



RICE PROFESSIONAL SCIENCE MASTER'S

SPRING 2022

PROGRAMS

APPLIED CHEMICAL SCIENCE

BIOSCIENCE AND HEALTH POLICY

ENERGY GEOSCIENCE

ENVIRONMENTAL ANALYSIS

SPACE STUDIES

Dagmar Beck
Director

Lindsey Hodge
Program Administrator

Email
profms@rice.edu

Website
profms.rice.edu

Facebook
www.facebook.com/professional.science.masters

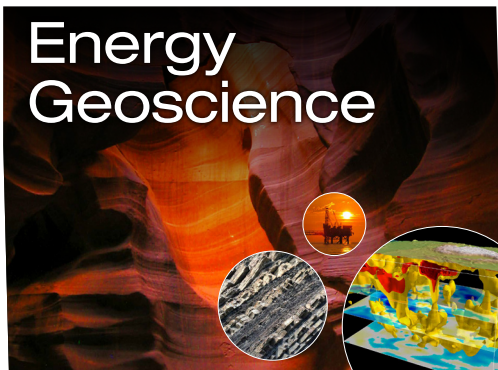
How interaction with industry partners keeps Rice's PSM degrees relevant

Have you ever wondered how we keep up with changes in industry and workforce demands so that our programs are up to date and relevant for incoming students? It is not an easy task.

Our faculty and industry partners work hand in hand to review our curricula and compare outcomes with workskills demanded by business and industry.

The latest example has been how to address the energy transition that has been going on in the oil and gas industry — better addressed as energy industry.

As one board member pointed out, there will be a shift from companies primarily producing energy to combining resourcing and distribution — a change to being an energy company as well as a utility/electricity provider. Not only will they provide energy from a variety of sources, but also distribute it in the form of electricity to households across the region.



Many discussions inside and outside the hedges have resulted in a name change from Subsurface Geoscience (founded in 2002) to Energy Geoscience. The new name reflects a shift in topics and course offerings that will assure our students' success in jobs that will require them to understand these new areas of energy exploration and recovery.

We are also working with the Brown School of Engineering to build a versatile Professional Master's degree related to the energy transition, offering focus areas in both geosciences and engineering to address workforce needs across the energy industry!



Allow us to brag a little! Rice ranks again in the nations' top 20 universities

Rice is one of the nation's top 20 universities, according to the 2022 edition of U.S. News & World Report's "Best Colleges" guidebook. Rice ranks No. 17 in the magazine's annual survey of more than 300 colleges and universities, tying with Cornell University and marking yet another year in which Rice has rated in the top 20 since first appearing on the list in 1988.

The university also ranked well in several specific areas such as teaching, ethnic diversity and innovation. Princeton Review, another ranking agency, placed Rice among its list of most acclaimed universities in its history. This closely watched survey, based upon reviews submitted by more than 150,000 students nationwide, lists the top-ranking schools measured in dozens of different categories.

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To provide monetary support to talented PSM students, please contact LH29@rice.edu

Let's address the elephant in the room: Pandemic's paradox

Following a recent survey of faculty and staff in Rice Magazine, we asked our students these questions:

- How do you think the pandemic changed how you do your work, and/or the things that matter to you?
- Which of these changes will/should stick around in a post-pandemic future?

Our students responded:

"The pandemic made me prioritize my mental health and physical health and gave me the motivation to create time blocks in my schedule specifically for health-related activities such as exercising and meditation. It has also made me work from home for long periods of time, making me realize that I am more productive and get more work done in a public setting. Prioritizing my mental health will definitely be sticking around for the foreseeable future. I hope not to have to work from home so often anymore, however, and be able to work in public be it at a library, coffee shop, or office space." – **Leila K.**

"I think that the pandemic has increased the focus and attention around mental health and that should be kept in the future." – **Andrew A.**

"The Pandemic totally changed my lifestyle. I was an outdoor person who always wanted to go out and explore the world. However, I gradually turned to an indoor person after the pandemic. I'd rather stay at home than go out and meet new people. I will consider it a negative change to me." – **Yue W.**

"Since the pandemic, I have found my productivity and ability to produce quality work has increased, and I completely attribute that to my ability to get more sleep and to take care of more personal aspects of my life. With so many, if not all, classes, meetings, and seminars on Zoom, I have saved a lot of time usually spent commuting or prepping for the day away from home. Now I'm getting an extra hour of sleep, taking care of some chores in the morning before I have to hop into an online class, don't have to meal prep/pack lunches, etc. This allows me to focus better throughout the day without background stress or fatigue slowing me down. I do, however, think we shouldn't continue to be fully online or fully in person — but rather establish a solid hybrid model. I find I really like going to campus on days I have class, but I don't enjoy it so much when half the day is virtual and the other half of the day is in-person. I think that events or classes that aren't in typical working hours (such as 8-5) should be always offered online, but as many classes/meetings/seminars should be offered in person during normal business hours. The ability to switch to a virtual setting is great though, like when there is poor weather — I love that flexibility and I hope it stays." – **Leah T.**

RICE PSM BOARD OF AFFILIATES

This year we are delighted to welcome our new board members:

Amanda Botti (SPS alumna) / NASA

Jorge Brenner (EA) / Jupiter Data Factory

Fiji George (SG/EA) / Cheniere Energy

Lauren Merkle (SPS) / KBR/Wyle

We have been busy updating the curriculum of the Energy Geoscience degree program. We thank our board members for their active participation, providing invaluable feedback, thoughtful considerations and suggestions. Thanks for your time and continued support of our programs.

New Rice PSM alumni board



We thank Sarah Hussain, Nathan Stewart, Swati Patel and Rachel Henderson and for their interest and time to serve on this board!

The program office designated four highly-engaged alumni to form an alumni board with the charge to encourage our alumni to engage more regularly with Rice and our programs.

The alumni board met in November and decided to create a survey with the goal to find out what it would take to get alumni more involved. This will be followed with a quarterly newsletter to keep alumni in touch with activities and events offered by our programs and Rice University. We hope that the board will be able to engage more alumni and create essential committees to organize and design activities and programs of interest.

If you are an alum who wants to get more involved with Rice, your colleagues, and enrolled students, make sure to let us know!

NEW INITIATIVES

SKILLSURVEY

Internship Performance Evaluation Update

SkillSurvey is leveraging their extensive behavioral research and data to help college students assess their level of workforce preparedness before they graduate while assisting our internship providers in evaluating the performance of their intern. We tested this new platform with our interns this past summer, and outside of some minor technology-related glitches, things went smoothly. Our students liked that they got immediate feedback and nationwide comparisons on their readiness in certain sets of skills such as professionalism, communication, technology competency, teamwork, critical thinking, career and self-development, leadership, and equity and inclusion. In addition, interns were assessed on their ability to work remotely and received a set of recommendations how to improve their competencies.

Our internship providers appreciated the easy access to the online tools and the option to compare our interns across the nation.

Homecoming champagne reception @ OwlTogether 2021

PSM alumni joined the Champagne Reception hosted by the Wiess School of Natural Sciences during homecoming week in October. This was the first outdoor event the PSM Program attended as part of NSCI since the start of the pandemic, and despite some windy conditions, we had so much fun reuniting and reconnecting with alumni, families, students and friends! Thanks to all who attended!

Applied Chemical Science updates

The new degree program was approved in 2019 – with enrollment starting in S21. We enrolled three students this year, and we were able to have them meet many of our new board members who have been actively mentoring the students.

WIESS SCHOOL NATURAL SCIENCES Diversity, Equity and Inclusion Committee

As member of this committee formed in early 2021, Dagmar Beck has been part of discussions addressing a variety of topics, such as stigmas and discrimination during COVID-19 pandemic; invisibility and inequality of LGBTQ+ People in STEM; and others. The committee has been planning events to encourage discussion such as providing a screening of “Picture a Scientist” followed by a panel discussion during the National Women’s History month.

There is no place for bigotry, racism or discrimination of any kind in the Wiess School of Natural Sciences. Our community is diverse, and all members are appreciated and respected.

2021 SPRING AND FALL SEMINAR Corporate Speaker Series

Bioscience and Health Policy & Applied Chemical Sciences

Leslie Fan / Dow Chemical
Mehwish Javaid, BHP alumna/ MD Anderson
Tom Kowalski and Meredith Armstrong / Texas Healthcare and Bioscience Institute
Steve Pondell / IBT solutions
Katherine Price Hoelscher / Schlumberger
Mary Purugannan / Rice PSM communication faculty
Carmen Reznik / Shell
Ross Rurland / Molecular Templates
Ann Tanabe / Biohouston

Environmental Analysis & Energy Geoscience

Jorge Brenner / Jupiter Data Factory
Nikki Chang / Chevron
Julie Garvin / Roxanna Oil
Fiji George / Cheniere Energy
Ivette Mekdessi / Rice Center for Career Development
Myriam Mills, EA alumna / Hess Corp
Don Paul / USC Energy Institute
Lev Ring / Sage Geosystems
Bill Schleizer, EA alum / Delta Institute
Stephanie Taylor / Doerr Institute

Space Studies

Amanda Hackler / Lunar & Planetary Institute
Lula Kamlesh / NASA
Lauren Merkle / KBR
Nathan Steward, SPS alum/ NASA
Larry Strader / Deloitte

Professional Development Topics

Ivette Mekdessi / Center for Career Development, Rice
Mary Purugganan / Rice PSM communication faculty
Stephanie Taylor / Doerr Institute, Rice
Nicole van den Heuvel / Center for Career Development, Rice

ALUMNI PROFILE

DANIEL MILLS

Environmental Analysis, S07
President, Synchro Building Corporation

Daniel graduated from the Environmental Analysis program in 2007. Prior to Rice he attended Trinity University and earned a BS in Biology with minors in both Geoscience and Environmental Science. After graduating Rice he started his career with HOK, a global architecture and engineering firm. At the time, sustainable design and green building were in their early years and USGBC's LEED (Leadership in Energy and Environmental Design) was just starting to gain traction in the commercial real estate sector. Daniel worked to establish and build a viable sustainable design consulting practice within the Houston office that provided strategic support in site optimization, water management, energy efficiency and indoor air quality to HOK's architects and engineers across the region.



“The Environmental Analysis program was a good balance of business, entrepreneurship, environmental engineering and environmental law and policy. It gave me a broad understanding of sustainability and ultimately helped me to apply it to specialties such as commercial building design and construction.”

During his 11 years at HOK, Daniel worked on a large variety of corporate, commercial, government and institutional projects including the first LEED Platinum facility for NASA at the Johnson Space Center. He also broadened his role at HOK, taking on additional roles as a project manager and in business development.

In 2018, he left HOK to become President and managing partner of Synchro Building Corporation, a Houston-based design-build firm that specializes in fit to purpose commercial facilities. “I’ve always had an entrepreneurial bug and when the opportunity to lead Synchro arose, I jumped at the chance to help build and grow a firm.” Daniel met and fell in love with his wife Myriam Mills, a fellow Environmental Analysis alumnus, during his time at Rice. They have two rambunctious and hilarious boys and work together to keep the house in one piece.

ALUMNI PROFILE

ABIGAIL WRIGHT

Bioscience & Health Policy, S16
Consultant Pharmacist, LLW Consulting

Houston native, Abigail (Abby) Wright, graduated from Rice University with a BS in Biochemistry and Cell Biology in 2015, and from the PSM Program in Bioscience and Health Policy in 2016. While in the PSM Program, she interned with the Center for Interdisciplinary Research in Women's Health at UTMB Galveston. The research project resulted in a publication in the Maternal and Child Health Journal about provider acceptance and perceptions of postpartum HPV vaccination in a Southeast Texas hospital.



After her time at Rice, she attended the University of Houston College of Pharmacy and earned her Pharm.D. in 2020. Abby currently works as a consultant pharmacist for long-term care at LLW Consulting in Houston, Texas. Licensed in several states, Abby works with nursing homes to improve patient safety through patient medication reviews, audits of medication administration areas, and nursing education. She also is a guest lecturer for the Geriatrics elective course at the University of Houston College of Pharmacy.

“The Bioscience and Health Policy program improved my knowledge of health policy, prior to entering the medical field. The courses both reinforced my Biochemistry knowledge from my undergraduate at Rice, as well as expanded my knowledge base for healthcare policy creation and implementation. As compared to the rest of my pharmacy school class, I was well versed in insurance terminology, medical writing, and biochemistry. I still refer to some of my course material when discussing healthcare issues in my current role as a consultant pharmacist, especially when it comes to insurance issues.”

2021 Internships & Research Topics

BIOSCIENCE AND HEALTH POLICY

Andrew Abikhaled / Rice 350 Global Health
Design of facemask cleaning systems for underdeveloped countries

Shyla Cooks / The Meadows Mental Health Policy Institute
Internship Program

Ashni Dhruva / Research!America
Documentation of Research!America policy on rare diseases

Keith McCord / Richards-Kortum Optical Spectroscopy and Imaging Lab
Loop-Medicated Isothermal Amplification (LAMP) for COVID-19 surveillance

Maggie Seale / Baylor College of Medicine
Identification of strains of ketogenic diet-enriched bacteria that possess gamma-glutamyltransferase (GGT) activity

Catherine Valadez / Baylor College of Medicine
Research on correlation of substance use and pregnancy

ENVIRONMENTAL ANALYSIS

Jacqueline Buskop / BCarbon - Jim Blackburn
Development of carbon credits with BCarbon

Braulio Garica / City of Houston
Tracking COVID-19 in wastewater

Meghna George / Jack Henry & Assoc.
Analysis of Greenhouse Gas Emissions and Developing environmental policy and ESG statement

NaghmeH Haji Hosseini / City of Houston
Investigations of formaldehyde emission in Houston ship channel including benzene surveillance and RABITS system analysis

SUBSURFACE GEOSCIENCE

Jiawen He
Autocorrelation Reflectivity of the Gulf Coast from US Array Data

Syed Moosavi / Weatherford
Well Placement (Geosteering) in carbonate reservoir

Mohamed Ziane / Springboard
Investigating the relationship between energy and mining consumption in Nairobi, Kenya and how it affects climate change

SPACE STUDIES

Dean Romanchek / CU Aerospace
Advanced system optimization solutions and the development of software tools for the aerospace industry

Loren Young / Toyon Research Corporation
Simulation of hypersonic reentry vehicle trajectories into the Earth's atmosphere



Initiative to implement Individual Development Plan for master's students

The Rice PSM program participates in an initiative organized by the NPSMA (national PSM umbrella organization) to develop tailor-made individual career maps for professional master's students.

The Master of Science Individual Development Plan (msIDP) is a guide to help students push forward to reach their academic and professional goals by helping them to assess their academic path, the skills, and experiential learning needed for their chosen career. The msIDP is a tool to empower professional STEM students to take ownership of their education and career planning.

Whether the goal is to land a job, make a lateral career move, or seek a promotion, the msIDP will provide the student with a roadmap to get there. It will help discover emerging career opportunities, acquire skills and competencies, and develop a network of contacts specifically for workforce preparation and success. What makes the msIDP unique is that its action-oriented roadmap recognizes that speed bumps (aka life events!) may get in the way and that detours are inevitable. It is an iterative and evolving process that encourages the student to revisit it time and time again.

NPSMA News



The 12th Annual NPSMA Conference took place in person in Tampa, Florida on November 10-12, 2021. It included sessions on strategic planning for PSM programs, input from industry partners on transferable skills, and a separate NSF-funded workshop discussing individual development plans (IDP) for graduate students and master's level advising. The association hopes that this effort will provide a chance to enhance



the reputation of our community as the leader in workforce-oriented STEM MS education.

The workshop was supported by the NSF (Award Abstracts #1940221, #193934) through a collaborative grant to the NPSMA (P.I. Deborah

Silver, Rutgers) and CGS (P.I. Hironao Okahana). Prevalent in PhD and Postdoctoral programs, IDPs are not at all common in science master's programs. The short time frames to completion and workforce development aspects of STEM master's degrees present distinctive conditions that call for the creation of specialized IDPs for their students. The goal of the workshop was to share what is known about IDPs, to learn how to apply them, and to explore elements for a STEM MS IDP template.

Rice's PSM program director Dagmar Beck hosted a working group moderating the topic "How to use an IDP: Career Exploration."



RUNPSMA News

The RUNPSMA (Rice PSM Student Chapter) organized a social to greet the incoming students and to finally meet each other in person at Valhalla. Everyone enjoyed being on campus after a year in the virtual classroom! Thanks to Ashni Dhruva, Catherine Valadez and Maggie Seale for organizing and hosting it. We do have open officers positions for 2022, please contact us if you are interested to serve!



Recruitment and Marketing of PSM Programs outside the hedges in 2021

Once again most universities did not offer in-person graduate fairs in 2021. Therefore the PSM office enrolled in virtual graduate fairs to spread the word and recruit students.

Spring Fairs:

Texas Biotech Grad Fair, NPSMA Virtual Grad Fair

Fall Fairs:

Texas A&M, Ohio State, Penn State, Michigan State, University of South Carolina, North Carolina consortium fair, Davidson, NC State, UNC Chapel Hill, UNC Wilmington, Wake Forest, Big Ten School Expo - Purdue University

In addition, we held several Rice Info sessions both for Rice undergrads and other prospective students during the year.

Conferences:

Society of Data Managers Conference, GACC Conference, Annual Energy Summit, Future of Global Energy: Houston's Role in Leading the Energy Transition, Greenjobs Fair

RICE NEWS

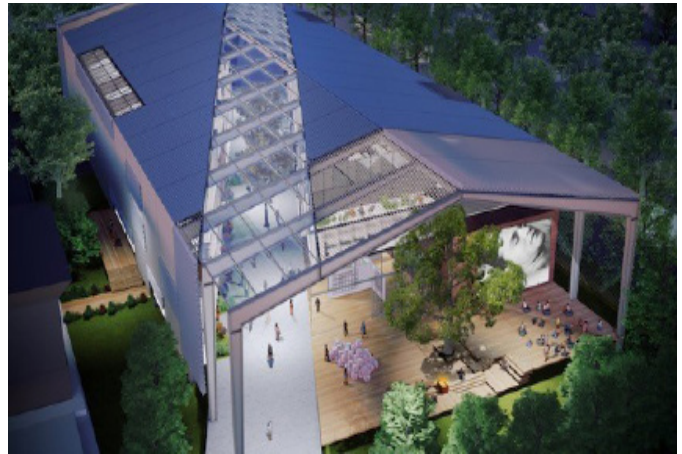
Rice names Reginald DesRoches next President

Reginald DesRoches, who is now serving as provost, has been named the next president of Rice University. DesRoches will succeed President David Leebron, who previously announced his plan to step down next summer at the end of the current academic year.



Rice's new arts building will be Sarofim Hall

Rice University's new home for student art will be named Susan and Faye Sarofim Hall, and it will be designed by a team helmed by an alumnus with a deep appreciation for the arts at Rice and in Houston.



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