**Working Group E: Emerging Research**

CoS Strategic Planning Advisory Team representative: Prof. Ananth Grama

Working group chair:

**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:**

**Enhancing Visibility**

- 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.

**Hiring Initiatives**

- 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.

**Enhancing Research Facilities**

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

**Funding and Initiatives**

- Enhance the College of Science’s presence at Discovery Park through dedicated Science Innovation $25K seed grants (for Birck and Bindley).
- 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.*
- 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).
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).

Increase Expectations of Faculty

- 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.
- 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.