Letter from the Chair

Dear Biomedical Engineering Alumni and Friends:

Once again, I’m happy to be able to bring news about some of our successes in the Department, and let you know that we continue to be dedicated to our mission of providing outstanding opportunities for learning and discovery in Biomedical Engineering.

In recent newsletters, we’ve focused on a variety of themes - the undergraduate curriculum, new laboratory facilities, learning styles, and a spotlight on faculty research. In this issue, we celebrate the success of our students. The potential of our students is the core around which we can build a great department, and each of our students comes to Tulane with unique backgrounds, abilities, and expectations. The best measures of the programs are, however, not the aptitudes of the incoming students, but the education and success that they achieve while here and in their later careers. The faculty takes pride in the accomplishments of all of our students - especially noteworthy are the six students who received special awards at the School of Engineering Awards Banquet held in April. I asked them to describe their interests and accomplishments in Biomedical Engineering their responses are included on the following pages.

In addition to highlighting the accomplishments of these award-winning students, I invite you to visit our web site to learn more about student activities. For example, the titles and abstracts for the yearlong undergraduate research projects are available at [http://www.bmen.tulane.edu/research_new/reports/indep_index.html](http://www.bmen.tulane.edu/research_new/reports/indep_index.html) and descriptions of the yearlong undergraduate team design projects are available at [http://www.bmen.tulane.edu/~dar/tdp_home.htm](http://www.bmen.tulane.edu/~dar/tdp_home.htm).

The PowerPoint file linked from this page includes descriptions and photos of the teams, their designs, and their clients from the March 2003 annual design show.

You are also invited to visit the alumni page at [http://www.bmen.tulane.edu/alumni/index.html](http://www.bmen.tulane.edu/alumni/index.html). We will be looking to do a better job communicating with our alumni - especially via e-mail - and we would very much like to hear about how you are doing in your careers. Please also continue to let me know of employment or internship opportunities by e-mailing me (rthart@tulane.edu) so that I can post it onto our intranet newsgroup, tulane.bmen, for students to see. I’d like to continue building a network of Tulane connections to help our students and alumni.

I hope you enjoy reading about our efforts and successes, that you will take the opportunity to keep current via the network and e-mail, and that you will step by to visit us when you are in town. In particular, you may want to mark your calendar for Saturday, January 24, 2004. That’s the planned date for a Biomedical Engineering Research Day at Tulane when each of our seniors will present the results of their yearlong independent research projects during a daylong symposium. (fill have more details in the Fall Newsletter.)

Thanks, in advance, for your help and interest in the department - and keep in touch!

Sincerely yours,

Richard T. Hart, Ph.D.
Department Chair
Biomedical Engineering Student Awards

Darryl Athos Dickerson
Hometown: New Orleans, Louisiana
BS, BME, 2003
Award Received: Society of Tulane Engineers Sullivan Student Award

I became interested in BME as the result of a knee injury I sustained while playing football in high school. The injury left me unable to bend my left knee for months, but it provided an avenue for me to explore medical sciences and led to my discovery of the field of biomedical engineering.

I am most excited about the impact that biomedical engineering can have in so many different areas of life. I know that somewhere along the line, the work I do will be able to help improve life for many people. That is the most rewarding feeling in the world.

Academically, I have gotten a good foundation in engineering from the biomedical engineering curriculum and I have been taught to be a problem solver rather than an equation solver. I don't think I have ever felt forced into any particular area of study. Rather, my interest in certain areas has gradually grown over time and I have had the freedom to explore those areas through coursework and research. I was reluctant at first to do anything besides schoolwork, but taking part in extracurricular activities—engineering organization and being active in student government—has made me feel a part of the greater Tulane University community.

This fall I will begin graduate school at Tulane University, hoping to obtain a Ph.D. within the next five years. After that, I think I may spend a little time exploring the biomedical engineering industry, but eventually I would like to take a position as a professor of biomedical engineering where I can perform high quality research in an environment that allows me to help educate future scientists.

Meghana Kamath, continued

I decided to pursue cancer research as a career, which led me to biomedical engineering and my decision to attend Tulane University due to its strong biomedical engineering program and proximity to home.

During my undergraduate years at Tulane University, I have become familiar with the different areas of research and studies available to a biomedical engineer. With my growing interest in cell and tissue engineering as well as mechanics and bioinformatics, I discussed with my professors the many concentrations that I could choose from to focus on cancer research and therapy.

I have learned so much at Tulane in my four years here. The professors in the BMEN department are amazing. I feel very close to some of them, who have influenced me beyond the classroom and have helped me decide what to do with my future. My favorite part of the curriculum were the bridge courses, which let me get a taste of some of the BMEN concentrations. After taking these classes, I have chosen Cell and Tissue Engineering as my focus. My senior thesis involves the design of a device to isolate mesenchymal stem cells from bone marrow. In my Senior Team Design project, my teammates and I interacted with our client, a toddler with cerebral palsy, to design and supplement current technology to suit his needs. We modified a high chair and a bath chair to accommodate his physical constraints. These projects have solidified my desire to pursue a doctoral degree in BMEN because I find research and improving a client’s quality of life both challenging and rewarding.

After graduation, I’ll backpack in Europe for six weeks. This fall I plan to begin graduate school in a Ph.D. program—probably at the University of Illinois at Chicago. After I obtain my Ph.D., I want a research position in industry studying cancer.

Meghana Burde Kamath
Hometown: New Orleans, Louisiana
BS, BME, 2003
Award Received: Nissim Nathan Cohen Memorial Award for Outstanding Leadership, Scholarship, and Citizenship

During my senior year of high school, I realized that my interests in math and science would help me to become a great engineer.

My only decisions involved choosing between chemical and biomedical engineering and selecting a university. It was at this juncture in my life that my younger brother was diagnosed with chronic myeloid leukemia. I watched him suffer through chemotherapy and other treatments and then miraculously show signs of recovery when he was enlisted in a clinical trial for an experimental, enzyme-specific drug. This event changed many of the views that I had previously held.

Samuel Robert Kuo
Hometown: Cherry Hill, New Jersey
BS, BME, Duke, 2000
Award Received: Teaching Assistant Outstanding Service Award

I've always been interested in science and engineering, and coming into Tulane I was intent to get my degree and eventually go into industry. My first year experience as a teaching assistant though, greatly changed my goals and has guided me toward pursuing a career in academia. I found that working with students was extremely fulfilling and allowed me to not only confer my knowledge to the students as developing engineers but to learn from the students as well. I've also found that working in a lab environment has also provided the same kind of beneficial interaction.

I hope to continue to have a role in teaching as I finish my graduate studies and eventually teach at a university.
I originally started college at a different university majoring in chemistry, but one project that I became a part of led me to change my area of study. I was working on a project funded by a grant from the National Science Foundation called “Enabling Success.” The project was intended to encourage physically disabled adolescents to pursue careers in math, science, and engineering. The children had such determination yet were hindered physically. Both of these aspects inspired me to pursue study in a field where I might be able to contribute to the advancement of science in a more hands-on, and in my opinion, meaningful way. After transferring to Tulane, I have found that I am able to study engineering in the way it is intended. The teaching is superior, both inside and outside of the classroom. Moreover, my learning experience here at Tulane has been made better due to the freedom given to me by the department of Biomedical Engineering in reference to my research interests. This aspect has spurred my own independent thinking, initiative, and desire to continue life-long learning.

Joseph Olberding, continued

Biomedical Engineering at Tulane is a tight-knit department that truly cares for its students. The faculty are friendly, down to earth, and excellent instructors and mentors. Indeed, the continuing ingenuity and innovation utilized by the faculty in preparing coursework has, in large part, fueled my absolute dedication to my academic pursuits. Additionally, the dual independent research and team design projects make the undergraduate program one of the most challenging and rewarding I know of. These attributes result in the rare combination of both theoretical and practical experience as an undergraduate. Above all, the curriculum stays true to the philosophy that an undergraduate higher education should not just train students “how to be engineers” but to provide a broad foundation by which to think critically, creatively, and analytically. Tulane BME takes all of these things, and it does them superbly. My experience at Tulane has thusly positioned me for a myriad of professional possibilities.

Next year, I will enter the department’s 5th year M.S. program en route to a Ph.D. Ultimately, I’d like to work in automobile safety engineering and analysis.

I had wanted to study engineering for a while in high school. Learning how to build a lighter camshaft sounded fun but a little one-dimensional. When I read about biomedical engineering, the interdisciplinary, multi-faceted approach really appealed to me. I visited the department here spring of my senior year, I liked what I saw, and the rest is history.

I find brain biomechanics to be one of the most compelling subjects in biomedical engineering. It’s very poorly understood but extremely relevant with regard to traumatic injury and vehicle safety. I started work with a computational model of the brain for my senior thesis and am continuing this work next year toward my master’s. Biomedical engineers, having a solid basis in the life sciences with the technical background of an engineer, are enabled to observe biology and medicine from a novel and unique perspective. This notion is well-demonstrated through my interest in biomechanics and gravitation toward brain injury research.

When the time came, entering the biomedical engineering program at Tulane was a fairly obvious choice for me. It allowed me to explore my interests in medicine and engineering while enjoying a warmer climate. Only later did I realize just how little I really knew about biomedical engineering and how incredibly diverse this field really is. What excites me most about biomedical engineering is its relative youth as compared to the other engineering disciplines as well as the rapid rate at which new discoveries reshape its identity. My academic success here at Tulane is due to the simple fact that I am studying the topics that interest me. I owe nearly all of this continued interest and desire to learn to Tulane’s faculty, who take it upon themselves to challenge and inspire their students every day.

Following completion of my undergraduate coursework, I plan on remaining at Tulane to obtain my M.S.E. through the 5th Year Program. From there, I hope to continue my studies at medical school. My long-term goal is to become a practicing surgeon while still keeping a hand in current biomedical research.
BMEN STUDENT ACHIEVEMENTS AND RECOGNITION

Darryl A. Dickerson and Richard Morency enjoyed the American Society for Mechanical Engineering's Bioengineering Division Awards Banquet, which was held on a riverboat cruise as part of the 2002 International Mechanical Engineering Congress & Exposition, held in New Orleans.

Darryl, Richard, and a supportive Tulane BMEN contingent (not shown) were celebrating Darryl's Second Place and Richard's Honorable Mention in the bachelor's-level student paper competition.


BMEN STAFF RECOGNITION

Kenneth H. Kuhn, BMEN Lab Supervisor/Teacher, was one of 10 Tulane staff members to receive the 2002 Tulane Excellence Award. President Cowen presented Kenny with a monetary award, citing Kenny's contributions to enhancing university objectives. Candidates for the university-wide award are nominated by peers or supervisors, and were recognized at a dinner at the president's home in December 2002.