

Minutes of the SDSM&T GGE Advisory Board Meeting

April 9, 2016

Board Members present: Paul Ching (Board Chair), David Hammond (Board Secretary), Rich Arnold, Steve O'Rourke, Jeanne Goodman, Tom Bidgood, Sherwin Artus, Barb Beasley, Greg McDonald, Janet Carter, Ray Wuolo, Stuart Buchholz

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

GGE Faculty present: Laurie Anderson, Foster Sawyer, Zeynep Baran, Maribeth Price, Christina Belanger, Sally Shelton, Ed Duke, Liangping Li, Kurt Katzenstein, Darrin Pagnac, Larry Stetler, Tim Masterlark, Arden Davis

SDSM&T Foundation representatives present: Ron Jeitz

Welcome, Introductions, and Meeting Agenda Review: Paul called meeting to order at 9:07 AM in the Christensen Hall of Fame Room in the King Center. He turned over the floor to Laurie for the GGE Department review and update. She went over the agenda for the day and identified priority topics to be discussed. Following adjournment of the closed AB meeting in the afternoon two subcommittee meetings will be held, one regarding The Museum of Geology and Paleontology activities and the other to discuss the geological engineering program's preparation for the upcoming ABET accreditation review, following the closed board meeting in the afternoon.

Laurie went over contents of the information hand out folders. She introduced President Wilson who provided the institutional update. Dr. Wilson began by commenting on what was happening on campus in the way of program initiatives, student activities and research projects, and noted how much of these were happening in GGE and the MI building. She has a number of concerns going forward however, and some of the critical ones are:

- (1) New student recruitment for the Fall 2016 semester is essentially even with last year. In-state applications are up but out-of-state are down; this at least in part is attributable to the tuition rise mandated by the Board of Regents for out-of-state students, which reduces the comparative value advantage SDSMT has in attracting students from other states. The value proposition is still positive and continues to be a valuable marketing point. Out-of-state attendees will be increasingly important as high school enrollments in South Dakota are flat to falling.
- (2) While PhD student numbers have grown, with currently 119 across all programs compared to 45 two decades ago, it is critical to maintain if not expand numbers via support with important research projects and funding.
- (3) The SDSMT facilities director and staff do an incredible job with the very limited resources they have available, but a lot of maintenance and upgrade issues exist across campus and resources for getting projects down will continue to be stretched thin. The MI building rehab remains a priority but the significant financial resources to do so remain problematic.

- (4) Attracting and retaining excellent faculties is another on-going worry, considering the State of South Dakota employment conditions and compensation levels. But obviously doing so is critical to delivering the high quality programs SDSMT strives for.
- (5) Dr. Wilson described the status of the Board of Regents loan that was needed to plug the School's budget hole of two years ago; good progress has been made but the repayment commitment will remain an impediment during the next two years. A side benefit from this unfortunate situation however has been the opportunity to put in place a financial management structure and control system which has been directed to achieve functional excellence and avoid repeat of the past problem.
- (6) Regarding philanthropy, an expansion of Surbeck Center is badly needed--very limited space exists for dining activities and the Alumni Office and Foundation need a new building. The next private-school student housing project, Placer Hall will be opening this summer. She also noted the Alvis Lisenbee Scholarship, which was established in Professor Emeritus Lisenbee's honor, will provide significant financial support to junior/senior geology students.

Dr. Wilson mentioned some strategies the institution is considering to address priority issues, including enrollment promotion via out-of-state compacts (not Iowa but perhaps Colorado), food services, how the SDSMT campus can best mesh with the Rapid City master plan, and possible campus parking restrictions. She ended her talk with a thank you to the GGE Dept. for all they have accomplished, and to the GGE AB for its very important support.

Laurie began the GGE Department update at 9:38 AM. Key items she described were:

- Student scholarship awards and faculty promotions/recognitions.
- The new student acceptance rate had declined for the university overall but for GGE is slightly up; GGE is focusing more on retention and is collecting data on why students leave the programs. On graduate placement rates, GEOE continues at 100%; one GEOL BS hired by Exxon boosted GEOL salary numbers (reporting on BS is over 1 yr with the AY 14-15 yr closing this May.)
- Need to increase competitive stipends for TAs is CRITICAL and is compromising ability to attract top caliber grad students and deliver the highest quality undergraduate education!
- GGE students have initiated establishment of a Sigma Gamma Epsilon chapter (national honor society for earth science university programs).
- The Department will run two Youth Camps this summer-paleontology and geology; all are full with wait lists.
- The Department intentionally changed the process of graduate admissions starting in 2012, resulting in a reduction over the last three years in the number of students accepted and enrolled into the graduate programs. This was done ensure that all students admitted had a faculty member that had self-identified as a potential research advisor. Grad applications for the fall semester are of high quality. The department has set goals for faculty/grad student ratios by program and graduation rates. Strategies to improve the programs and reduce residence times, such as accelerated MS degrees are under consideration or being implemented.

- Laurie highlighted the important research projects GGE has underway, and grant applications in progress. The major one pending is the potential Deep Borehole Project which would be sponsored by DOE in the Upper Midwest, possibly Eastern SD. Work is in progress to digitize the Museum of Geology fossil collections and organization and storage of cores/samples.
- Accreditation process for the SDSMT Museum of Geology by the American Alliance of Museums is making good progress; with core documents submitted, next steps are self study preparation and campus visit by AAM.
- The search for ERI Director position is being rebooted. The Petroleum Systems effort is making substantial progress, with software and hardware gifts from Schumberger, Baker Hughes and Hess. Students are attending the Rocky Mtn Rendezvous and SPE Fracturing Conference, and the initial Petroleum Field Camp was a huge success. Laurie made special thanks to Sherwin and Whiting Petroleum for their significant support of the camp, especially the site visits in the DJ Basin.
- BHNSFS field camp operations are expected to have another very successful season. Sixteen sessions are scheduled, involving 12 different field sites world-wide. Sessions have been fully subscribed with approximately 300 attendees registered. Nuri is currently in Spain to do operations planning for a new camp in the Pyrenees.
- Laurie went over the financial resources raised during FY15 and described donations to date in year FY16. She identified the priority goals for GGE and the MSM which faculty has set going into FY17.
- Filling of the open petrology faculty position is underway with three candidates in the review process.
- The GGE Budget Request for FY17 incorporates two sabbaticals--Maribeth for a full year and Larry the same if the Deep Borehole DOE grant comes through. It also covers the assistant professor position for petrology and the ERI Director. Teaching assistant budget amounts have to be set at competitive levels (not there yet) and the salary compression problem within ranks and between science and engineering faculty requires attention. Laurie noted that the university is assuming a 3% decline in enrollment for FY17.

Laurie opened the floor to questions which centered on progress of the Petroleum Systems minor; the first graduate will be out this spring.

Following a short break at 10:45 AM, Larry gave an update on ABET preparation activities, including changes to the program webpage and status of the geological engineering Self Study Report. Further discussion will take place in the breakout following the AB business meeting. Christina followed with a review of the proposal for definition and evaluation of student outcomes for the geology BS program. Eight objective outcomes are delineated.

Maribeth presented the proposed companion set of outcomes and assessments for the geology graduate programs. Professional ethics is an important component and meeting participants had an extended discussion concerning how critical such are in professional practice. Maribeth then reviewed the new Master of Engineering degree program which has been jointly proposed by SDSMT and SDSU. This 30 credit-hour program would combine technical and business

management courses but would not require a thesis. No new courses would be required at either institution, as the curriculum would involve ones already in place. At SDSMT courses would primarily involve those currently provided in the on-line MS professional programs in Engineering Management, Construction Engineering & Management and Mining Engineering & Management.

Maribeth next discussed some of the key outputs from the recent geology graduate program self-study assessment. An improved completion rate coupled with shorter residence time to complete the degrees needs to be achieved to meet Board of Regents targets. Solutions include efforts to improve graduate funding to shorten time-to-completion for students in graduate studies. GGE is also considering admission of students to non-thesis MS programs, so long as some of the funds accrued could be used to support thesis and dissertation students. An extended discussion ensued regarding the pros and cons of a non-theses MS then took place.

Lunch was provided at 12:30 PM. During the lunch Ron Jeitz gave the Foundation update. He noted progress is being made toward funding goals. Examples include Newmont scholarships, continued support from Whiting Petroleum; Baker-Hughes hardware and software donation, and Schlumberger's renewal of software licenses and possible support for associated computer work stations. Ron also made comments regarding status of the MI bldg remodeling project. He reported that a working group of representatives from the GGE, Mining Engineering, and Metallurgy faculty, the Foundation and the advisory boards for departments housed in the MI building has been formed to provide advice, coordination and financing ideas for the project. The first interactions of this group is expected to take place this summer. Dave Hammond has been named as the GGE AB representative to this committee.

The general AB meeting was concluded at 1:00 PM.

IAB Business Meeting:

After departure of GGE faculty except for Laurie, Paul convened the AB business meeting at 1:02 PM. Minutes for the September 26, 2015 AB meeting were approved by unanimous vote, with Greg making the motion to approve and second by Tom.

Old Business:

1. Board Self Assessment: The AB formally accepted results of the recently completed Faculty Survey and discussed key initial takeaways. Main points are:
 - (a.) Faculty members almost universally agree that the AB has been effective in assisting the GGE and is effective in providing guidance, suggestions and feedback.
 - (b.) The faculty does feel that interaction with AB members has definitely been of benefit.
 - (c.) Very clearly the faculty believes the AB has not been as effective as they anticipated in the area of financial support and fundraising! AB members acknowledge this as a shortcoming and discussed a number of aspects and issues regarding Department support, both financial and other such as guest lecturing. Laurie pointed out that financial support from the AB has been accomplished, citing the significant contributions by Sherwin, Steve and Paul. Discussions on this topic will have to continue.

(d.) But support is a two-way street--AB members are willing to get more involved in supporting student educational experience via giving lectures and technical presentations but they need to be invited by faculty to cover topics in which they have expertise.

(e.) Consideration of the survey findings must continue.

New Business:

1. Renewal of AB members: member terms for Paul and Jeanne are up as of the current meeting; both indicated they would be willing to continue service. Steve moved to re-elect them for additional terms and Rich provided a second. Approval was unanimous. Paul Nelson has asked to step down and Laurie will work with the faculty on another nominee for membership.
2. Steve and Dave initiated a discussion concerning expansion of the Advisory Board and importance of bringing in more members who have current executive level positions in industry. Such individuals are likely to have better access and decision-making input on financial contributions by petroleum and mining companies.
3. Election of AB officers for 2016-2017: Steve nominated Barb for Board Secretary with Dave providing a second. Barb agreed to serve and she was approved by unanimous vote. Dave nominated Jeanne for Board Chair with second by Paul. Jeanne agreed to serve and she was approved by unanimous vote.

The next meeting of the AB was scheduled for Saturday, September 17, 2016.

Paul asked if there was any further business to be discussed and there being none adjourned the meeting at 2:10 PM.

Individual Subcommittee meetings began at 2:15 PM, one consisting of a general discussion between faculty and AB members involved with Museum and Paleontology activities, and the second for issues related to the upcoming ABET general accreditation review for the geological engineering program.

Participants in the ABET discussion breakout included all geological engineering faculty and members of the AB who have geological engineering backgrounds/professional involvement. AB participants were Paul Ching, Rich Arnold, Steve O'Rourke, Jeanne Goodman, Tom Bidgood, Sherwin Artus, Ray Wuolo, and Stuart Buchholz. Faculty participants were Foster Sawyer, Liangping Li, Kurt Katzenstein, Larry Stetler and Tim Masterlark. Advisory Board Secretary Hammond had to recuse himself due to his position as a sitting Commissioner on the Engineering Accreditation Commission of ABET and the associated need to avoid any Conflicts of Interest. The following summary is provided by Larry Stetler who led the discussion.

The discussion agenda for the geological engineering meeting faculty consisted of:

1. Updating the Advisory Board on the status of the ABET self-study due July 1, 2016
2. Review feedback from the constituency groups regarding the program educational outcomes (PEOs)

3. Identify, discuss and approve and any changes to the PEOs as appropriate

AB members were satisfied with status of the Self Study Report and indicated no concerns about its completion by the ABET deadline. Members reconfirmed the content of the geological engineering PEOs as currently stated, but as a result of the discussions, there were two changes proposed and approved going forward:

1. Addition of the words 'within economic constraints' under PEO Number 2
2. Addition of the words 'and/or licensure' under PEO Number 2

These changes were adapted by the GEOE faculty and have been incorporated in program documents. Evaluation and assessment of the restated PEOs will begin during the fall 2016 term.

The geological engineering subcommittee meeting was adjourned after approximately 45 minutes.

Respectfully submitted,

David R. Hammond
GGE Advisory Board Secretary