Last year, we submitted a grant pre-proposal to the Howard Hughes Medical Institute's Inclusive Excellence grant competition. Our proposal focused on developing two empirically-informed interventions to catalyze institutional change for achieving inclusion of diverse students in STEM: establishing multiple points for students to engage in *course-based research experiences (CBREs) across core curricula* and creating *learning communities* headed by student assistants.

Our pre-proposal made it to the second, but not final, stage of review. We will submit again; this year's pre-proposal is due on **December 6, 2016**. This time, our proposal will hone and expand our focus by adding some new components, including opportunities for *sustained faculty development* as well as work to *reduce weak math preparation as a barrier* to STEM study.

The grant pre-proposal will be reviewed by Science Planning as well as the Teaching Circles on math readiness (led by Gary Felder) and CBREs (led by Patty DiBartolo) in the next month. Let Patty DiBartolo know if you would also like to review the pre-proposal but are not a member of any of those groups.

SMITH COLLEGE

September/October 2016

FROM THE CLARK SCIENCE CENTER DIRECTORS' OFFICE

Taking Up the Challenge of Inclusion

According to the Howard Hughes Medical Institute (HHMI), inclusive excellence "represents an educational environment guided by a principle of collective responsibility to equitably engage all students in high quality, evidence-based educational experiences." At Sigma Xi this week, I argued that shifting from the mindsets and approaches that defined science education historically requires that we think about structural barriers to change, as we work to implement best-practices pedagogies that draw in and support all students with an interest in STEM study.

Here's some good news. A growing body of empirical literature finds that inclusive best practices, like active learning, help *all* students achieve better content mastery and disproportionately benefit students who are underrepresented in sciences. This holds true across science and math disciplines. Here at Smith, what I hear in my conversations with faculty and staff who have invested significant time and energy into revising their pedagogy to align with best-practices is that it is hard but so worth the effort. They talk about never going back to their former teaching approaches because their classrooms and laboratories have been transformed in powerful ways that yield better student learning.

This is hard to do alone. We need to work in a collaborative way to address the structural challenges that discourage or interfere with curricular transformation. From physical spaces to grading practices, major requirements to budget support, we need to think about how our structures and systems can align to engage all students equitably. This means that faculty and staff, senior administration, departments and programs, and allied college offices each have a role to play in shifting our approach to teaching and learning.

How can we accomplish all of this? We are in the process of pulling together a grant pre-proposal to HHMI to support these efforts (see sidebar). Many of our aspirations are also included in the college's recently adopted strategic plan. That's the long-term but what can we do right now? If you are eager to help take on this challenge, join a Teaching Circle (see sidebar), come to Kelly Mack's TAL on December 9th, or read Tanner (2013) who provides concrete teaching strategies that foster inclusive excellence in the classroom.

Together, we can do this work. Together is the only way we'll be successful.

--Patty DiBartolo

SCIENCE EQUIPMENT SUPPORT, LONG-TERM

One hallmark of science education here is students' hands-on use of sophisticated equipment to advance knowledge related to complex, urgent contemporary problems and scientific questions. For the past two years, the Science Center Directors, in consultation with the Equipment and Science Planning Committees, have pushed forward an initiative to create the processes and governance structure necessary to engage in long-range strategic budget planning related to our equipment assets. We are working closely with the Provost's and Finance and Administration Offices on the plan and will deliver a multi-year capital spending plan to College Hall this January for consideration in their strategic budget process.

Our capital plan relies on a careful inventory of current assets through a newly created Equipment Database, developed by our CATS Team in consultation with Margaret Lamb. Members of the database team (Tom Spooner, Suzanne Palmer, and Heather McQueen, in particular) have gathered lots of information about our equipment. We'd like faculty and staff to take a look, and make sure it is accurate and reasonably complete. Completion of this **review by November 11th** will help us a lot with our capital budget exercise. Contact Suzanne Palmer for a user ID and password.

We are also pleased to announce that a collaborative grant to the Massachusetts Life Sciences Center 2016 Competitive Capital Program has been positively received, advancing to the final stage of review. If funded, this grant will provide significant equipment support to the Centers for Microscopy and Imaging as well as Molecular Biology. Thanks to all of the faculty and staff who worked collaboratively to craft this grant proposal!

Reflecting on 25 Years of HHMI

Over the past 25 years, Smith College has benefited from over $7 million dollars from HHMI in support of innovative science education programming. At some point or another, HHMI has helped fund:

- AEMES
- SURF
- Summer Science and Engineering Program
- Interdisciplinary research centers
- Science outreach
- Equipment purchases
- Student travel

Our 2012 HHMI grant just ended. Now that this support is gone, what are we going to do? In the last three years, we have secured annual operating budget allocations to AEMES and SURF to sustain current programming in anticipation of the grant's end. This winter, we will deliver a long-range capital plan for our scientific equipment assets (see story on page 2). The Provost's Office provided one-time money to support course-based research experiences to continue our current efforts. The Directors, in consultation with Science Planning, will continue to articulate and advocate for the division's budget priorities in the future.

IMPORTANT DATES & ANNOUNCEMENTS

October 28, 2016	**Deadline for internal application for Goldwater Scholarship nominations**
November 11, 2016	**Deadline for review of your equipment in Sci. Ctr. Equipment Database**
November 29, 2016	**Deadline for internal application for Udall Scholarship nominations**
December 6, 2016	**HHMI Inclusive Excellence grant pre-proposal due**
December 9, 2016	**Kelly Mack, AACU/PKAL, Teaching Arts Lunch on inclusive excellence in STEM**
January 2017	**YOUNG SCIENCE LIBRARY CLOSES**

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