

# Minutes of the SDSM&T GGE Advisory Board Meeting

April 8, 2017

**Board Members present:** Rich Arnold, Steve O'Rourke, Jeanne Goodman (Board Chair), Tom Bidgood, Sherwin Artus, Barb Beasley (Secretary), Greg McDonald, Janet Carter, Ray Wuolo, Stuart Buchholz, Tim Wilcox, Paul Murphy, Bill Siok

**SDSM&T Administration present:** Heather Wilson (SDSMT President)

**GGE Faculty present:** Laurie Anderson, Foster Sawyer, Zeynep Baran, Maribeth Price, Sally Shelton, Ed Duke, Liangping Li, Kurt Katzenstein, Tim Masterlark, Arden Davis, Nuri Uzunlar, Chris Pellowski, Gokce Ustunisik, Darrin Pagnac

**Welcome, Introductions, and Meeting Agenda Review:** Jeanne called the meeting to order at 9:00 AM in the Classroom Building 205E and then turned the meeting over to Laurie for the GGE Department review and update. Laurie went over the agenda for the day and identified priority topics to be discussed.

Laurie introduced President Wilson who provided an institutional update:

1. Student success: SDSMT is focusing strongly on student retention/graduation and reducing barriers to success. Efforts have focused on math programs with a Board of Regents-funded project about to start its third year. The campus retention working group has added three faculty members to its membership.
2. Budget outlook: State funds are tight and the budget is flat, but the outlook is better than North Dakota. The school is well on its way to firm financial footing and paying back its loan from the Board of Regents. The budget for FY18 will likely not be as tight as the last four years.
3. New programs: Starting Fall 2017, undergraduate students can be admitted without declaring a major. A new Honors program also is being introduced and will focus on service opportunities in cross disciplinary teams rather than academic honors.
4. Enrollments: Current enrollment is about 2800 students. Annual enrollment increases are leveling off with smaller classes of incoming freshmen. The campus goal is an enrollment of 3000 undergraduates. There is now sufficient housing for this size of a student body, and the Foundation is focused on raising funds for expanding Surbeck Center and cafeteria. With the downturn in industry, fundraising for the MI building is paused.
5. ERI: We have hired a Director for the Energy Resources Initiative. Dan Soeder will have five years to develop this research program.

6. Departure: Dr. Wilson feels it her duty to serve the country as Air Force Secretary. She did not seek the position and loves being a University President.

### **Questions of Dr. Wilson:**

- (1) Q: Any thoughts to the Board of Regents increasing fees and tuition after the universities had asked previously to keep cost flat? A: BOR voted to increase fees for some departments to cover some inflation, but they are trying to keep tuition low.
- (2) Q: Increase of applications? A: 2014 was a high water mark for enrollments; the downturn in extractive industries and geology affects undergraduate enrollments, although in four years the demand may be back. Enrollments in mechanical engineering also are down on campus. Campus leadership and the Foundation are looking at scholarship funding. Over the last 15 years we have transitioned from a state to a regional institution. Over next 10 years, we should strive to become nationally recognized, especially because of the declining population of high school graduates in South Dakota. Presently SD Mines undergraduates are 52% out of state. SD Mines is the only SD BOR institution developing a strategy for enrollment and it is growing, although at a slower rate than in previous years. An area to expand is online programs.
- (3) Q: Comparison between Colorado Mines and SDSM&T; A: Colorado Mines is larger, offers petroleum engineering, has much higher costs for students, has a cap on out-of-state admissions (40% maximum for undergraduates), tends to be more focused on graduate programs, has higher credentialed undergraduates and has more industry sponsored research. The culture is also different, with SDSM&T students tending to be more cooperative and less privileged. SDSM&T is known for producing students that are kinesthetic learners and 'know how to use a screwdriver' and being able to work in teams effectively. For SDSM&T until 15 years ago there was no funding advantage to bring in out-of-state students.
- (4) Q: Trying to reach the next level in research; A: A population of 140 PhD students produces about 20 graduates per year (the level needed to be considered a Research Intensive institution). Current Ph.D. enrollment is 110, which is a significant increase. Research expenditures also have increased but research funds tend to be concentrated in a few departments, and there has been a recent decline in the number and value of proposals submitted. The hiring of four new department heads will bring leadership to increase research in these areas (Mechanical Engineering, Humanities and Social Sciences, Electrical and Computer Engineering, and Industrial Engineering).
- (5) Dr. Wilson ended by thanking the GGE AB for assisting with development of this program.

### **GGE Department Key items:**

- Faculty/staff news:
  - The Museum of Geology has a new Assistant Director, Danielle Serratos, who has an MS in vertebrate paleontology from the University of Alaska Fairbanks. As a graduate student she held a NSF K-12 Fellowship and is interested in developing the Museum's informal educational programming.
  - Dan Soeder will be the inaugural ERI Director in April 2017. He recently retired from the DOE's, NEHL in West Virginia.
  - Kurt Katzenstein has been recommended for promotion to Associate Professor with tenure.
  - Maribeth Price has become the Dean of Graduate Education at SDSM&T. She will still be connected to the department and museum through research, curation, and graduate student advising.
  - Christina Belanger and David Bapst have accepted positions at Texas A&M starting in August 2017.
- Awards: National to local awards for many students, including an Honorable Mention for an NSF Graduate Fellowship to Broc Kokesh; Outstanding Student Awards from the Laramide Chapter of AWG for Hallie Bower and Nichole Ridgwell, and a scholarship for London Ruff for her STEM video in a contest sponsored by the film *Hidden Figures*.
- Enrollments: have plateaued for undergraduates and are stable for graduate students.
- Actions to improve student success in undergraduate programs: The department has made concerted effort to retain students through mentoring, advising and fostering a sense of community through student clubs and organizations.
- Professional Placement: For 2014-15 there was 100% placement in both majors, although starting salaries were down substantially. For 2015-16 preliminary tallies show 89% placement in GEOE, and 62% placement in GEOL.
- Actions to improve student success in undergraduate programs: The department is focusing on increasing assistantships available through research assistantships, lobbying the administration for additional and more competitive stipends for teaching assistants, and securing gifts to support fellowships.
  - The GGE Department and the Mining Engineering Department are proposing a joint PhD program with specializations in Geology, Geological Engineering, and Mining Engineering. Anticipated benefits will be a larger pool of PhD students; more courses available to students; and cost saving through shared resources.
  - The proposal to use tuition and fees from non-thesis M.S. programs to benefit departmental research graduate programs is still under consideration.
- Outreach and recruiting efforts: faculty, staff, and students do a great job through Youth Camps, recruiting events, school visits, Engineers Week activities, and student clubs.
- Museum update: for specifics see handout provided at the meeting. Notably, Danielle Serratos is the new Museum of Geology Assistant Director.
- Research in the Department is continuing. Administratively, Co-PIs and their departments are now included in indirect cost distributions.

- Research update:
  - Foster Sawyer: Directs the PEEC program, which is most active Native American student program.
  - Tim Masterlark: has ongoing funded from NSF Geophysics and NASA
  - Larry Stetler: has a recent publication on erionite in soils in SD.
  - Zeynep Baran: Has funding from Coeur Mining to examine deformation and mineralization in the Silver Peak District.
  - A group from GGE and Mining has a proposal to the DOE to drill a deep borehole into crystalline basement rock to do geomechanical testing of these rocks for their potential as a nuclear waste repository.
  - Darrin Pagnac has funding through NSF to expand participation of underrepresented groups in the geosciences by researching the potential barriers in fieldwork experiences.
- Museum updates:
  - Laurie Anderson and Maribeth Price obtained funding to digitize a donated collection from USD consisting primarily of Cretaceous invertebrates from the Western Interior.
  - To date, 23k objects have been updated and entered into the new collections database; 75% done with grant support.
  - Sally gave a review on the Cycad NM project produced by her resource management class. The BLM provided catalog and curated the collection and have provided additional funding for Fossil Lake (Oregon) collections work.
  - Sally also reviewed the museum accreditation process through the American Alliance of Museums. Just under 1,000 museums are AAM accredited, including the Mammoth Site. The next step for the Museum is a self-study that will commence in 2017. After the self-study is completed, an on-site review is scheduled through AAM.
- Energy Resources Initiative Update
  - Fundraising has been quite successful (see handout) with support from alumni, friends, and industry
  - Dan Soeder, the new ERI Director, is very active with tribal energy resources and sees this as a potential niche area for the program.
  - GGE students participated for the first time in the Imperial Barrel Competition (sponsored by AAPG and SEG).
  - NSF EPSCoR Track I Program. EPSCoR is a program to provide funding for infrastructure to historically underfunded states to make them more competitive for federal grant funds. The Track I program supports large, interdisciplinary; multi-institution projects. For SD these projects have to also contribute to the economic development of the state. The goal is to build research capacity and abilities statewide around a research theme, including adding new PhD programs. One potential theme floated to date is around Cultural Heritage Science.

- Development Summary for Department and Museum in FY16:
  - Unendowed gifts to the department were \$340,894
  - In Kind gift total \$173,798,463
  - New Endowments totaled \$250,000
  - Unendowed gifts to the museum were \$2,360
  - Endowed gifts to the museum were \$20,000
- Development Summary for Department and Museum in FY17 (to date):
  - Unendowed gifts to the department were \$347,056
  - New Endowments totaled \$95,000
  - Unendowed gifts to the museum were \$1,125
  - Endowed gifts to the museum were \$25,000
- Development goals include support for the field station, scholarships, fellowships, ERI, and the MI building renovation.
- Department and Museum requests for FY18:
  - Department Hires: in geophysics, paleontology, geospatial technology
  - Increased operations support in the areas of teaching assistantships and operating budget
  - Funds for lab upgrades, particularly equipment for computer and petrography labs.
  - Funds to address salary compression and inversion
  - Funds to support a database manager for museum.
  - Funds to increase museum's education and outreach activities, and upgrade and improve exhibits.
- Break 10:58
- Reconvened at 11:15
- **Field Camp Update by Nuri Uzunlar:** Three new proposed field camp locations in South Africa, Morocco (pending ability to hire an instructor with a work permit), and Scotland were reviewed. Each will be 3-5 week geology field camps. In 2016: 18 courses were offered in 11 locations for 302 mostly US students. To support these camps, 38 PhD faculty and 7 TAs were employed. In total, 1,389 credits and \$1.4 million in revenue resulted. Nuri is doing administration including logistics, purchasing, and budgets and flying worldwide to resolve issues. Also, the BHNSFS supported travel for students to GSA. Field school attendance is decreasing nationally while the BHNSFS enrollment was 302 students. This compares to the next closest enrollment at University of Michigan with 135. Nuri is proposing to use revenues to support another position. He will create a narrative proposing a succession plan to continue providing field camps. He also discussed the issues for building a SD Mines field station, since Ranch A availability for the field school has become increasingly problematic.

- **Answers to AB questions for Nuri:**
  - The 6-credit camps and some of the other camps focus on geologic mapping.
  - Colorado School of Mines does not have a geology field camp.
  - Nuri said there is a consortium model in place to accommodate schools without their own field camps.
  - We generally recruit students at GSA and AGU, but not at AAPG.
  
- **ABET Update by Kurt Katzenstein: see ABET handout**
  - Required courses are assessed as part of the self-study. For these 13-15 courses, student work, assessment sheets, etc. are provided in the self-study.
  - The site visit in October went very well, and the review team was pleased with provided information. There was one concern noted by the evaluator, meaning that the program currently satisfies a criterion but the potential exists for the situation to change so that the criterion may not be satisfied in the future. This concern was about faculty in the area of geophysics.
  - SDSM&T GEOE is unique in that field competence is an added student outcome. Another strength is the consistent 100% placement of graduating students.
  - The GEOE program is in the process of updating student assessment plan and will redesign the self-study to be in compliance with new ABET criteria that are pending approval by the organization.
  - Steve O'Rourke congratulated the program and noted the hard work of Larry Stetler in putting together a successful review.
  - The AB expressed concern regarding filling the faculty position in geophysics and hoped that the administration would take the cited concern into account.
  - Kurt Katzenstein has become an ABET evaluator.
  - The AB wondered whether the self-study could be made public.

The general AB meeting was concluded at 11:51 A.M.

Lunch

### **AB Business Meeting:**

After the departure of GGE faculty except for Laurie, Jeanne convened the AB business meeting at 12:42 PM. Tim Wilcox was welcomed as a new AB member. Minutes for the October 2016 AB meeting were approved, on revision, by unanimous vote, with Greg McDonald making the motion to accept, which was seconded by Steve O'Rourke.

**Tom Bidgood and Paul Ching completed their terms on the AB and were thanked for their service. Nominations for at least two new members will be solicited for the September 2017 meeting. Areas of particular interest are Petroleum and Mining. Please send Laurie Anderson suggestions.**

### **Officer Election:**

**Chairperson:** Jeanne Goodman was nominated by Steve O'Rourke and seconded by Tom Bidgood. The nomination was unanimously approved

**Secretary:** Greg McDonald nominated Barb Beasley, with Tom Bidgood seconding the motion. The nomination was unanimously approved.

Old Business:

New Business:

1. The AB discussed how to link the GGE AB to ERI steering committee. One option is to have two separate bodies with a few members in common; the other option is to make the ERI steering committee a committee of the GGE AB. The GGE AB voted unanimously to have the ERI steering committee as a committee within the GGE AB. Steve O'Rourke made this motion with Greg McDonald seconding the motion. The CVs of new member(s) will be circulated via email with an initial vote via email. Final approval will take place at the September 2017 meeting. The GGE AB does not have a limit on the number of members or committees, although the Charter will need to be updated to include the ERI steering committee.
2. Business for September 2017 meeting.
  - a. Jeanne will review the GGE AB original charter and present revisions for discussion at the next GGE AB meeting. Modifications will include a review of standing committees.
  - b. Steve O'Rourke suggested a discussion between GGE faculty and the GGE AB about program needs and the AB role in addressing these needs.
  - c. The AB discussed following up on getting approval to hire an assistant for Nuri Uzunlar. At present a position description has been forwarded to the administration but approval has not been given for a search. The AB through a letter of support should go to the President, with a cc to the Provost. Steve O'Rourke committed to writing a draft letter by May 1, 2017. (Note: In May, Nuri Uzunlar received permission to search this position.

Individual Subcommittee meetings began at 1:31 PM. Following adjournment of the closed AB meeting in the afternoon the museum subcommittee met to discuss Museum activities, planning for AAM accreditation self study, and ideas for modification of exhibits.

**Respectively submitted by Barbara Beasley.**