



RICE PROFESSIONAL SCIENCE MASTER'S

SPRING 2021

PROGRAMS

APPLIED CHEMICAL SCIENCE

BIOSCIENCE AND HEALTH
POLICY

ENVIRONMENTAL ANALYSIS

SPACE STUDIES

SUBSURFACE GEOSCIENCE

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professional.science.
masters**

COVID-19 Impact on Rice University and PSM

In last year's newsletter, we reported that Millennial and GenX generations prefer to receive information delivered in video format. How fast things change! Now everybody would prefer to meet in person again due to too much time in front of computer screens.

Here is an update on how Rice has handled the pandemic so far. President Leebron gave the following overview: about 38% of our undergraduate students have remained in residence on campus (meaning the campus is at slightly more than 50% occupancy), with another 34% living off-campus but coming regularly onto the campus. Some classes have changed their mode of delivery as the semester progressed, and overall about half are being offered in hybrid form.

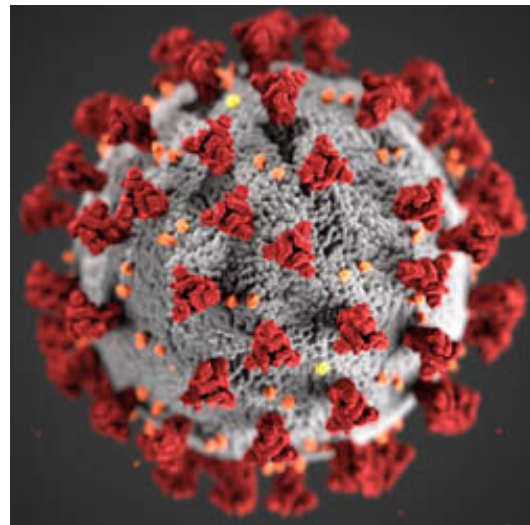
Most PSM students live in campus housing and/or in off-campus apartments, and rarely come to campus.

The surge in positive tests for the Covid virus has become a reality since the holidays, both in Houston and in the Rice community. Over the first two weeks in January, 53 people tested positive through Rice's testing – and this was during a period when there was little activity on campus. Most of these positive tests came from people who developed symptoms over the holidays. This is different from the fall semester when most of the people who tested positive were asymptomatic.

This is the reason why Rice will delay start of the spring semester to January 25th, move arrival of undergrads to February 15th and continue for now with on-line courses.

Our students collectively have shown enormous responsibility, which is a major influential factor for why the virus has remained in check on our campus.

Our faculty has worked tirelessly to provide a robust on-campus and remote experience. Hybrid teaching is not ideal, but it has enabled our students to have an in-person experience here in Houston. Faculty have a clear preference while preserving others' opportunities to begin or continue their educa-



tion when students cannot come to campus for whatever reason. We know the semester has been especially challenging for many international students who remain abroad, most in very different time zones.

Despite it all, we remain optimistic. Rice has applied to the State of Texas for enough doses of the vaccine to inoculate every student, faculty and staff member of our community. We do not yet have official word on when we will receive the vaccines, but we are hopeful they will arrive sometime in February. We can now see the end of the tunnel and just have to hang in there, wear our facemasks, wash our hands and stay at a distance from others.

2021 SPRING SEMESTER CALENDAR CHANGES

LATER START ON

January 25

SPRING BREAK REPLACED BY

**single off-days
during the semester**

to prevent students from
taking trips off-campus

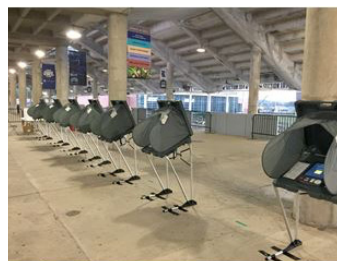
Looking back on election 2020 — Rice wins early voting challenge

Working with Harris County voting officials, Rice Athletics, the Center for Civic Engagement and RICEngaged, a coalition of Rice campus student groups dedicated to voter registration and get out and vote efforts, University Relations

helped facilitate the use of Rice Stadium and Reckling Park as an early voting site, and again on Election Day. More than 13,000 Rice students, employees and neighbors took advantage of the campus polls during early voting. On Election Day, hundreds more once again enjoyed the convenience of free parking and an open-air and COVID-safe campus polling site set up on Rice Stadium's west concourse.

Both Harris County Judge Lina Hidalgo and Mayor Sylvester Turner made media appearances at Rice Stadium, the latter

to award Rice the first-ever Mayor's Early Vote College Challenge for having the most voters among three local universities, each of which sponsored an early voting precinct on their campus.



Applied Chemical Science updates

The new degree program was approved late in 2019 and marketing stepped up immediately. We developed a new brochure and sent it out to corporate contacts, board members, alumni, etc. We ran NPR radio ads in September and October announcing the program, in addition to digital banner ads at various universities across the country. In addition, we participated in various virtual grad fairs, info sessions, and ran a marketing campaign on various social media platforms.

We started receiving inquiries in spring 2020, and are now seeing prospective students starting applications for the program for Fall 2021 and hope to enroll a small number of students to test the curriculum and be engaged with faculty and staff to help review and revise where needed.



RICE PSM BOARD OF AFFILIATES

With interest increasing and applications coming in for the new Applied Chemical Sciences degree program, we introduce our new advisory board who assisted with its curriculum development. We welcome:

Thomas Coolbaugh, ExxonMobil, Oil Spill Response Advisor

Qusai Darugar, Baker Hughes, Manager, Enterprise Molecular and Nao Science Research

Bruno Drochon, Schlumberger, Quality Systems Manager

Leslie Fan, DOW, Associate R&D Director, Analytical Sciences

Kurt Gunter, KUUR Therapeutics, Chief Medical Officer

Steve Pondell, ImmunoMet Therapeutics, V.P.

Carmen Reznik, Shell Chemicals, Manager, Chemicals Product Stewardship

Barrett Watts, Schlumberger, SN Development Chemist

In addition to these new board members, we also welcomed a number of new board members to the other programs in 2020:

Subsurface Geoscience

Bill Langin, Shell, VP Geosciences took over for Martin Staeuble who retired in Switzerland

Amber Domingue, RM Digital Advisor/Subsurface Platform Lead, Chevron

Bioscience and Health Policy

Christa Clarke, BHP Alum, Baylor College of Medicine, Project Manager

Space Studies

Kevin Foley, Boeing, Director, Commercial Space Programs, Boeing Space & Launch

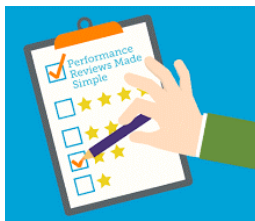
Lauren Merkle, KBR/Wyle, Program Integration Office, Transition to Operations Project Manager

Board members have recommended to invite more alumni to the various program board groups. This year we welcome Christa Clarke, a alumni from the BHP program as a new board member, and hope to add a few more in 2021.



NEW INITIATIVES

Internship Performance Evaluation Update



In collaboration with Rice's Center for Career Development, we are testing a new way to receive evaluations from our internship providers and interns. The new process is based on the Skill-Survey Evaluations platform and will be a digital process.

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.

Diversity, Equity and Inclusion Committee

Dagmar Beck has joined the Wiess School of Natural Science DEI Committee to help advise the university on the best measures as we move forward to become a more diverse, equitable and inclusive institution. The committee involves faculty, staff, students and alumni.

2020 SPRING AND FALL SEMINAR

Corporate speaker series

One positive outcome of using Zoom for our events was that we could invite speakers for each of our programs, instead of one speaker for two groups. In addition, it allowed us to invite alumni and corporate speakers to join us from as far away as Chicago, Illinois and Oslo, Norway.

Bioscience and Health Policy

Ann Tanabe, Board Member / Biohouston
Tom Kowalski / Texas Healthcare and Bioscience Institute
Rachel Pelayo, Board Member / Southwest Research Center
Michael Dilling, Board member / Baylor Licensing Office
Agha Nkama, BHP alum / Aarete Consulting
Mehwish Javaid, BHP alum / MD Anderson
Journal Club offered by Susan Cates and Kirstin Matthews, BHP advisors

Environmental Analysis

Alex Liu, EA alum / Tetra Tech
Steffy Chuang, EA alum / GHD Consulting
Nada Ahmed, EA alum / Aker Solutions
Myriam Mills, EA alum / Hess Corporation
Alberto Tohme, BoA / Tohme Consulting
Bill Schleizer, EA alum / Delta Institute

Subsurface Geoscience

Detlef Hohl / Shell
Minglong Pan, SG alum/ CGG
Julie Garvin, Board Member / Roxanna Oil
Eric Scott / Rice adjunct professor and SG advisor
Ole Engels, Board Member / Baker Hughes

Space Studies

Mark Jernigan / NASA, space exploration
Olga Bannova / UH, space architecture
Mihriban Whitmore / NASA, human factors
Steve Altimus / Intuitive machines
Patrick Rodi / Rice ORION project
Gordon Vos / NASA, human system integration
David King / Lunar science and exploration
Kimberly Hambuchen / NASA, robotics
Adam Lauchner, PSM alum / NASA, ISS payload integration
Mark Matney / JSC, orbital debris
Franklin Chang Diaz / AdAstra
Swati Patel / Greater Houston Partnership

Professional Development Topics

Stephanie Taylor / Doerr Institute, Rice
Ivette Mekdessi / Center for Career Development, Rice
Ole Engels, Board Member / Baker Hughes
Mary Purugganan / Rice PSM communication faculty



ALUMNI PROFILE

NADA AHMED

Environmental Analysis, S09
Head of Research and Development, Aker Solutions

Nada Ahmed has had an amazing career since her graduate in 2009. Starting out at DNV, Nada moved to Norway for her job and never looked back. She acquired over ten years of project management and leadership experience in the Offshore Energy and Maritime Industry. Over the past six years she has been leading various innovation and business development teams with a special focus on digital transformation. "I am now the Head of Research and Innovation at Aker Solutions, a leading engineering and subsea technology supplier to the offshore industry based out of Norway," Nada adds. "I am also an avid voice in topics concerning Innovation, Agile leadership, Sustainability and Diversity and Inclusion."



Nada was on the 2020 list of Top 50 Women in Technology in Norway, awarded by Abelia and ODA network. "I am staying pretty busy with my family, my job and as head of the board of the Norwegian Polytechnical Society Digital Leadership Community and also serving on the advisory board of Noroff School of Technology and Digital Media (based in Oslo).

"The EA degree program prepared me well for the challenges in the environmental consultancy industry. The management and business components were especially important to advance my career, and help me now with another venture, i.e., leading the non-profit organization that I co-founded in 2015, TCF Norway, focused on providing quality education to underprivileged girls and boys in Pakistan."



ALUMNI PROFILE

POLLY YAO

Subsurface Geoscience, F17

A big hug and thank you go to Polly Yao, who graduated from our Subsurface Geoscience program and returned to China after graduation. In early summer, she donated 1,000 facemasks to our program and the Wiess School of Natural Sciences.



"I am now doing a joint Ph.D. program at both the China University of Geosciences and the Chinese Academy of Science in Beijing, still working on the research of energy topics. This is my third year, and hopefully I will graduate in 2022. By the way, my roommate is Nancy Zhou, who also graduated from the Subsurface Geoscience program and is also pursuing a Ph.D. in Beijing. Our overseas study left us with a valuable life experience and we both still miss the campus and studies at Rice University. But we have maintained our network in the U.S. and at Rice to stay in touch and pursue new opportunities when they might occur."

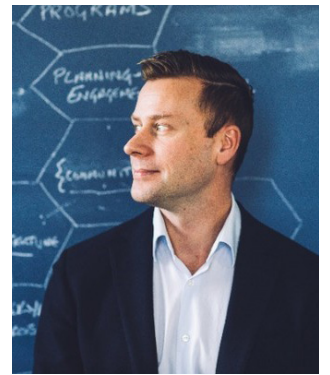
We wish Polly and Nancy good luck and hope to see them again in the future!

ALUMNI PROFILE

BILL SCHLEIZER

Environmental Analysis, S04

Bill Schleizer drives strategy behind Delta's collaboration with more than 180 communities in Chicago and throughout the Midwest to solve environmental challenges and spur economic development. "I try to balance high-level decision-making with tactical implementation, and I set an authentic and inclusive culture, including personally engaging with all our staff consistently." Bill's accomplishments include: working with 1,400 farmers and foresters to reduce climate change impacts; implementation planning for the Chicago Climate Action Plan which focuses on residential and commercial energy efficiency mitigation strategies that most impact greenhouse gas emissions; helping establish the Michigan Saves program, an energy efficiency loan program that has \$160M in its loan portfolio; and incepting a venture decision framework to spin off and scale initiatives.



"I now have over 18 years of experience in systems analysis, environmental science, and consulting, and also serve on the Advisory Board for Loyola University Chicago's Institute of Environmental Sustainability. " He earned his BS in Ecology, Evolution, and Organismal Biology and Environmental Studies from Tulane University. "I wanted to broaden my education and found the Environmental Analysis degree at Rice University to be a great fit for my career plans. I was in the first cohort completing this unique, and as Rice likes to describe it "unconventional" science master's degree." He is a 2019 Notable LGBTQ Executive for Crain's Chicago Business.



2020 Internships & Research

BIOSCIENCE AND HEALTH POLICY

Selin Ergulen / Helpsy Health Consulting
Telehealth and The Future of Healthcare

Trenton Fryman / Saulk Prairie Health Care
Rural Health Clinic Designation: Increasing Access for Rural Americans

ENVIRONMENTAL ANALYSIS

Chloe Wallace / W&M Environmental
Remedial and compliance aspects of environmental consulting

Nikki West / HUCO Consulting
Deconstruction of environmental permits for clients

Tina Dantonio / Cheniere Energy
Development of Cheniere's inaugural Corporate Responsibility Report

Lilian Mojica / Houston Health Department
Surveillance of Houston's wastewater to track community COVID-19 infection dynamics

SUBSURFACE GEOSCIENCE

Stephen Zagurski / Roxanna Oil
Analysis and Optimization of Upper Cretaceous Chalk Reservoirs in Pendelton Field, Sabine Parish, LA

Cassie Mohkami / Roxanna Oil
Seismic Attribute Guided Fault Characterization for Potential Geo-Hazard Avoidance in the Southern Delaware Basin

Shweta Mohandas / Chevron
Subsurface Practices meet Digital Technology Initiative

Neyda Maymi / Calpine
Geothermal Field Energy Diagram

Morgan Frazier / ExxonMobil
Characterizing Depletion Patterns and Recognizing Compartmentalization in Zone 18 of the Chayvo-1 Block, Sakhalin Russia

Vincent Lu / Rice, academic project with Kurt Rudolph
Documentation and analysis of the Paleozoic burial history/subsidence of the Illinois Basin

Trevor Hutton / Noble Energy
Permian Basin 3-D Geomechanical Earth Modeling

Jorge Lozano / Occidental Oil & Gas Corp
Seismic Sequence Stratigraphy of the Lower Cretaceous Carbonate Platforms in Southeast Abu Dhabi, and Its Implications for Hydrocarbon Exploration

Chuqi Liu / I2M Consulting
Geological and Environmental Evaluation of Lone Star College Construction Site

Wenqi Jiang / Rice, academic project with Alan Levander
Study of autocorrelation reflectivity of the crust and upper mantle using seismic data

SPACE STUDIES

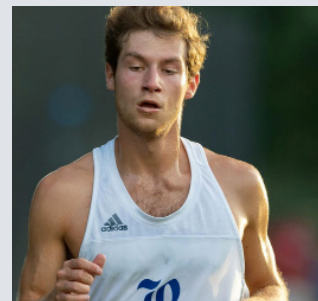
Feni Fandya / ASC Adelante Science Corporation
Debugging of reentry trajectory code

Willie Lo / Tietronix
Defining and structuring of a CubeSat

ALUMNI AWARDS & RECOGNITION

Adolfo Carvalho '20 (SS) — a top graduate student and amazing athlete

Adolfo Carvalho was the 89th winner of the Bob Quin Award for top men's student athlete. He was an all-conference USA performer in cross-country while also running distance events in track and field.



Adolfo, who recently completed his master's in space studies, will study protoplanetary disks in Chile for nine months thanks to a prestigious Fulbright Fellowship.

Neyda Maymi '10 (SG) — D2K Lab award goes to top team at virtual showcase

Neyda and her team won the "Audience choice" award during this showcase: Team Houston Fire Department for "Emergency Response Demographic-Based Risk Assessment for Houston."



NPSMA News



Due to the pandemic, the annual NPSMA conference previously scheduled for November 2020 in Tampa, Florida, was moved to November 10-12, 2021. The planned November 2021 conference in San Diego, California, will now take place in San Diego in 2022.

Instead of an annual conference, the NPSMA offered a series of webinars on valuable and timely topics during October and November to reflect best practices for the PSM in the time of coronavirus and beyond.

Topics included:

- Opportunities for new program development
- Beyond the crisis: Using technology to deliver high quality remote graduate education
- Resources and products for laboratory simulations
- Opportunity for directors to share best practices leading to their program successes
- Recorded student project presentations

Campaign to Raise National Profiles of NPSMA and PSM

The NPSMA has built a partnership with the Council of Graduate Schools to conduct an NSF-funded project on master's level advising and individual development plans for our graduate students. This effort will provide a chance to enhance the reputation of our community as the leader in workforce-oriented STEM MS education.

As part of the organization's executive leadership, Dagmar Beck will be serving as V.P. for publications.



RUNPSMA student chapter activities and social events

The RUNPSMA officers had originally planned to organize a professional development event for PSM students. Unfortunately, due to Covid this was cancelled, but resources were made available to the students for internship search and interviewing.

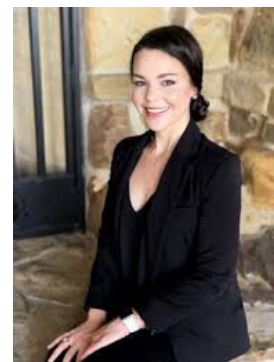
At the end of the spring semester, we held a virtual social for our students chatting and playing Trivia!



During Rice's Homecoming week we held a Zoom coffee chat with alumni, board members, faculty and students. We enjoyed catching up with some of our alumni and liked it so much that we will organize another one for spring.

Thanks to LINDSEY HODGE

Thanks to our program administrator Lindsey Hodge for being on the ball! Everyone understands how difficult it has been to transition to working from home when we started shutting down in March. It took a while to find a new rhythm, apply good time management skills and discipline, and convert a space at home into an acceptable workplace.



I want to make sure that we all recognize the commitment and positive attitude exhibited by Lindsey, who has been working effortlessly from home — staying in touch with our students, sending out positive vibes, sharing information, and organizing virtual seminars, meetings and mentoring/advising sessions.

She has been an invaluable team member, keeping track of the important tasks, and staying on top of the PSM office administration and student outreach.

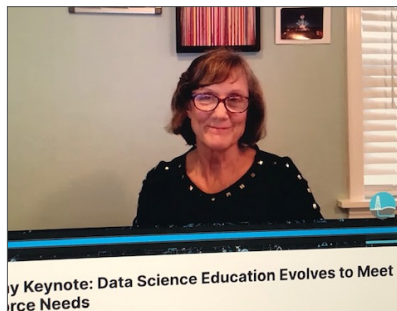
PSM outside the hedges

The PSM office participated in several virtual grad fairs to spread the word and recruit students. One of them was an NPSMA-organized online event free to prospective students. Others were LSU, University of New Mexico, Texas Tech, Trinity University, UH-Downtown, Georgia University consortia, and Rutgers University.

PSM had “virtual booths” at the Fall **Rice 2020 Data Science Conference** and at the **2020 SpaceCom Conference**.

PNEC 2020 Conference

Dagmar Beck was a keynote speaker at November's PNEC conference (Petroleum Network Education Network) with the topic: Data Science Education Evolves to Meet Workforce Needs.



We live in an era of big data that encompasses a wide range of industries and businesses. The need for people who understand how to work with data, analyze data and manage it is rapidly increasing.

The presentation gave insight into how universities have responded to these needs over time and what catalysts started developing new research and courses. As an example, we discussed how we built on the professional science master's programs at Rice University to respond to workforce needs. These are two-year graduate programs designed to fill a management need for technology-based companies, governmental agencies, and non-profit organizations. Students pursue advanced training in science while simultaneously developing valued business skills. Our programs combine rigorous study in science or mathematics with coursework in management, policy, or law and emphasize writing and communication skills to create graduates that can seamlessly transition into valuable positions in industry and business.

SPDM 2020 Conference

Dagmar Beck was an invited panelist at SPDM 2020 (Society for Petroleum Managers) where she discussed the topic: Education in Energy Data Management — Looking to the Future. Dan Brown (CDA) and Jane Hodson (Premier Oil) moderated the session.



ENERGY AND DATA MANAGEMENT CERTIFICATE

UPDATE YOUR SKILL SET!

ENROLL NOW!

GET THE CREDENTIALS
TO ADVANCE YOUR CAREER!

In collaboration with leading Houston oil and gas companies, Rice faculty has developed this new focus area that promotes modern understanding of exploration and production as a data-driven business, emphasizing the importance of the curation and exploitation of data within the upstream oil and gas industry. This program provides a graduate study opportunity for students to become data-enabled geoscientists to match current demands in the industry.

DATA MANAGEMENT — An emerging workforce need

Demand in this field is steadily growing in a variety of industries, and in response to this need, Rice University's M.S. in **Subsurface Geoscience** has expanded its existing focus areas GEOLOGY AND GEOPHYSICS with a third option:

DATA SCIENCE/ MANAGEMENT + GOVERNANCE

Energy data management is increasingly recognized as a discipline critical to the energy industry. Demand for qualified Energy Data Managers is growing, as the success of the business becomes increasingly dependent on effectively managing data, which is increasing in both volume and complexity.

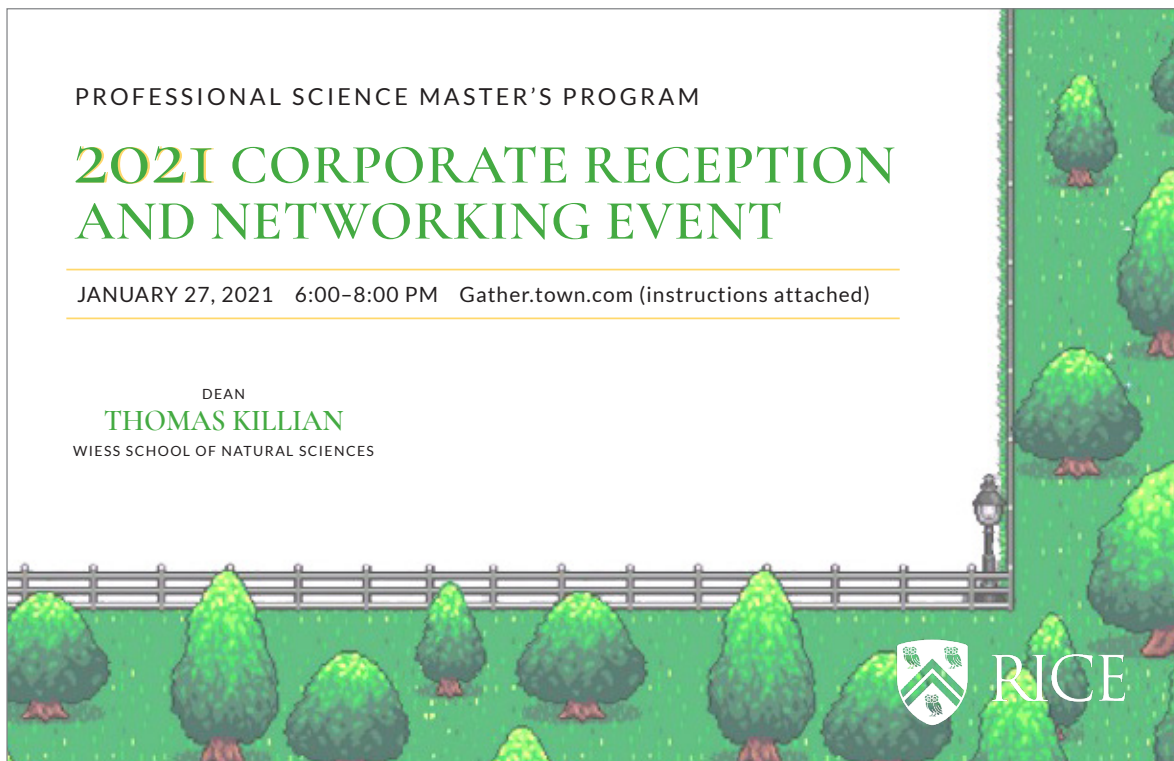
Our program provides a solid academic underpinning for energy and subsurface data management in all areas of the oil-and gas industry and other industry sectors.

PROFESSIONAL SCIENCE MASTER'S PROGRAM

2021 CORPORATE RECEPTION AND NETWORKING EVENT

JANUARY 27, 2021 6:00–8:00 PM [Gather.town.com](https://gather.town.com) (instructions attached)

DEAN
THOMAS KILLIAN
WIESS SCHOOL OF NATURAL SCIENCES



Participation is by invitation only, if you are interested
please contact profms@rice.edu

SPONSORS FOR THIS YEAR'S VIRTUAL EVENT

