College of Science 2015 - 2016 Strategic Planning Working Groups Consolidated Report

2015 – 2016
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## Participant Demographics

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Participant Distribution

Figure 1 - SPWG Participation Distribution by Unit
Figure 2 - SPWG Team Participation by Department
Figure 3 - SPWG Participant Distribution by Faculty/Staff

- **Faculty**
  - 49 participants
  - 69%

- **Staff**
  - 22 participants
  - 31%
SPWG Participation Distribution by Faculty/Staff

Figure 4 - SPWG Participation Distribution by Faculty/Staff
## Identifying Quick Hits Using the Pareto Principle

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<td>Working Group D</td>
<td><em>Faculty Hiring</em></td>
<td>3 / 9 @ 20% = 2 votes</td>
</tr>
<tr>
<td>Working Group E</td>
<td><em>Emerging Research Opportunities</em></td>
<td>5 / 10 @ 20% = 2 votes</td>
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<tr>
<td>Working Group F</td>
<td><em>Reputational Stewardship</em></td>
<td>10 / 22 @ 20% = 4 votes</td>
</tr>
<tr>
<td>Working Group G</td>
<td><em>Global Strategies</em></td>
<td>4 / 14 @ 20% = 3 votes</td>
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<tr>
<td>Working Group H</td>
<td><em>Engagement</em></td>
<td>5 / 15 @ 20% = 3 votes</td>
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<tr>
<td>Working Group I</td>
<td><em>Science as a Best Place To Work</em></td>
<td>7 / 8 @ 20% = 2 votes</td>
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</tbody>
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50 / 146 @ 20% = 29 votes

* 4 of 5 questions addressed

** 3 of 8 questions addressed

*** formulated different questions
SPWG A – Foundational Science Courses

Team members

Johnny Brown; Professor, Department of Mathematics
Stacey Dunderman; Math Advisor, CoS
Ellen Gundlach; Education Specialist, Continuing Lecturer, Department of Statistics
Andy Hirsch; Professor, Department of Physics and Astronomy
Holly Mason; Senior Associate Dean, College of Pharmacy
Marcy Towns; Professor, Department of Chemistry (Group A Team Leader)
Tom Walter; Continuing Lecturer, Biological Sciences
Jun Xie; Professor, Department of Statistics (Group A SPGG liaison)
Dennis Minchella, Associate Dean for Undergraduate Education (Group A Resource Administrator)

Charge: The CoS is a partner with every other college at Purdue in the success of their students, in no small part because of the tremendous number of student credit hours delivered through foundational Science courses. Working Group A will make recommendations about how this set of courses could be an even more powerful engine of Purdue student success. Working Group A should consider the following questions as it goes about its work:

1. How might the College do a better job of understanding and meeting the different needs and expectations of other Purdue colleges whose students take foundational Science courses?
2. What is the appropriate mix of on-line, traditional, and mixed format courses offerings?
3. What supports exist to innovation in conceiving or delivering foundational Science instruction, and how might the supports be strengthened and leveraged?
4. What barriers exist to innovation in conceiving or delivering foundational Science instruction, and how might the barriers be lowered?
5. Do the foundational courses adequately serve the needs of under-represented minority, first-generation, and underserved students beginner and sophomore students?

Work product: Working group A should begin its work by discussing the broad context of its charge and formulating, on the basis of those discussions, other pertinent and relevant questions. Its preliminary report, due on Friday, Dec. 18, should provide answers to the questions posed, as well as a concise set of preliminary recommendations for possible adoption by the strategic plan.
1. How might the College do a better job of understanding and meeting the different needs and expectations of other Purdue colleges whose students take foundational Science courses?

1.1. Demonstrate strong College of Science support for academic preview sessions in BGR by encouraging faculty who coordinate and or teach key Foundational Science Courses to work with Dan Carpenter to ensure that the “Academic Preview” talks related to these courses be given during Boiler Gold Rush. Courses include: CHM 111, 115, 12901; STAT ABC; PHYS 172 (others?); BIOL (which ones?); MA (which ones? 16010, 16020, 161, 162, 165, 166, the 150s?)

1.2. Encourage faculty to discuss with other colleges the curriculum and pedagogical approaches used in Foundational Science Courses. a. For example, Drs. Towns and Harwood from chemistry have had constructive conversations with the College of Agriculture’s Curriculum and Student Relations Committee (CSRC) and with the College of Health and Human Sciences about the revising the curriculum in chemistry 111 and 112.

1.3. Currently there is a Foundational Course committee convened by Mike Harris, Associate Dean of Engineering for Undergraduate Education and Engagement, and Beth Holloway, Assistant Dean of Engineering for Undergraduate Education, that includes the head of each undergraduate engineering program and representatives from chemistry (Towns), physics (Hirsch), Math (Jim McClure), and Biology (Jeff Lucas???)

1.4. How can we get other departments/programs/areas to meet with us and how should this activity be monitored and by whom?

1.5. Evaluate the learning goals with reference towards the student audience and needs. What should be taught and what should be removed from the curriculum? (See: http://www.sciencedaily.com/releases/2015/10/151015144814.htm)

1.6. Initiate ongoing discussions with engineering about load balancing CHM115 and PHYS172. Andy suggested meeting with Mike Harris soon!

1.7. Student learning and authentic assessment take priority over efficiency and cost saving. The math department's use of LON-CAPA is especially problematic for the students.

1.8. Students should be able to easily determine their grades during the semester in foundational courses. All 100/200 level courses are required to provide students with mid-term grades via Blackboard or through MyPurdue as approved by the faculty senate. The college should monitor which courses are meeting this requirement, as this is especially important information for advisors and students.
1.9. Clearly stated grading criteria and grade lines should be required in course syllabi.

1.10. Multiple coordinated sections of courses should use the same grading criteria and same examinations that align well with learning objectives so that students and advisors can easily determine course grades. There seems to be a great deal of dissatisfaction with current practices in mathematics.

1.11. viii. Interfacing with Indiana high schools in different ways such as a Purdue staff member visiting high schools to help students understand the expectations of Purdue University with regard to academics.

1.12. Support initiatives to help students learn study skills and time management. Reading a science or mathematics textbook (or materials) requires a different approach than reading literature or a blog. Additionally research demonstrates that students overestimate their learning from watching videos and other media. How can we use this research to improve student learning?

2. **What is the appropriate mix of on-line, traditional, and mixed format courses offerings?**

2.1. Online courses should be instructor-led initiatives with faculty involvement throughout. a. Online courses should not be viewed as deliverables that can be transferred to a person who can teach the course for less money.

2.2. There are no ideal numbers of traditional/online/flipped courses. The choice needs to be instructor driven and the instructors need to be given plenty of support and training (IMPACT for example).

2.3. Could the format and expectations of a course be provided in the notes feature of MyPurdue? This would allow advisors the opportunity to talk with students about the different formats and which format might best fit the student.

3. **What supports exist to innovation in conceiving or delivering foundational Science instruction, and how might the supports be strengthened and leveraged?**

3.1. Continue to support faculty engagement in IMPACT.

3.2. Encourage faculty to partner with ITaP to use emerging products such as Passport and HotSeat in new ways to support and or assess student learning.

4. **What barriers exist to innovation in conceiving or delivering foundational Science instruction, and how might the barriers be lowered?**

4.1. To encourage curriculum revision encourage faculty teaching foundational courses to carefully consider what is taught and why. Michigan State has embarked on these conversations see http://www.sciencedaily.com/releases/2015/10/151015144814.htm

4.2. A lack of resources to support high quality instructional innovations such as peer leaders, learning assistants, staff to support laboratories (scientists to prepare them...
and storekeepers to manage the flow of materials), and materials. Foundational courses need a laboratory fee per student to support these resources.

5. **Do the foundational courses adequately serve the needs of under-represented minority, first-generation, and underserved students beginner and sophomore students?**

5.1. Implement programs to improve study skills and time management. Andy mentioned that Penn State as a 4-week summer training session for at-risk incoming students (but open to others) to work on improving these skills.

5.2. Statistics of the DFW rates of URM students and discussions on the possible factors.
SPWG B – Science as an Undergraduate Destination

Team members

Henry Chang; Associate Professor, Department of Biological Sciences
John Fisher; Director of Recruiting, CoS (Group B co-Team Leader)
Molly Gilbert; Math/Lower Division Physics Advisor, CoS (Group B co-Team Leader)
Edray Goins; Associate Professor, Department of Mathematics
Darryl Granger; Professor, Department of Earth, Atmospheric, and Planetary Sciences
Christine Hrycyna; Professor, Department of Chemistry (Group B SPGG liaison)
Mark Ward; Associate Professor, Department of Statistics
Dennis Minchella, Associate Dean for Undergraduate Education, (Group B Resource Administrator)

Charge: National trends are very favorable for the CoS in the sense that the number of science majors (and prospective science majors) is on an upswing. Working Group B will make recommendations about how the CoS can improve its ability to recruit and retain undergraduate Science students. Working Group B should consider the following questions as it goes about its work:

1. How can we provide the best overall experience to our undergraduate majors?
2. How could we be even prouder of the experiential learning opportunities we provide to our students?
3. How can we better ensure an appropriate distribution of undergraduate majors across the CoS’s seven academic departments?
4. How can we do a better job of anticipating student needs and of making sure that we meet them?
5. Does the CoS adequately serve the needs of transfer students in its undergraduate programs?
6. How well do on-line and hybrid courses meet our students’ needs?
7. How can we better serve the needs of under-represented minority, first-generation, and underserved students?

Work product: Working group B should begin its work by discussing the broad context of its charge and formulating, on the basis of those discussions, other pertinent and relevant questions. Its preliminary report, due on Friday, Dec. 18, should provide answers to the questions posed, as well as a concise set of preliminary recommendations for possible adoption by the strategic plan.
SPWG B – Progress Report

At this point we are brainstorming thoughts around the questions we were charged with. During our next meeting we will discuss them in more detail and turn our thoughts into action items and recommendations. Our thoughts until now are below:

1. **How can we provide the best overall experience to our undergraduate majors?**
   1.1. Create senior seminar/project courses for each discipline
   1.2. First-year seminar course for entire College or each discipline
   1.3. Lower the advisor: student ratio
   1.4. Faculty and staff (especially advisors) need to be “high touch”
   1.5. Living learning communities and other ways of creating a community
   1.6. Focus on the advisor/student relationship - advisors need more than 30 minutes a semester with a student
   1.7. Beef up mentor opportunities within existing programs (WISP, Ambassadors, etc.)
   1.8. Create a university-wide student/mentor assignment program for research

2. **How could we be even prouder of the experiential learning opportunities we provide to our students?**
   2.1. Provide incentives for faculty to work with undergrads
   2.2. Showcase department partners to show how in demand our students are
   2.3. Give students the opportunity to talk about their experiences
   2.4. Create a certificate program (more like a minor than LBC) with mentoring as a key part
   2.5. Add mentoring as a part of LBC

3. **How can we better ensure an appropriate distribution of undergraduate majors across the College’s seven academic departments?**
   3.1. Focus on the quality of the majors (and resulting professionals) and not the numbers

4. **How can we do a better job of anticipating student needs and of making sure that we meet them?**
   4.1. Find out what the students want - surveys, town hall meetings, listening sessions
   4.2. Create a strong, accurate way for students with AP/dual credit to evaluate readiness for PU courses (ex: AP credit for calc1...are they really ready for calc2?)
   4.3. Offer courses/workshops to teach technical communication skills for each discipline (LaTeX, etc.) -- incorporate this into COM 217?

5. **Does the College adequately serve the needs of transfer students in its undergraduate programs?**
   5.1. Clear up the information - what courses, etc. does the CoS accept/not accept and why
   5.2. Learning community for transfer students
5.3. Seminar course for new transfer students
5.4. Create a strong, working relationship with common TR school advisors so students are prepared from the start

6. **How well do online and hybrid courses meet our student’s needs?**
   6.1. Students want small classes and more one-to-one attention
   6.2. Stick to the format - ex: if the course is online, don’t have on campus exams
   6.3. Make the expectations clear prior to course registration
   6.4. Inform advisors so they can advise each student to the suitability for them

7. **How can we better serve the needs of underrepresented minority, first-generation, and underserved students?**
   7.1. Peer mentors
   7.2. Faculty mentors
   7.3. Beef up Academic Boot Camp program, increase attendance
   7.4. Create a collective, clear pathway to existing resources on campus
   7.5. Provide opportunities to get students calculus ready without relying on 4 year scholarships (21st Century, Purdue Promise)
   7.6. CoS specific program (similar to Horizons)
   7.7. Other Ideas
      7.7.1. Create a relationship with high school counselors and students to help them through the prep for application and application processes
SPWG C – *Graduate Student and Post-Doctoral Experience*

**Team members**

* Only 4 of 5 questions addressed

**Gabor Csathy:** Professor, Department of Physics and Astronomy *(Group C SPGG liaison)*

Donna Fekete; Professor, Department of Biological Sciences

David Goldberg; Professor, Department of Mathematics

Hilkka Kenttämäa; Professor, Department of Chemistry

**Susanne Hambrusch:** Professor, Department of Computer Science *(Group C Team Leader)*

Linda Mason; Associate Dean, Graduate School

Maureen McCann; Professor, Department of Biological Sciences

Elizabeth Taparowsky; Associate Dean for Research and Graduate Education *(Group C Resource Administrator)*

**Charge:** Graduate students and postdoctoral associates are essential to the CoS’s research mission. Although graduate programs in Science are generally quite strong, a number of issues merit attention. Some programs have difficulty attracting sufficient numbers of well-qualified students. Increasing numbers of graduate students are gravitating toward interdisciplinary research programs, or entering graduate programs in disciplines different from what they studied as undergraduates. Also, granting agencies, potential future employers (especially non-academic employers), and the students themselves are asking that universities more forcefully address issues related to mentoring and professional preparation of graduate students and postdoctoral associates. Finally, in some disciplines, the MS is an increasingly attractive degree option. Working Group C should consider the following questions as it goes about its work:

1. **What activities and programs related to graduate and postdoctoral education should be supported at the CoS level, and which should be left to the academic departments?**
2. **How effective is the CoS at recruiting and retaining graduate students and post-doctoral associates, especially among women and under-represented groups?**
3. **How well are CoS graduate students served by existing interdisciplinary graduate education programs, such as PULSE?**
4. **What is the role of on-line instruction in graduate education?** *(no response)*
5. **What role do Master’s degree programs, including professional Master’s degree programs have, in enhancing the reputations of the CoS’s departments?**

**Work product:** Working group C should begin its work by discussing the broad context of its charge and formulating, on the basis of those discussions, other pertinent and relevant questions. Its preliminary report, due on Friday, Dec. 18, should provide answers to the questions posed, as well as a concise set of preliminary recommendations for possible adoption by the strategic plan.
SPWG C
Graduate Student & Post-Doc Experience *4 / 15 @ 20% = 3 votes
SPWG C – Progress Report

1. **What activities and programs related to graduate and postdoctoral education should be supported at the College level, and which should be left to the academic departments?**
   1.1. Coordinate and support professional development activities for postdocs (e.g., grant writing, resume preparation, mock job interviews, etc.)
   1.2. Ensure departments implement best practices for postdocs including effective mentoring and career development to prepare for a highly competitive workplace.
   1.3. Ensure that departments advise graduate students and postdocs on career preparation, carry out an annual review, and encourage self-assessment plans.
   1.4. For grad students do what else?

2. **How effective is the college at recruiting and retaining graduate students and postdoctoral associates, especially among women and underrepresented groups?**
   2.1. Departments have primary oversight of recruiting and retaining members of underrepresented groups. The College should support the implementation of successful recruiting and retention strategies and programs across departments.
   2.2. Assist in raising the awareness of successful departmental recruiting and retention strategies and best practices in other departments and interdisciplinary programs.
   2.3. Recognize successful efforts through awards.
   2.4. *SH: any action bullet related to interdisciplinary programs?*

3. **How well are our science graduate students served by existing interdisciplinary graduate education programs, such as PULSE?**
   3.1. Strengthen the support and increase the recognition of interdisciplinary programs that build on the excellence represented the College.
   3.2. What guidelines should be established at the College level to increase success of interdisciplinary graduate programs
   3.3. What problems need to be solved? Recognize the participation and the effort of teaching interdisciplinary courses at the departmental level
   3.4. What incentives can the College provide for departments?

4. **What role does the Master’s degree programs, including professional Master’s degree programs; have in enhancing the academic reputations of the CoS’s departments?**
   4.1. Determine the fields and specialization where an MS degree or a Certificate is a valuable part of effective professional development.
   4.2. Determine specializations with demand for a professional MS degree and provide assistance towards its implementation and approval.
   4.3. Assist departments in assessing the interest in professional graduate level education, from course offerings to certifications to professional MS degrees.
SPWG C

Graduate Student & Post-Doc Experience

*4 / 15 @ 20% = 3 votes
**SPWG D – Faculty Hiring**

*Team members*

*Only 3 of 8 questions addressed*

Edward Bartlett; Associate Professor, Department of Biological Sciences (*Group D Team Leader*)
Yong Chen; Professor, Department of Physics and Astronomy
Rebecca Doerge; Distinguished Professor, Department of Statistics
Tammy Emilson; Director of Financial Affairs, College of Science (*Group D SPGG liaison*)
Lucy Flesch; Associate Professor, Department of Earth, Atmospheric, and Planetary Sciences
Ralph Kaufmann; Professor; Department of Mathematics
Jennifer Neville; Associate Professor, Department of Computer Science
Daoguo (“Joe”) Zhao; Professor, Department of Biological Sciences (*Group D SPGG liaison*)

**Charge:** The CoS currently has a fairly standard model for approving faculty searchers, in which the departments make annual hiring requests for consideration by the Office of the Dean. Recent initiatives in other units (e.g., the Provost’s cluster hire initiatives, and Engineering’s Pre-Eminent Teams) have established other faculty hiring models. In addition, partner accommodation is an increasingly important piece of faculty hiring. Working Group D should consider the following questions as it goes about its work:

1. **Should the CoS adopt its own interdisciplinary or cluster faculty hiring initiative?** What fraction of the CoS’s hiring resources should be devoted to such an initiative? How should CoS decide what areas to support, and how could it ensure sufficient transparency and faulty input?

2. **Should the CoS have a formal “target of opportunity” faculty hiring initiative?**

3. **How might current search procedures be fine-tuned to ensure the creation of diverse applicant pools?**

4. **What is the right mix of junior, mid-career, and senior faculty hiring?** *(no response)*

5. **How could the CoS do a better job of anticipating infrastructure (especially laboratory space) needs as far in advance as possible?** *(no response)*

6. **How could the CoS do a better job of recruiting its top faculty candidates to Purdue?** *(no response)*

7. **Should the current model for funding start-up costs be modified?** *(no response)*

8. **How should the CoS think about strategies for faculty retention and preemptive retention?** *(no response)*

**Work product:** Working group D should begin its work by discussing the broad context of its charge and formulating, on the basis of those discussions, other pertinent and relevant questions. Its preliminary report, due on Friday, Dec. 18, should provide answers to the
questions posed, as well as a concise set of preliminary recommendations for possible adoption by the strategic plan.

SPWG D – Progress Report

1. **Should the College of Science adopt its own interdisciplinary or cluster faculty hiring initiative?** What fraction of the College’s hiring resources should be devoted to such an initiative? How should College decide what areas to support, and how could it ensure sufficient transparency and faulty input?

   1.1. Most of our first meeting was devoted to this question. The group does think the CoS should adopt an interdisciplinary hiring initiative. We discussed what it might look like, how the competition might be structured, and how these interdisciplinary hires could best be supported after they are hired. We discussed some of the frustrations with the current central level cluster hiring program and how we might avoid those in our own program. The Autism cluster was brought up as an example of one that has succeeded in bringing the cluster hires together after hire and pushing this area of research forward. The main ingredient to their success seems to be that a current member of the faculty was involved in all the different search committees in the different areas that made hires and that same person has continued to be involved including facilitating meetings that bring all the new hires together and in working on seminars, seed grants, and a website.

2. **Should the College of Science have a formal “target of opportunity” faculty hiring initiative?**

   2.1. The answer seemed to be YES according to the discussion we had at the 11/20 meeting. However, there was a lack of knowledge from the group members present about how it could be done legally. There seemed to be very little knowledge of the Provost’s current Strategic Opportunity Hiring program and especially that 10 new lines had been added just this year. Again, there is great interest in being able to hire qualified diverse candidates. It just seems there is a lot of uncertainty about how this can be accomplished. Perhaps more communication is needed to department heads, search chairs, and search committee members regarding the procedures for making such hires. The group specifically asked if we can have an open position at all times for qualified diverse candidates. Is that legal? If not, how else can we make such hires?

3. **How might current search procedures be fine-tuned to ensure the creation of diverse applicant pools?**

   3.1. The first question one of the group members had is whether or not we know if we already do or don’t have diverse applicant pools. A comment was made that one of our group members had been on multiple search committees and had never been
given the information on the makeup of the pool so they could even know how
diverse or not the pool was.

3.2. The group also felt it was important to know if we are already getting a good number
of diverse applicants in our pool and we’re just not successful in recruiting them or are
we just not getting them in the pool at all

3.3. There was much discussion regarding how to “cultivate” future applicants earlier.
Ideas included:

3.3.1. the college funding a program to allow departments to bring in jr. post docs or
sr. grad students (from PU or other Univ’s) to give talks/seminars.
3.3.2. we could create some named post doc fellowships to try and bring in highly
qualified candidates that may then vie for future faculty positions
3.3.3. we could do more at national meetings or conferences to host open house
receptions to help publicize PU

3.4. There was also discussion re: doing more to work with our HR concierge to make them
a part of the search process so candidates feel special and have an opportunity to ask
things they may wish to ask to make them more comfortable with the PU community
and our commitment to inclusion.

3.5. We also got on a side discussion about support needed once we make the hires.
Mentoring was mentioned many times and it would have multiple goals. There is a
need to have mentors that are going through the same things as you are. Ex: tenure
track faculty members trying to balance family needs when they have young children.
It was also suggested that we could perhaps identify sr. faculty members willing to
help first year faculty by making introductions in the community, connecting them
with other resources and support, etc.

3.6. Also need to have mentors that can mentor you professionally and help you
understand what you need to do to progress in your career and get tenure.

3.7. Another member of the group had recently learned of a program at another University
where faculty members across the campus can opt into a program that randomly
matches up two faculty members and then they meet every few weeks to have coffee
or lunch and get to know each other. This could be a good suggestion for a Provost
initiative or perhaps a President’s Fellow. Also discussed that it would be interesting if
you could develop an algorithm to match people up with others that have potential to
be collaborators or have interests in common. Or, if that was not possible to build,
could just ask questions at the time of sign up about their personal and professional
interests. Just might be a good way to get more faculty members from different areas
of the university connected with each other.

4. **What is the right mix of junior, mid-career, and senior faculty hiring?**
4.1. Plan to tackle this question at the next meeting.
5. How could the College do a better job of anticipating infrastructure (especially laboratory space) needs as far in advance as possible?
   5.1. Plan to tackle this question at the next meeting.

6. How could the College do a better job of recruiting its top faculty candidates to Purdue?
   6.1. Plan to tackle this question at the next meeting.

7. Should the current model for funding start-up costs be modified?
   7.1. Plan to tackle this question at the next meeting.

8. How should the CoS think about strategies for faculty retention and preemptive retention?
   8.1. Plan to tackle this question at the next meeting.
SPWG E – Emerging Research

**Team members**

Mahdi Abu-Omar; Professor, Department of Chemistry
Jean Chmielewski; Distinguished Professor, Department of Chemistry

*Ananth Grama; Professor, Department of Computer Science (Group E SPGG liaison)*

Marietta Harrison; Associate Vice President for Research
Michael Manfra; Professor, Department of Physics and Astronomy
Jay Melosh; Distinguished Professor, Department of Earth, Atmospheric, and Planetary Sciences
Laura Pyrak-Nolte; Professor, Department of Physics and Astronomy
Freydoon Shahidi; Distinguished Professor, Department of Mathematics

*Elizabeth Taparowsky,* Associate Dean for Research and Graduate Education (*Group E Resource Administrator*)

**Charge:** The reputations of the seven CoS departments are largely defined by the quality and impact of the research that goes on within those departments. If we are to grow in our scholarly stature, we must increase the quality, quantity, and external visibility of our research. Working group E should consider the following questions as it goes about its work:

1. What could be done to increase the likelihood of the College of Science being the birthplace of “the next big thing” as opposed to following other institutions there?
2. How well does Science compare with other colleges, within and outside of Purdue, at successfully competing for large, extramurally funded centers?
3. How could we do a better job of grooming potential leaders of such centers, especially among women and under-represented faculty?
4. What is the role of industry in building internationally recognized research programs?
5. In what ways have Purdue’s investments in interdisciplinary and cluster hiring paid off?
6. What benefit might there be to identifying large, crosscutting research themes and aligning some fraction of faculty hiring with those themes? How should such themes be identified?
7. How could the College better anticipate and meet research infrastructure needs, both in terms of large, multi-user instruments needs and laboratory space?

**Work product:** Working group E should begin its work by discussing the broad context of its charge and formulating, on the basis of those discussions, other pertinent and relevant questions. Its preliminary report, due on Friday, Dec. 18, should provide answers to the questions posed, as well as a concise set of preliminary recommendations for possible adoption by the strategic plan.
SPWG E – Progress Report

**Note:** SPWG E formulated and responded to a single question divided into five areas that generated 10 ideas for further discussion rather than address the individual questions posed in the charge.

**Question:** How to position the College of Science (CoS) faculty at the forefront of emerging research areas?

**Goal:** To enable CoS faculty to create or be at the forefront of emerging areas by enabling basic research in areas that do not currently exist or are too new for funding agencies to recognize the potential impact. The College of Science should create an environment to foster risk-taking among its faculty.

**Expected outcomes:** Create a dynamic and agile research environment conducive to original high impact scholarship. Increase visibility within Purdue and external peer groups, improve CoS Department rankings with concomitant improvement in talent recruitment, and increase extramural funding for College of Science.

**A Plan for Achieving Stated Goals...**

1. **Enhancing Visibility**
   1.1. Identify a high-level champion to boost our visibility (vis-a-vis people, science and activities) at the President, Provost and Executive Vice President for Research and Partnerships levels.

2. **Hiring Initiatives**
   2.1. Make intelligent hires that build on existing College of Science strengths to form preeminent teams and allocate funding to support these teams. Be proactive in leading campus wide initiatives.

3. **Enhancing Research Facilities**
   3.1. Create equipment grants dedicated to CoS faculty to build world-class facilities that do not currently exist on campus.
   3.2. Create funds targeted at mid- and late- career faculty to upgrade facilities and equipment to launch into new areas of research.

4. **Funding and Initiatives**
   4.1. Enhance the College of Science’s presence at Discovery Park through dedicated Science Innovation $25K seed grants (for Birck and Bindley).
   4.2. Incentivize writing and succeeding at getting Center grants or other large-scale grants (> $1M for an individual or College of Science-based large scale equipment grants): not just release time from teaching but allocate discretionary funds or investigator
selected incentives. *We note that all of these funding mechanisms are currently recognized by the President, Provost and EVPR with Seed of Success Awards and success will give the CoS higher internal visibility.*

4.3. Provide graduate student support for 4 years to launch faculty into new areas through a competitive call for proposals for College of Science based research. Make it an honor for the graduate students and faculty members (e.g. Emergent Innovation Graduate Fellowships).

4.4. Identify people exploring, creating and developing new terrain for $50-100K seed funding opportunities (recognizing more than half may fail). This differs from the University Faculty Scholar program as it does not require nomination by a department, applications are accepted from faculty at any stage in their career, can be received more than once by a faculty member for different topics, and specifically targets emergent ideas in the sciences. (e.g. Emergent Innovation Seed Grants)

5. **Increase Expectations of Faculty**

5.1. Faculty receiving CoS seed grants are expected to apply for extramural funding in emerging areas. This can be a condition for receipt of internal funding with recognition that federal/industrial funding in emergent areas may lag CoS grants by 1 to 5 years.

5.2. Expect and encourage bold thinking among our colleagues. CoS faculty need to self-impose higher standards of successful research and graduate training. Critical assessment of impact is required and may include visibility at conferences, journals, federally funded workshops, press releases, increased funding, and success of placing our graduate students (post graduation) into high quality institutions/companies.
**SPWG F – Reputational Stewardship**

**Team members**

**Fabrice Baudoin;** Professor, Department of Mathematics *(Group F SPGG liaison)*
Rodrigo Bañuelos; Professor, Department of Mathematics

**Tim Brouk;** Communications and Media Specialist, CoS *(Group F Team Leader)*
Graham Cooks; Distinguished Professor, Department of Chemistry
Chris Greene; Distinguished Professor, Department of Physics and Astronomy
Birgit Kaufmann; Professor, Department of Physics and Astronomy
Andrew Mesecar; Professor, Department of Biological Sciences

**Andrea Spahn-McGraw;** Director of Advancement, CoS *(Group F SPGG liaison)*

**Jeff Roberts,** Dean, *(Group F Resource Administrator)*

**Charge:** As much as most of us complain about university and department rankings, we must recognize that they are important: the CoS will only be as great as we and others think we are! Although quantitative measures of excellence *(e.g.,* grant funding and publication numbers) are important, and are being considered by other strategic planning working groups, the perceptions of others- especially those of recognized scholars- are critical influencers of our reputation and rankings. Working Group F should consider the following questions as it goes about its work:

1. **What would it mean to be generally recognized as the “top” science college in the nation, or the “best” college at Purdue? In what ways would the CoS look and feel different than it does now?**
2. **How could the CoS and its seven academic departments do a better job of communicating their strengths and accomplishments to the academic world outside of Purdue?**
3. **In what ways can fund-raising be harnessed to increase the stature of our faculty and students, and the academic departments to which they belong?**
4. **What does the CoS need to do to elevate its reputation as a place that nurtures, supports, and empowers a diverse community of faculty, students, and staff?**

**Work product:** Working group F should begin its work by discussing the broad context of its charge and formulating, on the basis of those discussions, other pertinent and relevant questions. Its preliminary report, due on Friday, Dec. 18, should provide answers to the questions posed, as well as a concise set of *preliminary recommendations* for possible adoption by the strategic plan.
1. **What would it mean to be generally recognized as the top science college in the nation, or the best college at Purdue?** In what ways would the College of Science look and feel different than it does now?

1.1. This committee agrees that rankings – while important and eye-catching to prospective students – can skew things. How does a 17-year-old weigh the source? Does U.S. News and World Report impact them more or less than a listicle found after a Google search? We agreed that the departments are scouted more than the College.

1.2. All rankings should be considered. Wall Street Journal, Financial Times of London and Academic Ranking of World Universities from Shanghai Ranking could and should be touted. SmartMoney as well as the recent Purdue-Gallup Index contain some good financial information that would look good next to rankings.

1.3. And it’s not just the departments that should get rankings notice. There are programs within the departments that are ranked high, according to a plethora of sources. The most known is the No. 1 Analytical Chemistry graduate program (U.S. News and World Report). In the Department of Mathematics, some programs have very high rankings and domestic and international visibility. The Structural Biology program is said to be ranked especially strong, too. The Department of Chemistry has been touted as having the most female faculty (absolute) in the nation. This was fact in 2012 and it was tied for first in 2013 (Chemical & Engineering News). Updated numbers were unavailable. These smaller programs/facts are extremely important.

1.4. Earning potential is extremely important as well. These numbers can also be played with and the source should be considered. However, having such rankings would look great next to departmental and programmatic rankings.

1.5. A major issue to consider is should all rankings be posted on our website or just the best ones? The rankings differ depending on the source, of course.

1.6. Along with rankings, the fact that the College of Science has had two Nobel laureates and numerous NAS members should be screamed from the rooftops. Not only do these faculty members research here, they teach here. Such clout could lure many prospective students.

1.7. Actionable recommendation: Obviously, the College’s homepage would be a good place to store and update these rankings. A page detailing as many as we want should be created but breakout rankings should be trumpeted on the home page like in a banner or breakout box.
2. How could Science and its seven departments do a better of communicating their strengths and accomplishments to the academic world outside of Purdue?

2.1. A major step to this would be to overhaul the home page. Most colleges have already switched to the mosaic style. A box or two could be dedicated to the strengths and accomplishments of the College. Not only potential students (and their parents) should be considered, potential faculty members are an important audience as well.

2.2. Social media is something we should continue to push. Our numbers continue to rise but there is still work to be done.

2.3. We are finding more and more faculty members are maintaining blogs, either under the Purdue.edu umbrella or on their own. Most log research and are the first place to show results. In the past, we would have to wait for the journal article to come out. Now, we can watch the experiments as they happen.

2.4. Faculty should be encouraged to communicate their work more. There are about a dozen or so CoS faculty members who seem to get their work to the masses and media better than their peers. Practically all CoS faculty are working on world-changing research and should be letting everyone know about it. Of course, many faculty members are uncomfortable in the spotlight. We can work with them to become more comfortable in promoting their work.

2.5. Actionable recommendations: A home page overhaul is starting to become a crucial issue, especially since Engineering switched over to the Purdue.edu look. Of course, this overhaul is easier said than done. By the time this is posted, the banner on the current home page will be changed to hype one of the College’s programs.

2.6. To increase social media traffic, small cards were produced to pass out at CoS’ upcoming events. The cards contain handles of all of our social media platforms so interested parties can find, like and follow.

2.7. We could highlight a College of Science “Blog of the week/month” on the home page as well as social media.

2.8. Tim Brouk and departmental communications people (depending on the department) can attend faculty meetings to get an early jump on promoting research or other faculty-led initiatives or accomplishments.

3. In what ways can fund-raising be harnessed to increase the stature of our faculty and students, and the academic departments to which they belong?

3.1. Since graduate students and their principal investigator/professor/advisor spend an intense four to seven years together, relationships are forged. We believe most of these relationships are positive. As such, faculty could help these alumni to be more engaged and connected. We believe there is an untapped wealth that could be
brought into the College this way. Faculty members would just need to think like a DoD and know some of the best ways to bring in potential gifts.

3.2. Community outreach is another opportunity to grow fund-raising. Some faculty members meet with the community via off-campus talks, from public libraries to pubs. More events like these should be encouraged.

3.3. Actionable recommendation: Banners that Science Outreach had made should be utilized at every off-campus event. If there is room, we can load up a table with takeaways promoting our programs for potential students. You never know if a parent or grandparent has a teenager thinking about college. That student could be local or from far away.

4. What does the College need to do to elevate its reputation as a place that nurtures, supports and empowers a diverse community of faculty, students and staff?

4.1. The attraction of prospective students and faculty is crucial in answering this question. We need to meet the needs of diverse portfolios of students. We need to attract the right new faculty. We need to promote the major strengths of the college – research, Pillars of Excellence in the Life Sciences, CS expansion – to smaller but important things like spousal hiring.

4.2. Actionable recommendations: Along with revamping the home page, the departmental web sites should be given attention as well. It was said that many potential students and faculty go directly to the department’s site that interests them the most. The departments should consider showcasing some of the above (and below) items to promote themselves better.

4.3. On the staff side, it’s been a years’ goal to put together a staff e-newsletter for the College of Science. This digital document would highlight the College of Science as a great place to work and thrive. The piece – to be published twice a year – would highlight staff members’ great work as well as have important announcements and dates.

4.4. Some miscellanea that should be highlighted in all things College of Science ...What to really tout

4.4.1. Recruitment – we have the second highest ACT, SAT and GPA for incoming students on campus

4.4.2. Named scholarships – more may need to be created

4.4.3. Named postdocs – have to be created

4.4.4. Journal articles

4.4.5. Admission rates vs. applications

4.4.6. New faculty

4.4.7. Spouse policies
4.4.8. NAS members
4.4.9. NSF career grants
4.4.10. Faculty awards
4.4.11. CoS is a partner of every college at Purdue
4.4.12. Demand for fundamental courses has gone up
4.4.13. We must drive the fundamental portfolio of science and mathematics
4.4.14. INTERESTING PEOPLE!
4.4.15. More events to show we can bring in great speakers and programs
   4.4.15.1. Lecture series – bring in big names
   4.4.15.2. Organize more conferences (and promote them!)
   4.4.15.3. Created events/conferences with alumni like the Science Writers conference led by Moira Gunn
   4.4.15.4. Science on Tap – promote more and show more of a presence when one of our faculty members is the speaker.
**SPWG G – Global Strategies**

**Team members**

Claudio Aguilar; Associate Professor, Department of Biological Sciences  
**Marc Caffee**; Professor, Department of Physics and Astronomy (*Group G Team Leader*)  
Jonathan Harbor; Professor, Department of Earth, Atmospheric, and Planetary Sciences  
Arvind Raman; Associate Dean for Global Engineering Programs, College of Engineering  
Prudie Miller; International Student / Math Advisor, CoS  
**Laura Starr**; Director for Experiential Learning and Student Success, CoS (*Group G SPGG liaison*)  
**Elizabeth Taparowsky**, Associate Dean for Research and Graduate Education (*Group G Resource Administrator*)

**Charge:** All of us understand that higher education is increasingly globalized—even as we also appreciate that higher education has yet to come to a common understanding of what is meant by a global university. Within Purdue, there are numerous large- and small-scale activities that support and enable international partnerships, although the University still struggles to articulate a coherent global strategy. Finally, the CoS continues to fall short of its goals for student participation in study abroad experiences, especially experiences that are at least one semester long. Working Group G should consider the following questions as it goes about its work:

1. Should the CoS identify, support, and lead a small number of globally focused activities? If so, how should those activities be identified?  
2. What strategies might the CoS adopt to increase participation in study abroad experiences, especially those that last one semester or longer?  
3. What role do international undergraduate and graduate students play in fostering and nurturing a globally-aware CoS?  
4. How can we ensure that any CoS-supported global strategies are attentive to issues of faculty, staff, and student diversity?  
5. How can global activities enhance the external prestige and reputation of the CoS and its academic departments?

**Work product:** Working group G should begin its work by discussing the broad context of its charge and formulating, on the basis of those discussions, other pertinent and relevant questions. Its preliminary report, due on Friday, Dec. 18, should provide answers to the questions posed, as well as a concise set of preliminary recommendations for possible adoption by the strategic plan.
SPWG G – Progress Report

**Note:** The ideas below are from Laura Starr and Prudie Miller provided to Marc Caffee, the chair of the working group, in an effort to motivate Marc to set up a group meeting and discuss the issues. Alas, the working group never met.

Progress on working group charge...

1. **Should the College identify and support a small number of globally focused activities? If so, how should those activities be identified?**
   1.1. If the College of Science identifies a few key areas to grow, (e.g. drug discovery, informatics) then the CoS can work to identify a few key institutions to work with in these areas. Once we have relationships with these institutions, we can explore other types of collaborations between our institutions. This will allow us to concentrate our efforts towards a smaller number of institutions, working towards high quality interactions.
   1.2. The CoS can also look to key areas around the world that the University as a whole has identified as important, such as Columbia and India.

2. **What strategies might the College adopt to increase participation in study abroad experiences, especially those that last one semester or longer?**
   2.1. Since some programs are very lock step with little option for electives or changing the plan of study without delaying graduation, we need to work towards identifying summer programs as opposed to semester-long ones for students in these majors.
   2.2. We should encourage departments to be as flexible as possible in terms of allowing students the opportunity to study abroad while staying “on track” at Purdue.
   2.3. A unit headed by a person with faculty rank should promote and facilitate study abroad. Advocates at the faculty level are required.
   2.4. Encourage faculty willing to lead short-term programs (this could be viewed as student mentoring).
   2.5. The College should present studying abroad or working on a global project on campus as an expectation.

3. **What role do international undergraduate and graduate students play in fostering and nurturing a globally-aware College of Science?**
   3.1. The Global Science Partners Program brings international students together with domestic students. It provides a place for them to interact on a regular basis beyond the classroom. This group helps domestic students and international students develop intercultural skills and competencies while providing international students with a place to gain a deeper understanding of the Purdue University culture.
3.2. International TA’s teaching in undergraduate courses, offer students a chance to work with and learn from international grad students.

3.3. Team/group work, particularly in courses that make efforts to configure multi-cultural groups, provide students another chance to learn from each other and develop intercultural competencies.

3.4. Most lab groups are comprised of a diversity of grad students and post-docs.

4. **How can we ensure that any College-supported global strategies are attentive to issues of faculty, staff, and student diversity?**

   4.1. All of the items discussed in this area are working towards building faculty, staff, and student diversity as well as fostering a positive environment for each of these groups to learn from one another.

5. **How can global activities enhance the external prestige and reputation of the College and its academic departments?**

   5.1. A global presence provides world-wide recognition. When key areas of interest are identified, collaboration works to increase prestige.

   5.2. A recognizable global presence serves to attract the most gifted international students at the undergraduate and graduate levels.
SPWG H – Engagement

Team members
Chris Andronicus; Associate Professor; Department of Earth, Atmospheric, & Planetary Sciences
William Bayley; Outreach Coordinator, CoS
Andrew Freed; Professor, Department of EAPS (Group H SPGG liaison)
Victor Lechtenberg; Dean Emeritus, College of Agriculture
Sally Luzader; Manager of Corporate Relations, CoS
Nicole Towner; Assistant Director of Recruiting, CoS
Maya Wagle; Director of Corporate and Foundation Relations, CoS
Bill Walker; Director of Outreach, CoS (Group H Team Leader)
George McCabe, Associate Dean for Academic Affairs (Group H Resource Administrator)

Charge: Engagement is a key pillar of Purdue’s land-grant mission. Moreover, engagement activities can enhance both internal and external prestige of the CoS and its departments. Although the CoS supports some signature engagement activities, most notably Science Outreach, the CoS is probably less involved in engagement than some of the other large colleges at Purdue. Working Group H should consider the following questions as it goes about its work:

1. Should the CoS increase the portfolio of engagement activities it supports? How would their success be measured?
2. What role could engagement activities play in the student experience?
3. How might the CoS help faculty identify incorporate engagement activities into grant proposals?
4. How might the CoS better engage industry and companies in ways that benefit the research and teaching missions?
5. What role could engagement activities have in recruiting a diverse community of faculty, students, and staff in the CoS?

Work product: Working group H should begin its work by discussing the broad context of its charge and formulating, on the basis of those discussions, other pertinent and relevant questions. Its preliminary report, due on Friday, Dec. 18, should provide answers to the questions posed, as well as a concise set of preliminary recommendations for possible adoption by the strategic plan.

Background
Engagement is an essential component of the College of Science’s (CoS) academic mission, both within local and global contexts. Strategic and collaborative partnerships with K-12, higher education, government organizations, communities, and corporations are central to addressing
the persistent scientific challenges and developing the science-based solutions and innovations of tomorrow. Through engagement the CoS also strives to increase the scientific literacy of K-12 students and the number of post-secondary students studying the sciences at Purdue.

In Purdue’s CoS **engagement** is defined as collaborative work done by mutually committed partners (K-12, higher education, government organizations, communities, and corporations) in order to educate the public and address issues of mutual interest. Engagement simultaneously serves the needs of CoS partners and enhances the research, teaching, and recruiting missions of the College. Engagement activities have intellectual merit and broad impact.

**Engagement constituencies**

- Corporations
- Government
- Higher education
- K-12
- Local, national, and global community
- Mass media (interviews, articles, documentaries, books, electronic, educational displays)

**Important features for engagement work**

- Diversity
- Documentation and benchmarking of impact, reports, scholarship
- Funding
- Recruitment
- Scientific literacy
- Science self-efficacy

**SPWG H – Progress Report**

1. **Should the College increase the portfolio and/or the level of engagement activities it supports? How would their success be measured?**
   1.1. The COS is and should continue to be a leader in engagement. The COS currently addresses many of the appropriate engagement areas. Increases should occur in the level of excellence
   1.2. Amount of effort put into engagement work by faculty, staff, and students. A key to increasing the level and effort in engagement is to provide incentives for faculty, staff, and students to do this work. Incentives include more requirements for engagement in promotion documents and annual reviews and rewards for excellence in engagement work. Additionally, collaboration between faculty in multiple areas and collaboration between faculty and staff will increase the level of engagement work in the COS. Data and narratives should be collected to monitor growth and success of
engagement activities under the following categories: national and international areas of excellence in engagement, partnerships, emerging areas of engagement, student success, impact on diversity, and scholarly products. Engagement work areas include:

1.2.1. Community events
1.2.2. Corporate programs and partnerships
1.2.3. K-12 programs and partnerships
1.2.4. Project ideas for Purdue courses

2. What role should engagement activities play in the Purdue student experience?
2.1. The student educational experience should include opportunities to work on engagement activities. These opportunities can come through course projects, service learning courses, Learning Beyond the Classroom, study abroad, community events, partnering on existing work, and club-sponsored programs. Students who participate in engagement activities are more engaged in departmental work, more likely to be retained, and are highly sought after by employers. Awareness of university wide programs and support of programs in science-related areas like water quality or energy would allow students to work in groups that have significant impact on communities.

3. How might the College help faculty identify and incorporate engagement activities into grant proposals?
3.1. The primary way to help faculty incorporate engagement into research and grant proposals is to provide a menu of items that could be used for this purpose along with examples of effective engagement work from other research and grant-funded activities. The menu items and examples need to include measurable outcomes. The COS K-12 Outreach is an example of a program that can be used to strengthen the broader impacts of grant proposals. Regular opportunities to share example engagement activities should take place. Sharing can happen at department meetings, faculty orientation meetings, and at existing University-wide engagement workshops. A scholarship of engagement workshop specifically for the COS would provide a platform for this information to be shared between faculty, K-12 coordinators, and other interested staff.

4. How might the College better engage industry and companies in ways that benefit the research, teaching, and engagement missions?
4.1. The College of Science has experts who can help address issues to benefit industry and companies. As a mutually beneficial partnership, collaborations with industry should allow the COS to
4.2. Solve problems that impact society
4.3. Gain insight into the strategic direction of specific industries
4.4. Have access to expensive proprietary materials/compounds as well as specialized equipment
4.5. Have access to student internship/employment opportunities
4.6. Add industry experts - to dialogue with faculty and students
4.7. Apply for federal/state funds which require corporate collaborations

5. **What role could engagement activities have in recruiting and retaining a diverse community of faculty, students, and staff in the College of Science?**

5.1. The College of Science has great aspirations for recruiting and retaining a diverse community of faculty, staff, and students. Along with these aspirations come challenges that need to be addressed. Participation in conferences and events targeted for women and underrepresented people would support recruitment efforts. Emphasizing Purdue’s commitment to engagement should be an asset toward the recruitment and retention of a diverse community.

5.2. Communicating a clear vision for success along with a commitment to policies and programs to support faculty, staff, and students focused on the needs of a diverse community will help the College of Science be more successful. In addition to creating a climate of success for a diverse community on campus, the COS should partner with Purdue cultural centers, the Diversity Resource Office, and stakeholders in the Greater Lafayette region to help the region be a place where a diverse community can feel welcome, inclusive, and successful. Important areas for consideration include:

5.2.1. A menu of items that promote diversity
5.2.2. Community resources that help underrepresented people feel at home at Purdue and in Greater Lafayette
5.2.3. Educational programs
5.2.4. Mentorship programs for faculty, staff, and students
5.2.5. Motivation for faculty and staff to engage in diversity work
5.2.6. Mutually beneficial partnerships with 1890 institutions
5.2.7. Student scholarship programs

6. **How can COS consistently document and benchmark engagement work?**

6.1. The College of Science has a significant history of using its human, intellectual, and fiscal resources to address issues and improve the prosperity and quality of life for people in Indiana and around the globe. Documentation occurs through the College of Science Engagement Report, but this report likely reflects about 50% of the work in engagement. As mentioned in #1, benchmarking should include data and narratives on national and international areas of excellence in engagement, partnerships, emerging
areas of engagement, student success, impact on diversity, and scholarly products. Clearly articulated benchmarks and a centralized reporting system are needed to collect information on engagement work. Additionally important is sharing information about the work done in engagement by the COS. Faculty, staff, and students should know about engagement work done in COS so that the effectiveness of the work can grow and new partnerships can be formed. Sharing engagement work outside of Purdue helps local, national, and international communities understand Purdue’s impact. Requiring this information in promotion documents and annual reviews for faculty, staff, and graduate students would improve the quality of information available.

6.2. Suggested Action Items
6.2.1. Provide a COS-specific workshop on scholarship of engagement
6.2.2. Provide training for faculty, staff, students, and promotion committee members on the importance of engagement and how to identify excellence in engagement
6.2.3. Communicate accomplishments of faculty, staff, and students both within CoS and externally to the rest of the university
6.2.4. Develop a system for more comprehensive reporting of engagement work
6.2.5. Provide incentives and awards for excellence in engagement work, especially scholarship of engagement
6.2.6. Pursue national and international recognition for students, faculty members, and staff members in all phases of our land grant mission
6.2.7. Explore opportunities to further engage undergraduate and graduate students
6.2.8. Create engagement committees in each department o A representative from each department attends a college level committee
6.2.9. Departmental and College programs to fund engagement work (similar to department funds for professional growth)
6.2.10. Find faculty who have experience with effective engagement work to put together the menu of broader impact engagement opportunities
6.2.11. Departments are responsible for providing an environment that is welcoming and inclusive to a diverse community
6.2.12. Include engagement activities in promotion and annual review documents in a standard way
   6.2.12.1. Which constituencies were involved and what important features were addressed
   6.2.12.2. Would it help if faculty were not required to check one of the boxes for research, teaching, or engagement?
6.2.12.3. Accountability by all to all areas: research, teaching, and engagement
6.2.12.4. Strengthen the P–14 and Science / Technology / Engineering / Mathematics (STEM) education pipeline to support student recruitment
6.2.13. Help high school teachers understand the “rigor” of math and science at Purdue University.
   6.2.13.1. Link with the Purdue Polytech High School in Indianapolis
   6.2.13.2. Get teachers to come to Purdue during the summer so the upper level math and science courses taught in high school are better aligned with Purdue courses § Target the teachers from low socioeconomic status areas and urban areas
6.2.14. Engage the public in a discussion of the science we do and the technology utilized by our industry stakeholders
6.2.15. Engage faculty members, staff members, and students in developing joint agendas and building teams focused on addressing emerging issues at community, state, national, and global levels
6.2.16. Engage stakeholders and partners across the University, in industry, and in government and non-governmental organizations in addressing priority issues
6.2.17. Recruit retired faculty to help current faculty to get involved in policy and activities that would improve accomplishments in engagement
6.2.18. Provide scholarships for in-state, underrepresented students
6.2.19. Improve transfer rate from Ivy Tech and regional campuses to COS
SPWG I – CoS as a Best Place to Work

Team members

Timothy Delworth; Continuing Lecturer, Department of Mathematics
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Kendal Kosta-Mikel; Strategic Data Manager, CoS (Group I SPGG liaison)
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Leslie Plummer; Business Manager, Department of Earth, Atmospheric, and Planetary Sciences
George McCabe, Associate Dean for Academic Affairs (Group I Resource Administrator)

Charge: The CoS can only be as excellent as its staff. Although many of the factors that contribute to staff satisfaction are beyond the CoS's control, there are ways in which the CoS influences staff morale and productivity. Working Group I should consider the following questions as it goes about its work:

1. Do current staff award and recognition programs in the CoS provide an opportunity to recognize all of the ways in which staff can be excellent? Are nomination procedures evenly applied, and do they result in the right number of people being recognized?
2. How could the CoS do a better job of ensuring that staff members are able to participate in appropriate professional development opportunities?
3. Are staff members able to have their concerns heard, both within their immediate reporting units and by the Office of the Dean?
4. Do supervisors have the skills they need to foster a positive workplace climate? Is the CoS sufficiently attentive to the importance of staff diversity?
5. Should the CoS have a replacement schedule for computer equipment, office furniture, and related items, or are those needs adequately met at present?
6. How could the Office of the Dean communicate better with staff?
7. Does the promotional ladder in the College of Agriculture work well, and could something analogous be developed in the CoS?

Work product: Working group I should begin its work by discussing the broad context of its charge and formulating, on the basis of those discussions, other pertinent and relevant questions. Its preliminary report, due on Friday, Dec. 18, should provide answers to the questions posed, as well as a concise set of preliminary recommendations for possible adoption by the strategic plan.
7 / 8 @ 20% = 2 votes
SPWG I – Progress Report

1. Do current staff award and recognition programs in the College of Science provide an opportunity to recognize all of the ways in which staff can be excellent? Are nomination procedures evenly applied, and do they result in the right number of people being recognized?
   1.1. Working group I believes that the current faculty and staff awards program provides an appropriate way to recognize staff. These awards have a greater impact for staff. All luncheons and dinners are well appreciated by staff and are thoroughly enjoyed. We suggest that the split of awards between faculty versus staff be carefully reviewed.

2. How could the College do a better job of ensuring that staff members are able to participate in appropriate professional development opportunities?
   2.1. Currently the College offers professional development funds of up to $1,000 per award. Applications are requested three times annually with 10 awards per call. Some of our departments offer additional assistance. Chemistry offers an annual allocation (either $500 or $700) for each of their A/P staff. EAPS solicits applications on a monthly basis and allows for staff to request up to $2,000 per fiscal year for occasional needs that are important to productivity. Other departments have informal procedures for funding professional development. We recommend further review to improve professional development opportunities.

3. Are staff members able to have their concerns heard, both within their immediate reporting units and by the Office of the Dean?
   3.1. The biggest question is what concerns truly exist within the College? We recommend that the College to create a staff survey similar to that of the COACHE survey completed by faculty this past year. We believe this is the best way to determine what our staff are truly thinking and feeling about the College in which they work.

4. Do supervisors have the skills they need to foster a positive workplace climate? Is the College sufficiently attentive to the importance of staff diversity?
   4.1. Supervisors: We agree that supervisors do have most of the skills needed to foster a positive work climate. There are concerns about the equitable conduct of performance evaluations. We recommend that these be reviewed at the department level. We also recommend the establishment of a staff mentoring program, similar to that of faculty, where all levels of college staff feel they have an open door for questions or scenario advice.
   4.2. Diversity: (seeking input/recommendations from diversity office)
5 Should the College have a replacement schedule for computer equipment, office furniture, and related items, or are those needs adequately met at present?

5.1 Perception of availability is extremely important within the College. We recommend that a process for replacement of items be implemented. An annual or every so many years review may not be effective. A pool where departments can submit requests for review and be provided at timeline for replacement may be useful.

6 How could the Office of the Dean communicate better with staff?

6.1 We do not see communication with the Dean as a problem within the College of Science. The Dean sends out Science News emails, communicates effectively with department heads, holds annual staff meetings, and visits the departments on a regular basis. As we cannot control the attendance at faculty and staff meetings, the current communication avenues are appropriate for our staff.

7 Does the promotional ladder in the College of Agriculture work well, and could something analogous be developed in the College of Science?

7.1 The promotion ladder in the College of Agriculture does seem to work well. It was noted that HR has an initiative in the works to enhance job structure across campus. It would be beneficial to the College of Science to follow the HR initiative and improve our job structure. We should continue to work with HR to implement and facilitate. It is important to have career paths for our staff.
SPWG Next Steps

test