

**Baylor University**  
**School of Engineering and Computer Science**  
**Board of Advocates**  
**Fall Meeting – October 7, 2011**  
**Baylor University**

Board members attending: Beth Casteel, Joe Cestari, Brad Crawford, Fred Logan, Hector Martinez, Bill Mearse, Craig Nickell, Harold Rafuse, Shawn Sedate, Steve Smith, Andy Spencer, Greg St. Denis, Rick Tullis, Trent Voigt, and Jim Wiethorn

Board members absent: Stephen Butt, Mark Cannata, Chip Fichtner, Romelia Flores, Dean Swisher, and Richard Willis

Others attending: Dean Ben Kelley, Don Gaitros, Bill Jordan, Kwang Lee, Kevin Ludlum, Dusty Bedwell, Leigh Ann Marshall, Cheryl Tucker, and various faculty, staff, and students from the School of Engineering and Computer Science (ECS).

## **Welcome**

Following a continental breakfast, Bill Mearse convened the meeting. He introduced Judge Ken Starr, President of Baylor University. Judge Starr thanked the Board of Advocates for being at the meeting. He went on to say, “artful listening” is what the Board can do for the School of Engineering and Computer Science, and he thanked them for their time and financial support. He relayed the gist of a recent *Wall Street Journal* editorial about future problem solvers. Although an array of jobs brought forth through technological inventions such as the iPod and iPhone exist, there was no coordination or central planning for these.

At Baylor, we’re “called to promote human flourishing,” said Judge Starr, and the applied sciences is an integral part of that process. He went on to say, “There is no substitute for genius plus skill set.” Judge Starr affirmed that future Baylor engineers and computer scientists will contribute to that “human flourishing.” He illustrated his point with the example of Baylor’s own Engineers with a Mission student organization.

Judge Starr concluded with another thanks to the Board of Advocates. He also celebrated the survival of the recent Big 12 controversy and welcomed TCU to the Big 12. He looks forward to having four teams in Texas, including TCU, and affirmed that the Big 12 is a stable conference.

## **Dean’s Report**

Dean Kelley began his report by reviewing the day’s meeting agenda. He introduced three new Board members: Brad Crawford, Greg St. Denis, and Romelia Flores. Then, he briefly discussed the recent Big 12 developments. “While the Big 12 may be in a lurch,” he said, there are many exciting new developments within ECS:

- A new Interim Chair of Computer Science, Dr. Greg Speegle
- Four new faculty this fall in ECS

- Three new staff this fall in ECS
- The best and largest freshman class
- The most successful STEM Job Fair
- Developments in ECS expansion space: the Engineering Research Annex, the East Village, and the BRIC
- Future academic programs, such as a dual computer science Ph.D with Czech Technical University and a mechanical engineering Ph.D. degree proposal
- Several grants being sought
- Accreditation visits for engineering programs will soon occur

Steve Smith asked how long the accreditation cycle lasts. Dean Kelley answered six years with on-going monitoring.

Andy Spencer asked for how much longer *US News and World Report* will include Baylor engineering programs in its undergraduate rankings. Dean Kelley responded that, although we cannot predict for how much longer, being compared in the graduate program rankings will require more qualitative data.

Rick Tullis asked how Baylor compares with other Texas schools. Dean Kelley reported that Baylor has the highest ranking of the Texas schools, including TCU, Trinity, LeTourneau. When compared with other graduate programs—Rice, UT, and A&M—it will be more difficult to predict where Baylor's rank will land.

Craig Nickell asked about the “significant jump” in the SAT score. Dean Kelley responded that Baylor is intent on attracting the highest level student. Invitation to Excellence, a recruitment event geared toward National Merit Scholars, is an example of such an effort.

## **ECS Residential College**

Adam Ecklund, Director of ECS Student Life Initiatives, gave, along with Keven Kehlenbach, Director of Construction Services, and Dr. Ian Gravagne, ECS Faculty in Residence, an update about plans for the new [East Village Residential Community](#) and plans for the ECS Residential College to be a part. Adam gave a brief history of the ECS Living-Learning Center and shared information about “holistic educational programming,” including why student life is an essential part of developing a successful engineering and computer science student.

Following their presentation, the Board members had questions. Bill Mearse asked about the location of the new East Village. Answer: It will be located at the corner of 2<sup>nd</sup> Street and Bagby Avenue.

Craig Nickell asked about funding. Answer: While it will cost around \$100M, around 80 percent of the funding has been designated by the University for the East Village and the expansion of 3<sup>rd</sup> Street. Dean Kelley added that the Health Science Residential College will also be housed in the East Village, and there are plans for other future expansion space there.

Trent Voigt asked if the East Village will contain co-ed housing. Dr. Gravagne responded that, while men and women would have separately-assigned rooms, a request for unrestricted access has been made.

Dean Kelley asked how many of the 700 beds will be a part of the ECS Residential College. Answer: about half. He also asked when ground would be broken. Keven answered, pending approval by the Board of Regents at their upcoming meeting, ground would be broken “sooner rather than later,” with occupancy expected in the fall of 2013.

Shawn Sedate asked what would happen to the current ECS Living-Learning Center space within the North Village Residential Community. Answer: This space will be given to the Fine Arts and Global living learning centers that are currently part of the North Village.

Greg St. Denis asked what would be the optimum size of the ECS Residential College. Answer: The plans for the space in the East Village currently represent the optimum size.

Trent Voigt voiced concern about Residential College students participating in other campus events and activities. Adam responded that, while this is also a concern of prospective students’ parents, Baylor students are, by nature, involved in the Baylor community. Additionally, even with intentional programming, some students opt to lead more isolated lives. Keven concluded by adding the East Village dining space will have additional, reservable space and will be a “main hub for off-campus dining” since there are many apartments close to this space.

## Development Report

Following a brief break, Kevin Ludlum, Executive Director of Development, addressed the Board. He shared several points:

- The past academic year, 2010-11, was the single largest fundraising year in the last 5 years.
- The goal to raise \$500,000 in new scholarships has been set for the 2011-12 year.
- Baylor is currently ranked 13<sup>th</sup> in the nation for fundraising.
- A dedicated staff person is needed to advance the School of Engineering and Computer Science.
- Baylor’s new Vice President for Development, Dr. Jerry Haag, is working on a key hire, Associate Vice President for Major Gifts, which could enable a better focus on a constituent or advancement person to focus on the population that is not yet identified as a major donor. This person would focus on the annual fund, direct mail, and phone solicitations, as well as alumni engagement on a larger scale.
- Conversations are on-going with two ECS donors for seven-figure gifts. There are also more six-figure gifts on the ECS-horizon.

Rick Tullis asked Kevin to compare ECS with other Baylor fundraising units. Kevin said that ECS is one of four units that raised more than \$1 million. Additionally, ECS is one of six that increased fundraising over the previous year.

Kevin went on to say that the top donors to ECS are Business school alumni, and the ongoing partnership between ECS and the Business School continues to be beneficial.

Dean Kelley asked how much money the University raised in the last year. Answer: About \$45 million was raised last year, which is \$10 million above the previous year. Kevin went on to say that Baylor is on track to raise \$75 million. Judge Starr is an excellent fundraiser, he said, who “gets the message out about Baylor’s return-on-investment.”

Steve Smith asked about the status of the BRIC fundraising. Kevin answered that much of the fundraising for the BRIC happens outside of the University Development fundraising discussions.

Fred Logan asked about the President's Scholarship Initiative. Kevin reported that nearly \$40 million has been raised, but the weak economy continues to influence people's reluctance to give.

## **Breakout Sessions**

After lunch, the Board divided into three departmental sessions.

### ***Computer Science Topics:***

Dr. Greg Speegle gave a brief introduction of our student organizations. Our increased number of majors has led to a revitalization of our student organizations and the beginning of a few new ones being formed. We had 4 students, each one representing one of our student organizations, give a brief talk and slide presentation.

1) Dee Guo-Gaming Club

Dee is one of the co-chairs along with Tyler Walker. Dr. Jeff Donahoo is the faculty sponsor. The Gaming Club has regular meetings and frequent Game nights during the semester. It is open to all interested students with a goal of professional and community development.

2) Taylor Felty-Computing for Compassion

The faculty sponsors are Professor Bill Booth and Dr. Jeff Donahoo. Taylor is in the process of submitting the request for a charter to get this as an official organization at Baylor. Their current project is the Magdalene House-Thistle Farms.

3) Jordan Thompson-ACM Baylor Chapter

Professor Cindy Fry is the faculty sponsor. They are applying to be an active Baylor charter again. They have been inactive for 3 years.

4) Michelle Greebon-ABB Association of Bioinformatics and Biotechnology

Dr. Erich Baker is the faculty sponsor. Their goal this year is to bring in speakers and to get information out about internships and where alumni are now.

Dr. Speegle showed a video of our ECS student organizations.

There was much positive feedback from the board members about these organizations and the enthusiasm of the students. They advised our current students that it is important to talk to graduates of our programs that are currently out working. Internships and contacts through alumni are important in finding a job. Our students expressed thanks to the board members present for their feedback and advise.

## ***Electrical and Computer Engineering Topics:***

Attendees:

8 faculty

4 board

### **Faculty Introductions –Kwang Lee**

Two “general degrees”

General Engineering

Bio Medical Engineering

### **New Faculty**

Liang Dong

Johathan Hu

Yung Li

### **One more person to hire**

Senior Faculty Member

Power and Energy Background

### **Expectations to Grow**

Need additional Faculty

Need additional space (Rogers building is full)

ME’s continue to outnumber ECE even though more ECE jobs available

Promote ECE to prospective students at Fall and Spring Premier

PhD Program approved 2 years ago

### **ABET Accreditation-Mike Thompson**

Fall 2012 is the site visit

Objectives-what graduates will attain in 3-5 years

Outcomes-what graduates can do when they leave the school

Assessments

PEO (Objectives) – broad statements what graduates are expected to do.

### **Brainstorming ECS Objectives**

Ethical

Good technical skills

Successful in graduate schools

Professional certification

Professional experience

Excellent oral and written and graphical skills

Logical thinking skills

“technical currency” – up-to-date

Customer skills

Team work / collaboration skills

Leadership

Business perspective

Create value

Thought leadership

Project management skills

Professionalism – dress, appearance, work-  
place etiquette

Networking – relationships

e-mail – phone etiquette

innovative

self-starting

adaptable, flexible

tenacity, perseverance

confidence

differentiating skills

vision – visionary

staying marketable

problem solving

courage

### **ABET Outcomes**

A –f (list of skills)

Originally a suggestion, now thought of as a requirement

Need to find a way to teach how to design an experiment, not just conduct.

### **Last Assessments Objectives were presented**

ECS faculty did their own brainstorming and came up with updated objectives

### **Advisory Board Review of Faculty Objectives**

Advisory board wanted to add the term “significant impact” to the objective about interacting with society. Originally, this was put into objective #2:

“...productive members making a significant impact on the various communities in which they serve.”

After reviewing the remaining objectives, it was decided that the “significant impact” addition fit better in Objective #3 rather than Obj. #2.:

Add the phrase “positively impacting society” to Objective #3. Do not add the addition to #2 because it would be redundant.

### **General Engineering Objectives**

Objective #3: eliminate everything after “...professional environment” as the list is not broad, but specific, and reiterates the outcomes listed in the ABET a-f list.

Compare the General Engineering Objectives to the ECE objectives.

### **Engineers with a Mission Program review-Brian Thomas**

Discipline specific mission trips

EngineersWithAMission.org

Donate air miles?

### ***Mechanical Engineering topics:***

Attendees: BOA members Brad Crawford, Fred Logan, Craig Nickell, Steve Smith, Frick Tullis, Jim Wiethorn. BU Faculty Dr. Stephen McClain, Dr. David Jack, Dr. Lesley Wright, Dr. Ken Van Treuren, Dr. Carolyn Skurla, Dr. Will Anderson.

Facilitator: Dr. Bill Jordan

### ***Transitions within the ME Department:***

- Promotion of Dr. Byron Newberry to full Professor
- New Assistant Professor Dr. Will Anderson - gave a brief intro of himself
- Dean Ben Kelley will join the department next year

*Engineering Mission Trips of 2011:*

- Honduras project led by Dr. Brian Thomas
- Dr. Jordan's trip to Rwanda to investigate future academic options and engineering mission trips

*Strategic Planning (Handout):*

The ME strategic plan, dated 4-28-10, was implemented a year ago. Additional copies are available thru Dr. Jordan. This plan covers education, both graduate and undergraduate, and sections in Christian heritage and community.

*Big 12 Engineering Consortium:*

- New name -University Engineering Alliance, effective October 3, 2011. There will be some non-Big 12 schools invited. It will be kept within the same general region.
- Nuclear engineering source courses will be continued.
- Dr. Jordan and Dr. Skurla have received a grant from the Nuclear Regulatory Commission. This is a collaborative grant with the Nebraska at Lincoln, Kansas State and Baylor. Each school is developing a one credit course module and those three will be combined into a three credit technical elective offering.
- Dr. Van Treuren reported on the expansion efforts being made into the energy and water area. The alliance is looking into opening graduate courses. Also looking at power systems, power electronics first and branching out to solar and other courses. A distant learning classroom may be one coming soon from a grant to enable us to proceed in that area of teaching. The courses will be taught under the Baylor course numbers.

*Entrepreneurship:*

Dr. Jordan reported on the development of new entrepreneurial type things within the ME program. The department will be receiving a grant from the Kern Family Foundation. Two big projects are Corporate Intern Entrepreneurship which is geared to the student being entrepreneurially minded and the other is having teams of students from more than one university working as design teams but meeting electronically. Starting Spring 12 or Fall 13, there will some senior design projects that will involve students from four different universities on the same team interacting electronically.

*Graduate Program and Space Issues:*

Dr. Jack reported on the progress the Ph.D committee has made. The committee has met with various school officials and have received positive feedback. Next step is to meet with Vice Provost of Academic Affairs/Research. A draft document has been made. Now to the point of putting together as to size of the program and how many faculty will be needed in the next ten years. The challenges that the department faces is between student enrollment, faculty size and lab space. The department is already utilizing space not only in Rogers, but the Goebel building, the Engineering Annex and Mars McLean. Space is becoming an issue with the growing department. ECS has approved having an admission standard using the minimum SAT/ACT score to enter freshman engineering. This was sent to the university curriculum committee yesterday and should be approved

by the end of the month. The SAT/ACT score will be a minimum acceptable range and will not be publicized in the catalog. Efforts to hire more faculty has been turned down. Space is a critical issue. Dr. Jordan agreed with Rick Tullis that the department needs a transitional survival plan. The department has submitted a request, three times, to convert a lab room into office space and that request has been turned down. Freshman engineering classes are not held in the engineering school. Space is a very important issue of this department.

*Accreditation Assessment:*

The next visit will be next fall. A handout was distributed listing Student Outcomes for all programs. The outcomes describe what students should know when they graduate. The department has additional outcomes which include Curriculum and Faculty. This past spring, the department revised its program educational objectives. Dr. Jordan passed out a survey to be filled out by the board members. The two topics to be filled out were “How well does the ME Program meet each objective” and “How relevant is each objective”. They need to be turned in before they leave the meeting today. Preliminary discussions have started with MCC in regard to them teaching the freshman engineering class but no formal decisions has been made. There is an articulation agreement with the University of Mary Hardin Baylor to teach our EGR 1301 class. General discussion followed.

*Website Issues:*

Dr. Skurla has been working on updating the website. She is also working on developing a brochure. Brief remarks were made about the workshop she attended in recruitment of graduate students. The school needs a webmaster.

*Invitation to Assessment:*

Dr. Jordan encouraged both board and faculty to take a 45 minute assessment sponsored by the Kern Family Foundation that tracks professional attributes. This is currently being done with the freshman class and trying to do it with the junior and senior class. Anyone interested needs to contact him.

[Link to Assessment document](#)

## **Board Closed Session**

The Board of Advocates met in closed session.

## **Full Board Session**

Following the closed session, the Board reconvened as a group to report on the departmental breakout sessions and discuss the day's topics. Bill Mearse relayed the Board's enthusiasm for the progress they heard about throughout the day, including the “positive trend line for enrollment, higher test scores, and the Residential College.” He applauded Judge Starr's apparent commitment and the strong fundraising report.



Bill shared the following “areas of focus:”

- The mechanical engineering program is “outstripped” by large numbers of students versus low faculty numbers and small space.
- The student life focus, via the East Village, within the School of Engineering and Computer Science should not overshadow the desperate need for academic space.
- That there is no space for mechanical engineering space at the BRIC was surprising to the Board.

However, he concluded, the Board remains optimistic and encouraged. The Board felt like the conversations it had with ECS had been heard, although the momentum for change was not very fast. Dean Kelley was appreciative of these comments and said he recognized that ECS is experiencing “growing pains.” He said ECS is “privileged, despite being the most expensive program,” and predicted that good progress will continue.

Rick Tullis encouraged Dean Kelley to “pay attention to critical tough points,” and he suggested that keeping the pressure on the Baylor administration will help ECS gain momentum.

The Board then gave a brief summary of their respective break-out sessions with the departments. Greg St. Denis reported that the electrical and computer engineering (ECE) group faces an upcoming accreditation review. Their discussion focused on brainstorming objectives versus outcomes. The resulting list from faculty matched the Board’s list. The ECE group also reviewed biographies of the new faculty and attended an Engineers with a Mission presentation.

Trent Voigt reported that four computer science students attended the computer science group. The students introduced a new computer science student organization, Computing for Compassion.

Steve Smith said that Dr. Bill Jordan gave reports on engineering projects in Honduras and Rwanda, the Big 12 engineering consortium (which enables course offerings not otherwise available at Baylor), the technology entrepreneurship partnership, progress with the proposed Ph.D. degree, and the upcoming accreditation visit. He said a big concern is student enrollment and the shortage of faculty and space.

The Board agreed on the date for the Spring 2012 meeting: April 13.

## **Updates: BRIC and Dean’s Search**

Dean Kelley introduced Dr. Truell Hyde, Vice Provost for Research, who is currently leading the efforts at the BRIC and chairing the search for the next Dean of the School of Engineering and Computer Science.

Truell began by saying, with the University in its second round of strategic planning, the Baylor infrastructure is appropriate for Baylor’s commitment to engineering. Eventually, all engineering research will move to the BRIC as Baylor “moves down the path for Ph.D.” degrees. There is a commitment to new faculty lines and increased research expenditures. These will enable Baylor to move up in the rankings. Although not involved in research in the past, Baylor now seeks to move toward a Christian research university.

Although ECS is hiring, the new, young faculty need experience. The BRIC will enable connections to industry and help with fundraising. With plenty of acreage on the BRIC property, future expansion will be possible for the BRIC to realize the goal of a research-only entity. Additional partners will enable business incubation and group meeting space, including K-12 STEM space and workforce training space for Texas State Technical College (TSTC). Recruiting high-tech industry to Waco also supports these goals.

Truell listed the BRIC partners: the City of Bellmead, Baylor University, the City of Waco, the Cooper Foundation, the Waco Chamber of Commerce, McLennan Community College (MCC), TSTC, Waco-McLennan County Economic Development Corporation, and the Waco Industrial Foundation.

The BRIC is currently in Phase 2. Architects have met with associated faculty to be able to accommodate around 100 people. Sixty-five-to-70 companies have expressed an interest in BRIC, and the criteria for being selected is that the company must be able to work with Baylor faculty and students. Truell showed the Board some photos and drawings of the current phase of construction.

Steve Smith asked how much space will be devoted to engineering research. Truell responded that placement in the building will be determined by need.

Rick Tullis asked about future expansion. Truell answered that some expansion will depend on the next dean of the School, which might enable new programs and, therefore, additional space in BRIC.

Truell concluded his remarks about the BRIC by complimenting Dean Kelley on his tenure as Dean. Truell continued by saying the search committee continues to solicit candidate nominations. He invited the Board to submit names of people who might be great candidates. Further, he described a great candidate as someone who would not apply for the position, yet someone who understands teaching and is an outstanding researcher who would bring research with him/her. Finally, the candidate must be an active Christian.

Dean Kelley asked about the search timeline. Truell said the goal is to complete the search within the current academic year, and (s)he will be in position by the fall, 2012.

There being no other discussion, the Board of Advocates adjourned their meeting at 4:35 pm.