This fall, EPMP/PSM director, Dagmar Beck, joined a small group of industry experts on a field trip to the Caribbean led by Earth science professor André Droxler. With a group of students they snorkeled around the coral reefs about 30 miles off the coast in Belize. The trip was a part of ESCI 516, a graduate-level course on the carbonates that form the reefs in Belize and how global change affects them.

Visions of lazy days on beautiful beaches and in blue waters did not describe reality. Droxler kept everybody on the go, waking at sunrise, a lecture after breakfast, swimming in the ocean for eight hours, and dinner followed by student presentations on the day’s observations. Everyone soon realized that a lot of learning and physical activity were the order of the day.

This was a truly “unconventional “ experience for all participants. Rice videographer Brandon Martin summed it up well: “Any university can book flights, boats and rooms in Belize. What is unconventional is a professor who has been going there for more than 30 years, who knows the owner of the island resort, and invites their daughter, freshly crowned as Miss Belize, on the boat with the students. Uncommon is when the professor brings along a former student who is now a leader in oil and gas to network with current students. Unorthodox is when the professor books one of the country’s most popular native bands, The Garifuna Collective, to perform for them on the final night of the trip. Rice is a place filled with people like André Droxler, who put their unconventional stamp on the Rice experience.”

**EPMP student highlight**

**MICHAEL HART, BIOENGINEERING/GMI**

**MH:** I’ve always had a desire to help people in my career, even before I decided to pursue biomedical engineering as an undergraduate. As a biomedical engineer, I am able to use my knowledge base and skills to help advance the healthcare system by producing innovative solutions for a variety of health-related issues. By pursuing a professional master’s degree in the GMI program, I can continue developing the skills I gained from my undergraduate bioengineering degree, as well as gain further insight into medical technology development in various settings around the world.

**GMI:** Tell us about an experience in the program that you feel will have an impact on your career.

**MH:** My summer experience working in manufacturing engineering at Boston Scientific in Costa Rica had, and will continue to have, a large impact on my career. Prior to my summer internship in manufacturing, I did not have much context or experience with the manufacturing and production side of medical devices. Though quite different from the technology development side of medtech I am familiar with, manufacturing engineering provided me with incredible insight downstream in medical device development, and highlighted the effects of good vs. bad product design and the importance of design for manufacturability.

**GMI:** What is your advice for GMI-hopefuls?

**MH:** Keep an open mind throughout the program. You may be expecting things to go one way, and they may not. Do not let that discourage you in any way. The GMI Program is heavily modeled on a typical medtech industry job experience, and as such, things can change in an instant, new projects spring up, old projects die out, and you have to be ready to adjust to new circumstances at any given time.
This year’s board meetings discussed the ongoing industry slow-down and confirmed that graduate hiring is continuing, although at a much slower and more limited level.

Common topics in these meetings circled around workforce needs in computer science and machine learning, data analysis, and programming. Board members also emphasized that students need to have a firm grasp of basic engineering and science subjects. Hot topics and new trends come and go, but an engineering or science education rooted in strong training in fundamental physics and mathematics provides solid knowledge, and individuals strong in these skills can pick up whatever challenge comes their way.

When asked what catches their attention when reading resumes or interviewing job applicants, a board member said: “I am looking for an edge, something that demonstrates that they have capabilities above the average, something that demonstrates independence and initiative. ”

“We are looking for people capable of thinking system and not just a narrow subject. An applicant should be a self-starter, self-learner, multi-disciplinary, a good communicator and effective in a team.”

Board members also felt that training in project management, introduction to regulatory guidelines, CAD/CAM/SAS and other software training would be helpful for students to find employment.

Our Professional Master’s programs encourage students to practice soft skills and round out their technical education with business, management and leadership skills.

**CORPORATE RELATIONS**

**STUDENT ENGAGEMENT**

**Conferences & outreach**

Rice had a strong showing at this year’s SpaceCom Conference—physics and astronomy professor, David Alexander, was active on the board, and there was strong participation by professional master’s students who helped man the booth, engaged with industry representatives, and attended space lectures and discussions. The three-day event was engineered to fuel business innovation across the aerospace, medical, energy, transportation, maritime, communication, and advanced manufacturing industries.

In addition, the program was well represented at BioHouston meetings, Pumps & Pipes hosted by ExxonMobil, the NEXT HR Forum, the IRESS Symposium at Rice, WEN Houston events, GACC roundtable discussions, Rice Alliance business showcases, Baker Institute talks, the CCD Recruitment Symposium, the Engineering Design Showcase, and the ECE reception and poster session. EPMP/PSM also participated in the HPC Workshop and Networking Event, and the OTC 5th Day Event held at the Rice Business School.

**Imperial Barrel Award 2016**

Under the guidance of ESCI professor, Dale Sawyer, students of the SG program participated in the highly competitive, annual Imperial Barrel competition, a great opportunity to learn about the oil and gas industry and network with many industry representatives.

**PetroChallenge**

A competition held at leading universities in which inter-disciplinary student teams compete and collaborate to discover and develop hydrocarbons.

SG student, Zuyue Zhang, was on the winning team with chemical engineering Ph.D. student, Pei-Hsuan Lin, and Yufei Shan, a student in energy economics.
RECRUITING


Gradfairs: Texas A&M, UT Austin, UTSA, Trinity, St. Mary’s, UCLA, and visits to Drexel University, University of Pennsylvania, Swarthmore College, and American University

Chia-Jui Chang (Renn), Bijia Zhang, and Ziqian Fan at PSM/EPMP table at SASE Conference in Dallas

Coordinated degree program a success

The fast-paced nature of high-tech industries requires an unparalleled leadership style, one that blends a breadth of technical expertise with a firm foundation in business principles. The coordinated degree of a Master of Business Administration and a Master of Engineering or Master of Science provides graduates with the unique opportunity of leading technology firms through dynamic shifts of innovation.

In collaboration with Rice’s Business School, we have stepped up marketing efforts for these programs with great success. Interest in the programs has seen a steady increase this year and graduating students are entering the workforce. Deloitte, Baylor, ExxonMobil, Emerson, Goldman Sachs, and Houston Methodist are some of the organizations hiring these students.

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Chia-Jui Chang (Renn), Bijia Zhang, and Ziqian Fan at PSM/EPMP table at SASE Conference in Dallas

ALUMNI PROFILES

SANDEEP RAMAKRISHNAN (EPMP ’14) earned his master’s in Electrical Engineering from Rice in 2014. He cherishes the experiences he had from being captain of the Graduate Student Association (GSA) beer bike team to working at the Rice Outdoor Adventure Center.

The EPMP program gave me the freedom to further my knowledge in subjects of interest with reasonable amount of flexibility so I was not bound to a strict curriculum structure. The organized events — talks by industry speakers, corporate receptions and socials — gave me the chance to get a feel for the demands of the job market and the opportunity to network with industry professionals. This together with guidance from Rice’s Career Center helped me land my dream job — Field Engineer for Schlumberger under the tech and field program. The program starts with an 18-month stint in the field on offshore and onshore oil rigs, after which I return to a technology center in the U.S. to work as an electrical engineer. In the past 15 months with Schlumberger, I have had the opportunity to work in ten different countries across five continents! This has been very exciting, but the constant change in people and cultures I work with have certainly proven to be a challenge. However, I feel that with the EPMP program and the melting pot of cultures that I came across at Rice, I am much better equipped to handle these challenges.

JOAO PAULO COIMBRA (EADM ’16) completed his internship with KCI Technologies and was hired after graduation. He continues to work on his original project—the Guanabara Bay restoration plan in Rio de Janeiro, Brazil.

KCI Technologies is collaborating with the University of Maryland to restore Guanabara Bay, “a highly impacted system due to its large population leading to sewage and trash pollution. The State of Rio and State of Maryland have a partnership of learning between their similar bays, Guanabara Bay and Chesapeake Bay, in order to promote opportunities for restoration to achieve economic, social, and environmental benefits.” With support from the Inter-American Development Bank, they are working to develop the first report card for Guanabara Bay. Here is their blog for more information:

http://ian.umces.edu/blog/2016/05/13/welcome-to-rio-the-guanabara-bay-first-stakeholder-workshop/
PSM students placed in a variety of internships this past summer, despite a economic downturns affecting the oil and gas industry. We appreciate the support of these providers: Energy Prospecting Technology, Taos Resources, Schlumberger China, Halliburton Energy Services, Houston Technology Center, Fairfield/Nodal, Cheniere Energy, Denbury Geosciences, Advanced Geophysical, ChemCare, Houston Wilderness, Tejas, CamEsparc, EDP, Federal Government, UTMB Galveston, TMC Health Policy Institute, Doctors for Change, MD Anderson, Howard Hughes Medical Institute, BaylorMiraca Genetics Labs, and Houston SpacePort.

EPMP students placed jobs with Schlumberger, St. Jude Medical, Bristol-Myers Squibb, Oracle, Boston Consulting, Aqualis Offshore, MicroSeismic, Trip Advisor, Emerson, Epic Microsoft, Yahoo, Amazon, IBM, LinkedIn, Open X, Google, Texas Instruments, Qualcomm, Dow Chemical, Aramco, Chevron, National Instruments, KPMG, ExxonMobil, Avionyx, Boeing, OneSubsea, Weatherford, and GE.

Due to the continuing downturn in the oil industry, several of our geoscience students completed academic internships in lieu of corporate internships. We appreciate faculty who welcomed our students into their research, allowing them to complete the required internship experience. Some of our international students secured internships in their home countries, showing their initiative in exploring the variety of options available to them.

Fall PSM graduates presented a wide range of internship projects: sediment thickness and seismic velocity estimation from nonlinear polarization of body waves; stormwater remediation; new models and workflows to display Petrel’s capabilities; seismic attribute study of Spinel 3D seismic dataset, Australia; HPV vaccination study for Texas; patient response to chemotherapy with a focus on thyroid cancer; geological modeling of oilfields in the South China Sea; environmental study of LNG terminal site; study on carbonate layers as non-reservoir barriers; and the demise of upper Cambrian microbial buildups.
CoachRICE offers leadership training

After piloting a leadership-coach training program for Rice University students and staff earlier this year, the Doerr Institute for New Leaders is partnering with the Glasscock School of Continuing Studies to offer a leadership-coach training program for the Houston community this spring.

CoachRICE will give individuals in the Houston area a chance to earn certification as a leadership coach from an International Coach Federation-accredited, university-based program.

EADM offers new EBIO course

A new course will be offered this coming spring as part of the Environmental Analysis and Decision Making degree: EBIO 560 Environmental Impact Statements and Permitting. This course is an exciting review of the methodologies involved in conduction Environmental Impact Statements for project Permitting under the National Environmental Policy Act (NEPA). EISs have to be conducted before permitting is secured for large infrastructure projects, such as power plants, highways, pipelines, dams, mines, airports, incinerators and landfills.

EDUCATIONAL OPPORTUNITIES

NPSMA Conference NOTES

Dagmar Beck, Director of Professional Master’s Programs in Science and Engineering, made presentations in two sessions at the National Professional Science Master’s Association 7th Annual Conference and Workshop in Washington, D.C., in November. Beck has a long-established commitment to the association, serving for six years on the board in various positions, including president in 2011.

The workshop, “The Power of Plus — Getting the Most out of Plus Professional Development Courses” — covered Rice’s 5th-year option for Rice undergrad students and the coordinated PSM/ MBA program in collaboration with the Rice Business School. In Beck’s presentation, “Developing and Implementing Internships,” she provided insight into processes to find student internships, pointing out creative ways to foster internship opportunities outside of the traditional paths often used at universities. Other panel participants included speakers from Illinois Institute of Technology and University of Connecticut.

The NPSMA serves the nation’s professional science master’s stakeholders including representatives of academe, business, industry, government and other STEM-focused organizations through its advocacy efforts, workshops, and national conferences.

PSM featured at the Geological Society of America National Conference

PSM director, Dagmar Beck, spoke at the national conference of the Geological Society of America in Denver, CO in September, 2016. In her presentation, “Graduate Student Preparation for the STEM Workforce”, she shared the success of the program’s interactions with industry and how enriched geoscience education can fulfill workforce needs in the oil and gas industry.

The program’s strong ties with industry facilitates the communication of opportunities. Corporate contacts are offered via receptions, seminars, luncheons with industry representatives, out-reach to internship providers, interaction with alumni via mentorships and socials, and distribution SG contact database. Since PSM students are self-funded, retention is nearly 100%. Ninety-seven percent of graduates are employed in industry, as of Spring 2016. The program prides itself on a diverse student body: 30% Asian, 5% Hispanic, 4% African-American, and 4% Middle Eastern. Females make up 43% of the students, a high percentage considering that the industry is male dominated.

Engineering leadership online course

Rice Online Learning is offering the first online certificate designed to teach students how to lead teams, communicate effectively, and manage projects efficiently. Through three unique specializations, students develop strategies for using influence, exerting power effectively, developing problem-solving techniques, building strong interpersonal relationships, leading projects, and much more. These courses were designed by Rice’s Center for Engineering Leadership with working professionals in mind. Timing to complete each specialization is flexible. All coursework can be accomplished in as little as three to five hours of study per week.

In addition, new courses are developed to cater to working professionals, such as Leadership and Decision Making in the Energy Industry, which explores basics of energy sustainability through techno/economic frameworks and global markets—a comprehensive foundation for strategic business decision-making.
SALLYPORTAL: New online networking hub

Rice alumni can now connect with enrolled students — and each other — through a new online professional development hub dedicated exclusively to the Rice community. Sallyportal will allow alumni and students to seek guidance from the Rice network, volunteer as mentors, create professional development opportunities for students and alumni, and engage with campus groups and departments in one virtual location — all in the name of providing Rice students and recent graduates with the greatest possible professional edge.

Features include:
- Internal messaging capabilities
- Easy LinkedIn sync feature
- Posting of Professional development events and volunteer opportunities
- Refined search/connect function for opps
- Message board for interaction with Alumni and corporate partners/job postings/mentoring opps
- Group pages for a variety of Rice programs

EPMP Student Club

Outgoing club president Harsh Upadhyay helped assemble a new team to carry on the club’s activities: President, Mary Margavio (CHBE); Vice-President and International Representative, Yijie Wang (MCSE); Secretary/Admin, Alyssa Mullery (CHBE); EPMP GSA Liaison, James Hwang (BioE); Media Director, Yang Chen (STAT); and Event Coordinators, and Qianyun Zhou (STAT).

The new team got together at the beginning of the spring semester and is in process of developing new activities and events for this semester under the mentorship of out-going Vice President Wenjia Ma.

EPMP/PSM moved to new quarters

The Professional Master’s office consolidated locations by moving to new quarters in 203 Keck Hall. This created a center for collaboration and communication for all EPMP/PSM staff and students. An open house was held in May to celebrate the new space.

CORPORATE RECEPTION SPONSORS

GOLD

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Check our web sites regularly for new information, resources, and upcoming events:

EPMP Engineering www.epmp.rice.edu
PSM Natural Sciences www.profms.rice.edu

For comments or questions, please contact us at:
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