PEGASCIS Scoping Meeting
The Platform for Enhancing Global Academic Strategic Collaboration in Science

Title: “Remarks on PEGASCIS Scoping Issues”

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This morning we heard many different perspectives on the knowledge needs associated with fostering international collaboration in science, technology and innovation (STI), especially for U.S. universities.

As STAS Bill Colglazier mentioned, at the State Department we sit at the intersection of U.S. and international STI and we listen, watch and seek to understand the significance of trends and patterns for the United States. We have heard from both U.S. and foreign communities that there are real knowledge gaps that hinder international STI collaboration, so we have convened you here today to consider how those knowledge needs might be addressed. We envision this scoping exercise as a way to catalyze the next step in the process. We hope your input will help transform the platform we are calling PEGASCIS from an idea to a reality that is embraced, organized and run by its stakeholder community – largely outside of government.
Recall the sentence you heard this morning: *To fill out that global matrix of strong and sustainable institution-institution STI partnerships, we aim to catalyze stakeholders to develop an easily accessible global knowledge platform that can meet their knowledge needs in global STI engagement.*

Let me remind you that the term “platform” is being used in a broad sense to include a community of stakeholders, the organizational entity of the platform itself, a wide range of IT programs including matchmaking programs, a clearinghouse of relevant information to aid strategic decision-making, search and visual analytics functionality, and other functions that stakeholders might develop.

Please recall that the initial focus has been on U.S. academia, starting perhaps with our top 200-300 research institutions. There has been a focus on STI, though the platform as envisioned would cover a much broader range of fields eventually. The intent was to consider a research-driven platform, but to also encompass many more dimensions of institutional strength.

The platform aims to provide institution-level information, though with the capacity to drill down into it the data. And it was envisioned to serve the needs of institutional leaders, realizing that if widely available, it can be used by individual scientists as well. There is an institutional level focus because that is where strategic investments can occur, where decisions about investments in infrastructure are made, where institutions can act to bolster both individual and collective faculty and student efforts, and where leaders can gain the larger perspective needed to best position their institutions in a new global context. It is also at this level that the knowledge-related, structural,
procedural, and policy challenges to STI internationalization, both internal and external to universities, might be identified, thus enabling a path to mitigating them. And it is at this level that global STI research and international education can be made complimentary. It is at the institutional level where long-standing bi-lateral and multi-lateral relationships can be built based on mutual understanding, trust, respect, and benefit.

As you scope out how PEGASCIS, as a platform or a set of activities, moves forward, we ask that you please consider a set of questions in the first hour and another in the second hour:

**BREAK-OUT SESSION 1:**

*Are the right stakeholders involved in the discussion?*

Are there any key stakeholder groups missing? For example, does the work that North Carolina is doing in the “ReachNC” interface, and the system-wide discussion of international engagement at the State University of New York (SUNY), suggest that the state systems might be stakeholders to include? International input will be needed, but as a starting point, the focus of today’s meeting is on domestically focused scoping.

*Are the knowledge needs well identified and articulated for bolstering global STI partnerships?*

The platform can provide various types of information, e.g., on models and successful practices for international research and education engagement, on a country’s research landscape, needs, priorities and funding, on global
linkages and consortia, and on forward-looking STI reports from different sectors and countries.

The platform could also help to organize and share data and associated tools on a wide range of academic activities including research, teaching, facilities, international engagement, international industry cooperation, and service.

*What data and tools are needed for the three different types of insight that PEGASCIS might provide – the institutional self-knowledge about strengths in international engagement, the outward-facing display of institutional strengths, including international engagement, and the global search for strategic partners?*

In the May PEGASCIS Technical Meeting it was made clear that PEGASCIS would not require re-entering data into one common system, especially with the large number of databases, systems, and tools already in use. The group concluded that the key was to have agreed-upon standards (e.g., on metadata and definitional relations) that could combine data from across platforms and institutions, and therefore enable mutual cooperation without requiring top-down coordination.

*Which knowledge needs have higher priority than others, for which stakeholders? Is there “low hanging fruit”, that is, objectives that can be easily undertaken and accomplished so as to launch the platform successfully?*
The PEGASCIS Technical Meeting held in May identified “use cases” that would help identify priorities and also found clear synergies between several ongoing efforts. The workshop participants identified as potential “low hanging fruit” the development of a profile system for U.S. universities that would use publicly available information to help foreign and U.S. universities identify potential STI partners. Such a profile, with faceted (i.e., with user-chosen categories or filters) search and visualization capacity, could include data from public sources (e.g., the Department of Education’s IPEDS database, National Researcher Networking sites, other federal databases) as well as from university websites. For any institution, this might include:

- its institutional information (e.g., Carnegie classification, degrees granted);
- its research capacity (e.g., federal grants, publications at individual, department and/or school level);
- its teaching (e.g., on-campus curriculum, MOOCs offered);
- its innovation ecosystem (e.g., patents and research parks);
- its medical capacities if applicable (e.g., patient volumes); and
- its honors (e.g., rankings, National Academies members, and Nobel Laureates).

Equally important could be information, if available, about

- languages taught, Department of Education International Area Grants;
- number of Fulbright scholars, Peace Corps volunteers, and Engineers without Borders students;
- number and location of international MOUs, research and teaching projects, business alliances, centers, campuses, and assistance development projects; and
• number of foreign students and study abroad students, and alumni living abroad.

**What kind of activities should the platform undertake?**

Stakeholder needs will determine which activities are undertaken and what form the platform takes. Metrics should also be considered at the onset, in order to demonstrate impacts and benefits, as well as potential leveraging. The May PEGASCIS Technical Meeting yielded a partial list of activities that included:

- Establishing an on-line clearinghouse or portal with rich contextual resources (e.g., effective practices, profiles of country strengths/needs/funding opportunities, and foresight reports);
- Working with international groups to develop analytical tools for matchmaking by institution, geography and/or discipline;
- Developing tools or a profile system that showcases U.S. universities’ strengths in an outward-facing way to potential foreign partners;
- Creating an innovative home that explored rapid prototyping of tools, coding competitions (like the TREC competitions sponsored by NIST), challenge grants for tools and solutions, use of collaborative software development approaches, development of multiple small modules in parallel, and/or linkage with innovative partners; and/or
- Encouraging/organizing international symposia focused on building STI collaboration in a particular geographic region, or in a specific topical area, that would not only foster cooperation, but also by design generate specific resources for the clearinghouse/portal, and demonstrate the benefits of sharing data and tools.
BREAK-OUT SESSION 2

**Who should host, organize, govern and/or lead the platform?**

So as you talk about what a platform might look like, please consider what entities become involved in leadership, hosting, supporting, governing, and possibly, and perhaps in what combinations. The May PEGASCIS Technical Meeting identified the challenge of sustaining focus and action in this large “orphan space” where the leadership and funding roles of government/business/universities/NGOs in facilitating international academic science are unclear. So an organization may become involved because:

- there is a direct business opportunity in this space, e.g., for a publisher or academic data business;
- as a member organization it responds to the need of its members, (e.g., Association for Public and Land-Grant Universities, American Council on Education, and Association of American Universities);
- it has similar needs or already-developed tools, for a subset of the community (e.g., scientific professional societies like American Chemical Society, the American Society for Microbiology, or the American Physical Society);
- there is a valuable service to be performed – that either meets the business needs of an industry or the mission of a foundation;
- there are important research questions or infrastructure issues to be addressed (e.g., government support such as NIH provided for VIVO); and/or
- there are broad international benefits – e.g., an international group has undertaken similar efforts or has specific needs.
How can the resource needs of the platform be met?

Implementing whatever scope is proposed by this group for PEGASIS will require a one or more sources of funding or in-kind support. There may be opportunities to leverage different groups (e.g., students who can write code as part of internship) or even have some PECASCIS-related ideas picked up by other groups working in this area. You, the stakeholders, are likely to know possible sources of support for activities, personnel, space, and web support. It may be valuable to link the priorities for data needs and activities established earlier to funding levels via contingency plans.

How should the platform engage other countries?

Since the platform’s objective is to facilitate international collaboration, it must at some point be integrated with complementary efforts around the world. When should this happen? Should there be foreign stakeholders in the platform?

What are the Next Steps?

After the report on this meeting is written, the Department of State’s involvement is likely to be limited. What should the next steps entail? We welcome any suggestions for finding a host, publicizing the platform and its goals, establishing leadership and governance, and broadening participation.