Steve Yaffee |
| **Break** | **5:00-6:30 p.m.** | Campus Inn |
| Dinner (location TBD) | 6:30-8:00 p.m. | *6:30-7:00 Cocktails with Martha, Campus Inn*<br>*7:00-8:00 Working dinner, Committee only* |
| *John depart for airport* | *5:30 p.m.* | *Pick-up from Fleming Building* |
| **September 30th** | **Time** | **Group** |
| Breakfast (Savas) | 8:00-9:00 a.m. | Dan Brown, Interim Dean, SNRE |
| Meeting #8 | 9:15-10:15 a.m. | Interdisciplinary Faculty meeting<br>• Allen Burton, SNRE/EES<br>• Brad Cardinale, SNRE/EEB<br>• Bob Grese, SNRE<br>• Olivier Jolliet, SPH<br>• Josh Newell, SNRE<br>• Dick Norton, TCAUP + PitE |

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|---|---|---|
| | | • Scotti Parrish, PitE<br>• Lut Raskin, CEE<br>• Jeremy Semrau, PitE and CEE<br>• Allison Steiner, AOSS<br>• Geoff Thun, TCAUP<br>• David Uhlmann, Law<br>• Mark Hunter, EEB |
| **Break** | **10:15 - 10:30 a.m.** | |
| Meeting #9 | 10:30 - 11:15 a.m. | Students (SNRE, Erb and PitE)<br>• Sara Meerow, SNRE, PhD<br>• Elena Huisman, SNRE, MS EJ<br>• Spencer Harbo, SNRE, MS BEC<br>• Cazzie Brown, Erb, 1st year<br>• Caroline Larose, Erb, 2nd year<br>• Marianna Kerppola, Erb, 3rd year<br>• Trevor Dolan, LSA, PitE (UG)<br>• Jessica Greenspan, LSA, PitE (UG)<br>• Anna Johnson, LSA, PitE (UG) |
| **Work Time** | **11:15 - 12:15 p.m.** | **Committee Only** |
| Lunch (4025 Fleming) | 12:15 -1:15 p.m. | Martha Pollack, Provost |
| *Lisa and Diana depart for airport* | *1:15 p.m.* | *Pick-up from Fleming Building* |

***As of September 28, 2015***

(All meetings, unless otherwise noted, will take place in Room 4016 in the Union)