

**Baylor University**  
**School of Engineering and Computer Science**  
***Board of Advocates***  
**Spring Meeting – April 15, 2011**  
**Baylor University**

Board members attending:, Mark Cannata, Chip Fichtner, Fred Logan, Hector Martinez, Bill Mearse, Jim McDonough, Harold Rafuse, Ken Ross, Shawn Sedate, Steve Smith, Harold Spangler, Andy Spencer, Dean Swisher, Trent Voigt, Jim Wiethorn

Board members absent: Beth Casteel, Joe Cestari, and Richard Willis Craig Nickell, Rick Tullis

Others attending: Dean Ben Kelley, Don Gaitros, Bill Jordan, Kwang Lee, Kevin Ludlum, Greg Davis, Dusty Bedwell, Leigh Ann Marshall, Adam Ecklund, and various faculty, staff, and students from the School of Engineering and Computer Science

## **Welcome**

Following a continental breakfast, Bill Mearse convened the meeting. He recognized Chip Fichtner, who was attending his first Board meeting. Then, he introduced Dr. Martha Lou Scott, Associate Vice President for Student Life. Dr. Scott began her remarks by putting the School of Engineering and Computer Science (ECS) into Baylor's historical perspective. Although some pieces of ECS academic programs pre-date the School's formation in 1995, ECS was an academic unit established fifty eight years after its predecessor, Hankamer School of Business.

Dr. Scott related her story of meeting Dean Kelley for the first time, at a Vietnamese Moon Festival. She described Dean Kelley as a "committed dean who knew students and was a part of their lives." She went on to say that successful programs have leaders who want to be first and then gather support. The ECS partnership with Student Life was a first for academic/non-academic partnerships. For example, the ECS Living-Learning Center (LLC) was the first Baylor program to feature a faculty-in-residence, Dr. and Mrs. Walter Bradley. Since then, Cindy Fry and her family have spent five years as faculty-in-residence (FIR), and, today, the LLC looks forward to the arrival of its next FIR, Dr. Ian Gravagne and his family.

Dr. Scott continued by saying "ECS is looking for the total development of students." For example, students living in the LLC earn better grades and achieve more success than students elsewhere in the University. The addition of an additional full-time staff member will further ensure students' success. Additionally, there are students outside of the LLC who are involved in the life of the University. For example, there are presidents of Greek fraternities who design and oversee construction of award-winning Homecoming floats.

Dr. Scott gave the example of "Kathryn," a student who took Dr. Scott's BIC 1212 class, "The Examined Life." "Kathryn," an engineering major, sat in the front row and attended each class and demonstrated a keen interest in each topic. After the course concluded, Dr. Scott lost track of

“Kathryn” until this year. As part of the “Bear Committee” that oversees the Baylor mascots, Dr. Scott attended the presentation of “Kathryn’s” senior design class presentation on a modified bear transport trailer. “Kathryn’s” professional development was obvious to Dr. Scott.

In closing, Dr. Scott encouraged the Board to consider Baylor’s 2012 Vision when considering issues relating to the University’s Strategic Plan. As with the 2012 Vision, “what once was dreamed has become the reason and reality why students attend Baylor.” Dr. Scott thanked the Board members for their time spent at Baylor. She asked if anyone had any questions.

Jay Battershell asked what percentage of students participates in the LLC? Adam Ecklund responded that ECS students participate in the ECS LLC and the Living Learning Centers related to the Honors College and Brooks Residential College.

Fred Logan asked about the plans for the “next village.” Dr. Scott predicted that the East Village will be constructed in future space between the Student Life Center and La Salle Avenue. Dean Kelley asked if there is any news about the East Village. Dr. Scott answered that Dr. Jeff Doyle has been gathering input about how the East Village should be constructed. It will be built in stages with a dining hall large enough to accommodate that side of campus where there is currently no dining facility.

Dean Swisher asked Dr. Scott whether there is anything she finds “persistently frustrating.” She answered that she “would like to take students out of the world for a time.” Students’ attention is often diverted and leads to distraction. She’d like to have students attend a “boot camp” that would teach priorities and provide immediate wisdom that would develop maturity. Students sometimes make poor choices. Also, there are many more heavily involved parents of the current generation.

## **Dean’s Report**

Dean Kelley addressed the board on the topics of ECS freshmen recruitment and enrollment, ECS student activities, faculty searches, the Baylor Research Innovation Collaborative (BRIC), ECS faculty promotions, the ECS LLC faculty-in-residence transition and other personnel changes, such as Dr. Don Gaitros’ retirement as Chair of Computer Science and Dean Kelley’s personal decision to step down as Dean after the 2011-12 academic year. He also discussed interim space requirements for ECS faculty offices and research will be housed in the former ROTC offices and classroom in what was originally the University’s Health Center.

Jim McDonough asked why the search for a new chair of computer science was unsuccessful. Dean Kelley answered that it was because of the candidates’ faith statements did not rise to Baylor’s expectations.

## **Baylor Strategic Plan**

Dr. Byron Newberry gave a presentation to the Board about the University’s ongoing strategic planning process. He said the new administration is looking at new directions. Last fall, the University inaugurated a new process. Dr. Newberry, a member of the Strategic Themes Committee, said the committee will consider all input from individuals and groups, gathered online and at Community Listening Sessions, and organize this feedback into common categories and themes for consideration by the administration who will propose the University’s Strategic Plan.

Dean Swisher asked if there would be any reconciliation with the 2012 Vision and would there be any new themes or direction proposed by Baylor's new President. Dr. Newberry answered, while 2012 provides a "good backdrop" to the current process, the University will not be constrained by 2012. The Strategic Themes Committee will consider all input to see what new themes might emerge. Dean Swisher posed a follow-on question: "Is there any guidance from the administration?" Dr. Newberry answered there is none, other than 2012.

Bill Mearse added that Judge Starr is a listener who will make a decision based on consensus. Also, he noted, Judge Starr provided the core convictions and foundational assumptions outlined in the 2012 documents.

Dean Kelley instructed the Board of Advocates to use a "clean sheet of paper" to provide input that would be submitted to the Strategic Themes Committee. Dr. Newberry added that useful input may be framed by the values, targets, and initiatives outlined in 2012. He encouraged the Board to use general, rather than specific, language. Finally, he said, "Strategic planning doesn't necessarily mean change."

Dean Swisher asked what the timeline will be for the process, and Dr. Newberry answered that the timeline has not been defined (although "Community Input" is due by April 30). The following comments were proposed, which, when excerpted, became the Board of Advocates' contribution to the Strategic Plan.



Fred Logan began the discussion by proposing that graduates be given an opportunity to graduate "debt-free."

Steve Smith proposed that mechanical engineering growth brings additional equipment requirements. Space allocations in BRIC will be necessary for research needs. Also, equipment replacement needs will need to be considered.

Bill Mearse said that Tier 1 universities need strong engineering and computer science programs. He reminded the Board of their previous discussions about "critical mass" and estimated that 1000 students enrolled in ECS programs will reflect reaching critical mass. He said that facilities, such as lab space, BRIC, etc. will be critical as well as retaining the hallmark teaching traditionally associated with Baylor. Research and research funding also needs to be built into the picture.

Dean Swisher agreed and asked the group "Where and what do we want to be in 5-10 years?" He encouraged the University to "have the end in sight" and to "stay on the right path with a consistent target."

Mr. Mearse added that the ECS Student Life concept is "radically different" than traditionally shown. He wants the University to consider the holistic impact of the student.

Jim McDonough asked the University to consider "scaling ECS for impact." He said that state-of-the-art facilities will enable the University to graduate leaders.

Jay Battershell proposed that the University consider diversity. He said that, from a Christian heritage standpoint, the University's population should mirror the church and be open to "initial underachievers" who normally would not consider attending Baylor.

Harold Rafuse said the University should continue to expand industry partnerships. Internships involving students as future employees are key, as are faculty externships that allow faculty to gain industry experience. There are many opportunities to participate in federal contracts and bidding processes, and Mr. Rafuse encouraged more bidding on federal and state contracts. Such contracts bring revenue that enable hiring more faculty and buying more equipment.

Chip Fichtner reported that Baylor engineers are more adaptable to professional settings. Also, with Baylor's prime geographic position, it can have a positive impact on aircraft-related industries. Further, new materials composites and regulations bring a large increase in testing. Baylor and BRIC should have a dedicated aviation component to be able to partner with a support industry. He said, "Texas is a haven for aviation industry" as well as related industries.

Harold Rafuse contributed to this notion by adding that the test areas should be surveyed in order that Baylor/BRIC establish a unique niche. He added that the BRIC will attract from around the state, and the University should look for ways to minimize costs and maximize benefits—low labor, attractive standard of living, etc.—to partnering companies, especially in areas where no other university is conducting research.

Fred Logan said that the breadth of engineering fields is important. He encouraged the University to expand logically and carefully in order to mesh with current programs.

Jim Wiethorn proposed that developing and maintaining relationships with alumni so that they will remain involved with the University is important.

Fred Logan suggested that on-campus housing should be available to all students including upper-classmen so that cohesion may be achieved and philanthropy may be cultivated in the student body.

Shawn Sedate related the experience of Harvard University with their strategic planning process and suggested that Harvard's progress might be a good model to monitor. Harvard asked, "Are we still relevant and do we appropriately reflect shifts in the world?" How might that relate to Harvard's traditional model?

Bill Mearse echoed the notion by proposing that ECS be sure of the future relevant teaching methods, technologies, and resources.

Dean Swisher summarized this idea by saying that the recurring theme is to remain adaptable. Jim McDonough agreed and suggested that adaptability to the "global model" is key, especially as we look toward where the next growth will occur.

Dean Swisher said "communication is key" to publicizing the vision.

Trent Voigt and Jim Wiethorn agreed that learning methods have changed in recent years. The books in a library are no longer as important as electronic libraries and resources.

Jim McDonough observed that universities in major cities maintain relationships with alumni, and there ought to be “sustainability” for Waco and Baylor.

Andy Spencer said that Baylor has a unique opportunity to have the Christian worldview of service and evangelism as part of its vision. He suggested that areas where Baylor is successful should be amplified for constituents. Jim Wiethorn agreed that effective communication is key.

Chip Fichtner suggested that alumni be invited back to campus to bring their professional excitement to current students.

Bill Mearse said that different technology and communication tools can all be used to reach alumni.

Hector Martinez asked whether long-term thought has been given to the next computer science program.

Shawn Sedate related the debate of a local elementary school’s decision to offer Mandarin Chinese instead of Spanish. He asked, “What’s our Spanish/Chinese debate?” Jim Wiethorn pointed to the rise of China in the research/testing industry.

As time for the discussion drew to a close, Dean Kelley and Dr. Newberry reminded the Board that the ideas proposed in the discussion would be submitted on behalf of the group to the Strategic Themes Committee. Dr. Newberry also encouraged the individual Board members to submit individual input.



## Student Panel

The following students met with the Board of Advocates: David Hagen (senior, mechanical engineering), Steven Mart (graduate student, mechanical engineering), Julie Moczygemba (senior, electrical and computer engineering), and Alicia Rogers (senior, bioinformatics). Each student gave a brief autobiographical sketch about him/herself by telling about his/her Baylor experience and after-graduation plans. The Board members were then given an opportunity to ask the students these questions:

*What’s the best thing about your Baylor experience?*

Steven: the small class size and opportunity to develop a relationship with faculty. Also, the opportunity to conduct research alongside faculty.

David: being a community leader in the ECS-LLC.

Julie: the Christian mindset; faculty are interested in a student’s overall life, not just in their classroom performance.

Alicia: taking on project leadership opportunities.

*Why did you choose Baylor?*

D: considered University of Texas and John Brown University. Visited Baylor, which combined factors of both of the other schools he considered.

A: came to Baylor for bioinformatics since it is one of the few undergraduate programs. She plans to pursue a Ph.D. at CalTech in biology, with an emphasis on bioinformatics.

*What about Baylor would you improve?*

D: provide more help for freshmen

*Do each of the students live in the LLC? (No.) Where do each student eat their meals?*

S: cooks off campus

D: tried no meal plan for 1 semester, but meal plans each other semester.

A: uses a smaller meal plan and has lunch on-campus

*Tell about the social aspects of living in the LLC.*

J: Welcome week participation is key to getting involved at the beginning of the year.

S: appreciates that some events are open to non-LLC students.

*What are your lab/technology expectations?*

S: the technology and equipment seems advanced, given his limited experience and observation

D: the polymers lab is growing, and quality research work is conducted at Baylor

J and A: the computer labs are adequate

*Relate any experience you've had with Engineers with a Mission (EM).*

D: is Chaplain for EM. He also went to Honduras two years ago for two weeks to repair a damaged dam for a pico-hydro electric generation project.

*Who is your favorite professor and why?*

S: Dr. Steve McClain has great rapport with students, and Steven considers Dr. McClain a mentor.

D: Dr. David Jack puts lots of effort into his subject matter and obviously loves the discipline. Also, Dr. Walter Bradley is an outstanding Bible study leader.

J: Dr. Randall Jean is engaging and dedicated and willing to work with students outside the classroom.

A: Dr. Erich Baker is her mentor. Additionally, he is the faculty sponsor of the bioinformatics student organization, ABB, and has hosted the group in his home.

*What would you change about your Baylor experience?*

A: wished for more bioinformatics courses.

J: wished for more electrical engineering courses. Current faculty are unable to offer more electives.

S: wished for more space for research labs

*Are you completing your degree on time (in 4 years)?*

All answered "yes."

*Did you have an internship?*

J: interned all three years. She went through online application processes and felt prepared for her experiences.

S: interned at SpaceX.

*Is there anything else you'd like the Board of Advocates to know?*

S: loved his time at Baylor. It has been just what he wanted and expected.

*What do you want from Baylor after you leave?*

S: engineering-specific alumni group

J: that Baylor bring more engineering-related companies to Baylor career fairs.

## **ECS Student Life Update**

After lunch, Adam Ecklund, Director of Student Initiatives, spoke to the Board. He said his focus is “helping students be successful inside and outside the classroom” as he works with individual students. He emphasized the philosophy of incorporating student life/development in the challenging majors of engineering and computer science. He outlined seven principles for success and the university’s support for student engagement outside the classroom. He introduced new ECS student life staff members and outlined the success of programs such as Renaissance Scholars, Line Camp, the freshman experience and the living-learning center. He shared enrollment statistics and tools for retaining students. In conclusion, he listed mental health, lack of preparation for college, time management, lack of study skills, and motivation as primary student issues.

In the conversation that followed his presentation, the Board asked the following questions:

Why are there more mental health issues?

A: Possibly because of enhanced labeling of current students.

Why is stress a big factor?

A: Possibly because millennial generation students have not been told they can fail.

Do other universities incorporate student life into the engineering disciplines?

A: University of Texas and Duke do; otherwise, it’s rare.

Do other Baylor academic units incorporate student life at the level ECS does? A: No.

## **ECS Development Task Force and Fundraising Update**

Leigh Ann Marshall gave the Board an update on the 2010-11 ECS Development Task Force. This group of faculty and staff met throughout the academic year to discuss ways to engage external constituents, increase faculty involvement in fundraising activities, compile ECS departmental needs lists, and cultivate current students toward philanthropy.

Next, Kevin Ludlum gave an update on ECS fundraising progress. He reported

- individual giving is up 53%
- corporate/foundation giving is up 52%
- pledges are up 411%

The Board asked Kevin about the mechanics of setting up a deferred gift. Kevin described the “bequest intention letter” that specifies how a gift would become part of someone’s will. There are consultants within University Development who can assist with this process. Kevin said, “A deferred gift is the simplest way to make a gift,” and there are many estate planning tools that can help. He pointed out that it is important to keep Baylor informed of developments, such as when Baylor is included in a will.

When asked what is driving these positive philanthropy trends, Kevin said there is more intentional asking from the University as the alumni base becomes more informed. The recently publicized President's scholarship initiative has also helped.

## Full Board Session

Following the Board's afternoon closed session, they reconvened with Dean Kelley to offer this feedback:

1. While the Board understands, the news of the Dean stepping down from his administrative position to a faculty position is naturally disappointing. The Board offered Dean Kelley their thanks for the past 12 years. Going forward, the Board remains available and supportive of the Baylor strategic plan.
2. The Board proposed these areas of natural expansion for ECS programs:
  - a. Biomedical expansion, given Baylor's pre-med reputation and central Texas location.
  - b. aerospace expansion, given central Texas location, BRIC, and ECS integration
3. The Board repeated their suggestion that ECS get involved with instrumentation and testing, including natural collaboration with TSTC and other educational neighbors.
4. The Board asked how Baylor protects intellectual property. Dean Kelley answered that intellectual property (IP) is complicated. Sometimes Baylor ignores policy in order to foster a partnership because the focus is on being successful.
5. The Board is concerned about computer science enrollment trends. Dr. Gaitros responded that, overall, enrollment trends have been positive. This year, however, enrollment is lower. This may relate to a lack of participation in the computer science fields. However, companies continue to hire. Dean Kelley added that the game development and simulated environment concentration remains a popular path.
6. The Board is impressed with the ECS Student Life element. They enjoyed the earlier interaction with the students and support continued integration of student life and ECS academic life.
7. The Board remains concerned about the lack of support for students' career/intern searches. They wondered if there is something that can be done within ECS to promote career search, and they suggested tools such as social networking. Students are unhappy with Baylor Career Services, and Board/employers are unhappy and frustrated with the Career Services system, too. The Board reminded the Dean that assisting students with their job search fosters an emotional connection that would carry forward after graduation.
8. The development trends were very positive.
9. The Board offered to help with committee service, philanthropy, professional development, and strategic input. They would like to assist more frequently over the upcoming year.

Dean Kelley was very appreciative of the feedback. He underscored his philosophy that ECS work alongside existing University systems, although Career Services is a chronic problem.

Bill Mearse recognized Dr. Gaitros for his upcoming retirement and thanked him for his contributions. He also recognized rotating Board members, Jim McDonough and Ken Ross, and thanked them for their Board service.

The Board agreed to meet next on October 7, 2011, and the meeting concluded at 4:20 pm.