

A&SPIRE YEAR THREE (2016-2017)

Theme 2

BECOMING A NATIONALLY RECOGNIZED RESEARCH INSTITUTION



AOD 1 – Developing Top-Tier Tenure Guidelines

Year 3 Accomplishments

- Seven of the nine departments in the A&S sciences division (Anthropology, Chemistry and Biochemistry, Environmental Science, Geosciences, Physics, Psychology and Neuroscience, Statistical Science) submitted revised tenure guidelines that have been ratified by their faculties. Of these seven, three (Chemistry and Biochemistry, Environmental Science, Geosciences) also presented guidelines for promotion to full professor. Two other departments made considerable progress on their tenure

guidelines. Mathematics is in the final stages of revision of its tenure and promotion guidelines, but has not submitted a departmentally approved version. This likely relates to absence of a regular chair (Dr. Lance Littlejohn) who was on medical leave during the year. Biology, meanwhile, had previously delayed further discussions of its tenure and promotion guidelines until the arrival of its new chair, Dr. Dwayne Simmons, who came on board during the 2016-2017 academic year.

- The revised guidelines represent notable advances in expectations of scholarly productivity for success in award of tenure. All recognize both quality and quantity of research as important criteria that external peer review is essential, and that competitive extramural funding must be pursued to support the colleague's research program. Departments set targets for funding and publication that are linked to *A&Spire*, Academic Analytics (Environmental Science, Geosciences, Psychology and Neuroscience, Statistical Science), National Research Council (Anthropology), or other national norms for scholarship (Chemistry and Biochemistry, Physics). Departments with graduate programs emphasize the importance of mentoring graduate (especially doctoral) students as another indicator of becoming an independent investigator. Teaching and service remain significant areas for strong performance for all departments. These revised guidelines await formal approval (whether by the A&S dean or at the level of provost is to be determined).

Year 4 Goals

- All departments in the sciences and mathematics will complete their tenure guides, to include stipulations for external funding in an amount to support the faculty research program commensurate with expectations of aspirant institutions. This task should be completed by the end of the fall term of 2017.
- All departments in the humanities and social sciences will modify and complete their tenure guidelines, to include expectations that the tenure-track faculty member seek external resources to help support their research programs. This task should be completed by the end of the fall term of 2017.
- All departments will complete the "promotion to full professor" guidelines and incorporate them as part of the tenure guidelines document. This task should be completed by the end of the fall term of 2017.

AOD 2 – Increasing Research in the Humanities/Social Sciences

Year 3 Accomplishment

- English and Sociology began working on promotional guidelines to full professor.

Year 4 Goals

- All humanities and social science departments will develop a 5 to 8 year strategic hiring plan to include future retirements and expected requests for new faculty lines as they align with departmental, College and university initiatives.
- A Christian Ethics proposal will be further developed.
- A comprehensive administrative staffing study will be conducted in the coming year.

AOD 3 – Improving Doctoral Production in STEM

Year 3 Accomplishment

- In the fall of 2015 the science and math department chairs were asked (1) to work directly with the Graduate School in efforts to take better advantage of resources available for recruiting larger numbers of higher-quality doctoral students; (2) to develop plans for increasing number of graduates, and (3) to institute or enhance publication requirements for doctoral students. The results of these efforts were to be reported to the College in the annual departmental reports.

Year 4 Goal

- All science departments and the mathematics department will submit annual reports with strategies for how they will increase doctoral student number, quality and productivity. The report should include challenges to meeting these expectations and what the university can do to assist in their plans.

AOD 4 – Acquiring New Faculty in STEM

Year 3 Accomplishment

- During the 2015-16 academic year, strategic plans were submitted from three departments and programs: Chemistry and Biochemistry, Geosciences and Medical Humanities.

Year 4 Goals

- All departments will complete and submit a 5 to 8 year departmental strategic faculty hiring plan addressing potential retirements and expectations for new requests, to include the maximum use of existing space and the potential need for additional space outside of the current departmental footprint. Departments are encouraged to consider cluster or joint hiring proposals.

- As a strategic initiative the departments of Physics and Chemistry and Biochemistry, in collaboration with the School of Engineering and Computer Science, will submit a proposal for a Materials Science program.

AOD 5 – Increase Staff Support for STEM

Year 3 Accomplishment

- During the 2016-17 academic year, an additional office staff member, Sarah Ochel, was hired into a new administrative associate position in Psychology and Neuroscience. The office staff in the Department of Chemistry and Biochemistry was reorganized with realignment of duties; two of four staff members remained, the other two staff members departed (one transferred, another retired), a person with grant-related experience was hired (Hannah Mahan) and the office manager position was converted to a business operations manager (Steve Dutschmann). Similarly, the office manager position in the Department of Biology became a business operations manager (Rhonda King).

Year 4 Goal

- The Dean will work with Human Resources to assess administrative staffing of department across the College of Arts & Sciences.

AOD 6 – Creating/Enhancing Research Centers in STEM

Year 3 Accomplishments

- Four instrumentation centers, used for both research and teaching, are housed in the Baylor Sciences Building (BSB). Three of these (Center for Microscopy and Imaging, Molecular Biosciences Center, Mass Spectrometry Center) are housed in discrete locations and have directors who report to the BSB facilities director, Dr. Craig Moehnke. The fourth “center,” a collection of Nuclear Magnetic Resonance (NMR) instruments hosted in several locations in the BSB, comprises a collaboration between BSB facilities and academic departments (Chemistry and Biochemistry, Geosciences).
- Mass Spectrometry Center: All metrics of usage and productivity increased over the previous year. New equipment— a new High-Performance Liquid Chromatography (HPLC) — was purchased for this center. An additional staff position was approved, and Chinthaka Seneviratne was hired as a new mass spectrometrists.
- A graduate assistant from Chemistry and Biochemistry also has been assigned to work in the Mass Spectrometry Center. Rollout of fees-for-services has begun with the \$375 supply fee per group now in place. That fee will continue, along with mock invoicing

with the expected fee collection to officially start July 2018, approximately one year from now.

- Center for Microscopy and Imaging: Most activity measures increased in 2016-2017, including number of approved users, total active projects, funded projects and total samples. CMI director Dr. Bernd Zechmann taught the Scanning Electron Microscopy course (BIO 5300) to seven students during spring 2016. In 2016, four new instruments were purchased and/or installed — a vibrating blade microtome, a cryomicrotome, an automated sample processor (for both TEM and SEM) and a stereomicroscope with a fluorescence unit. Fees collected in 2016 totaled \$20,529, more than \$4,000 over what was collected in the previous year.
- Molecular Biosciences Center: This year, two aging instruments were replaced (a scintillation counter and a floor centrifuge) and two new instruments were added (an isoelectric focusing system and an automated cell counter), bringing this much-needed technology into the center. All usage metrics (user groups, publications, funded projects, pending/unfunded projects) increased over the previous year. Currently, no fees are charged for use of this facility.
- Nuclear Magnetic Resonance (NMR) Spectroscopy Center: The Baylor NMR facilities function through a collaboration between the Departments of Chemistry and Biochemistry and Geosciences and the Director's Office of the Baylor Sciences Building. Though this arrangement has historically been adequate to serve users, the need for dedicated expertise has grown significantly in recent years due to addition of three new instruments and addition of several large, established synthetic research groups in Chemistry and Biochemistry. There will be a need to hire a director/manager of the facility within the next two to three years to meet the growing demands of Baylor researchers and to provide the expertise necessary to develop the specialized multidisciplinary NMR experiments required to support a level of research that is in line with competing High Research and Very High Research institutions. There is also need to consolidate the NMR instruments into a single space. Most measures demonstrated a continued increasing trend in 2016: individual users, user groups, publications, numbers of projects and hours logged. Currently, no fees are charged for use of this facility.
- The Animal Facility, though not named a center, is another research facility housed in the Baylor Sciences Building and supervised by the BSB Facilities Office. This facility underwent extensive renovation in 2016, as it is becoming increasingly important for new hires who use animal models (primarily rodents) in their research. Baylor is making a substantial commitment to its goal of achieving Carnegie Very High Research status by supporting this facility and progressing toward AAALAC accreditation. Meeting these standards requires the hiring of additional personnel, establishment of standard operating procedures and other investments. Dr. Ryan Stoffel has been hired as Animal

Facility Director and Attending Veterinarian. Other staff in continuing positions are Lee Lowe (Animal Facility Supervisor) and Natasha Howard (Animal Facility Assistant). A fee structure has been developed, but charging has not begun. The primary need is to have faculty who will use this facility.

- The other nominal center in the College of Arts & Sciences is the Center for Reservoir and Aquatic Systems Research (CRASR), an academic research and education center rather than a core instrumentation facility. CRASR is a collaboration of faculty from several Baylor sciences departments in partnership with the City of Waco. Much of the center's research is funded extramurally.

Year 4 Goals

- There is a desire to consolidate the Nuclear Magnetic Resonance instrumentation under a single supervisor, to oversee all NMR instruments.
- CRASR will produce an annual report similar to those currently being proposed by the other centers in the Baylor Sciences Building.
- Create a comprehensive fee plan for faculty use of core centers.

AOD 7 – Planning for Masters Programs

Year 3 Accomplishments

- A new 4 + 1 master's program in communication is being vetted by the Graduate School
- A new master's program in Classics is being vetted by the Graduate School.

Year 4 Goals

- Complete the review for implementation of a new 4 + 1 master's program in Communication.
- Complete the review for a new master's program in Classics.
- Continue exploring other possible revenue-generating master's programs.