

# GAIN



# 2022

## GRADUATE AND INDUSTRY NETWORKING



# TEXAS

The University of Texas at Austin

## What is GAIN?

GAIN (Graduate and Industry Networking) is an annual event hosted by the Graduate Engineering Council at The University of Texas at Austin.

Join us for a day of networking with industry professionals and the best and brightest graduate students from the Cockrell School of Engineering.

**WHEN:** *Thursday, Feb 24, 2022*

**WHERE:** *Gatherly (Virtual Meeting Platform)*

**Meet industry leaders**

**Expand your network and research**

**Win cash prizes**



# Welcome

## **Welcome to the 17<sup>th</sup> Annual Graduate and Industry Networking Event!**

The Graduate Engineering Council at The University of Texas at Austin (UT) proudly welcomes you to Graduate and Industry Networking (GAIN) 2022. GAIN is organized by and for the graduate engineering students at UT. This event provides a platform for students to showcase the exceptional research conducted at the Cockrell School of Engineering and helps graduate students build industry connections. Since its inception in 2005, GAIN has become an annual tradition in the Cockrell School of Engineering that fosters mutually beneficial relationships between UT graduate student body and industry representatives. We appreciate the time you have dedicated to attend this event and help us carry on this tradition at UT.

We would like to thank many people for the time and effort that they invested to make GAIN 2022 possible. They have dedicated the past few months to organizing this event so that it may take place today, and we appreciate their service and commitment to making GAIN a success.

We hope that you enjoy your experience today and make valuable connections.

Best Regards,

Jae Choi, GAIN Co-Director ([aa.choi@utexas.edu](mailto:aa.choi@utexas.edu))

Ziyu Dai, GAIN Co-Director ([ziyud@utexas.edu](mailto:ziyud@utexas.edu))

Sivasakthya Mohan, GEC President ([sm8@utexas.edu](mailto:sm8@utexas.edu))



# A Message From the GEC

The Graduate Engineering Council (GEC) is a university-sponsored organization that has been serving the Cockrell School of Engineering student body for over 40 years. The primary purpose of GEC is to represent the interests of the graduate engineering student body at The University of Texas at Austin.

GEC serves as a liaison between the Office of the Dean of Engineering, the Office of the Dean of Graduate Studies, the Student Senate, and engineering graduate students in the Cockrell School. GEC hosts many events pertinent to graduate life including the Energy Seminars, Academic Career Preparation Seminar Series, and our capstone event, GAIN. GEC also participates in events promoting graduate studies in engineering, including the Graduate School Information Panel for undergraduates, as well as in K-12 STEM outreach events, such as Introduce a Girl to Engineering Day and Explore UT.

Amid the global pandemic, GEC has worked hard to continually engage the graduate engineering student body by utilizing creative virtual solutions. For keeping GEC and GAIN going strong, we would like to give special thanks to all the incredible students and faculty involved.



# GAIN 2022 Committee

## GAIN Leadership



**Jae Choi**



**Ziyu Dai**



**Sivasakthya  
Mohan**

## GAIN Committee



**Brianna Blocher**



**Erik Cheng**



**Gia Linh Dang**



**Ram Disabar Jr.**



**Pengyu Nie**



**Angela Gordillo**



**Sarah Reynolds**

## GEC Executive Board



**Akhilesh  
Paspureddi**



**Hamzah Khan**



**Jaeseong Lee**



**Julia M Lamb**



# GAIN 2022 Timeline

## **Reception & Registration on-site: 12:00 – 12:30 PM**

Welcome speech by Dr. Speitel on the Reception Floor

## **Poster Session: 12:30 – 2:00 PM**

Floor

**Posters (No. 1-5, 25-28):** Biomedical, Chemical, and Petroleum & Geosystems  
Engineering

**Posters (No. 6-13, 17):** Civil, Architectural, & Environmental Engineering

**Posters (No. 14-16, 18-24):** Electrical & Computer, Materials, and Mechanical  
Engineering

## **Industry Talks: 2:00 – 2:30 PM**

Floor: **Industry Talks**

Intel

## **Networking Session: 2:30 – 4:30 PM**

Floor

**Networking | Dell**

**Networking | Dow**

**Networking | ExxonMobil**

**Networking | Intel**

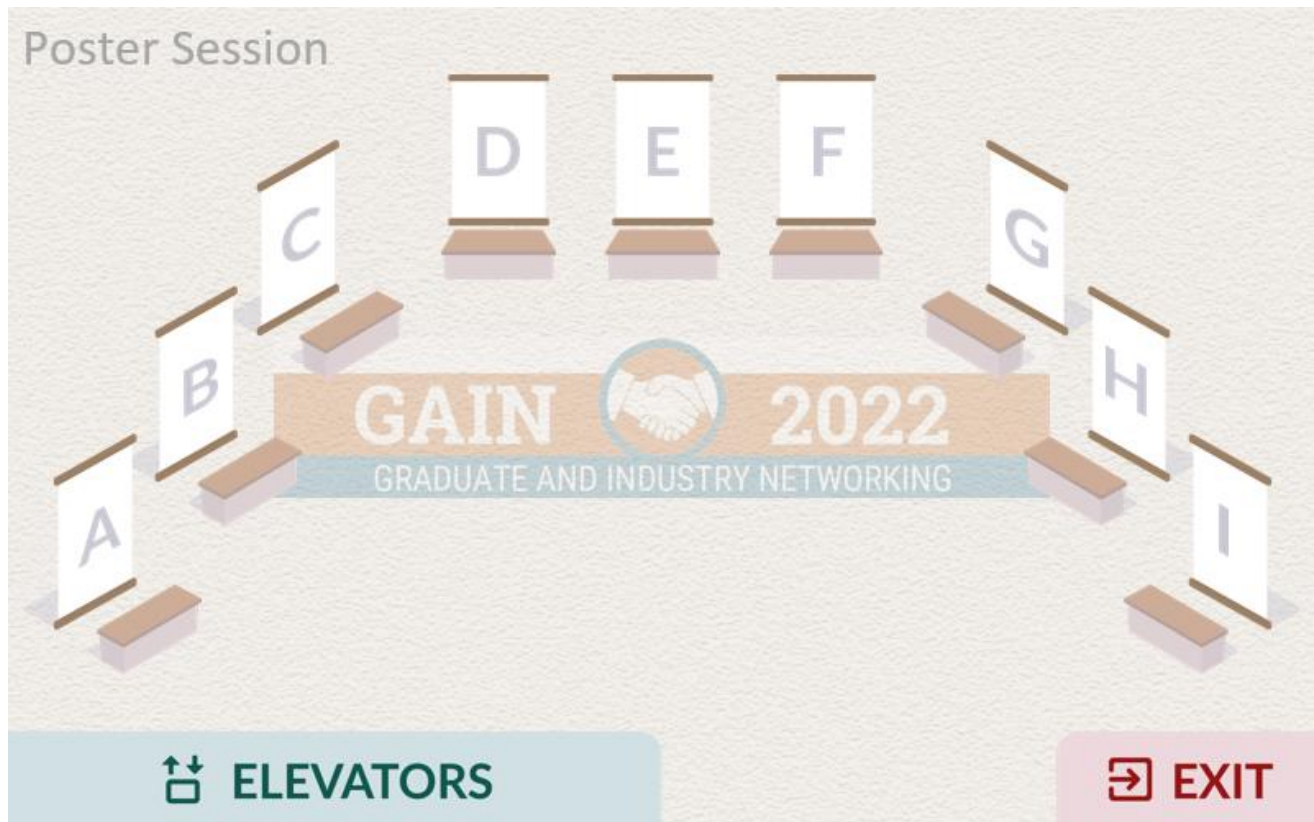
**Networking | Pape-Dawson**



# Session Description

## Poster Session: 12:30 – 2:00 PM

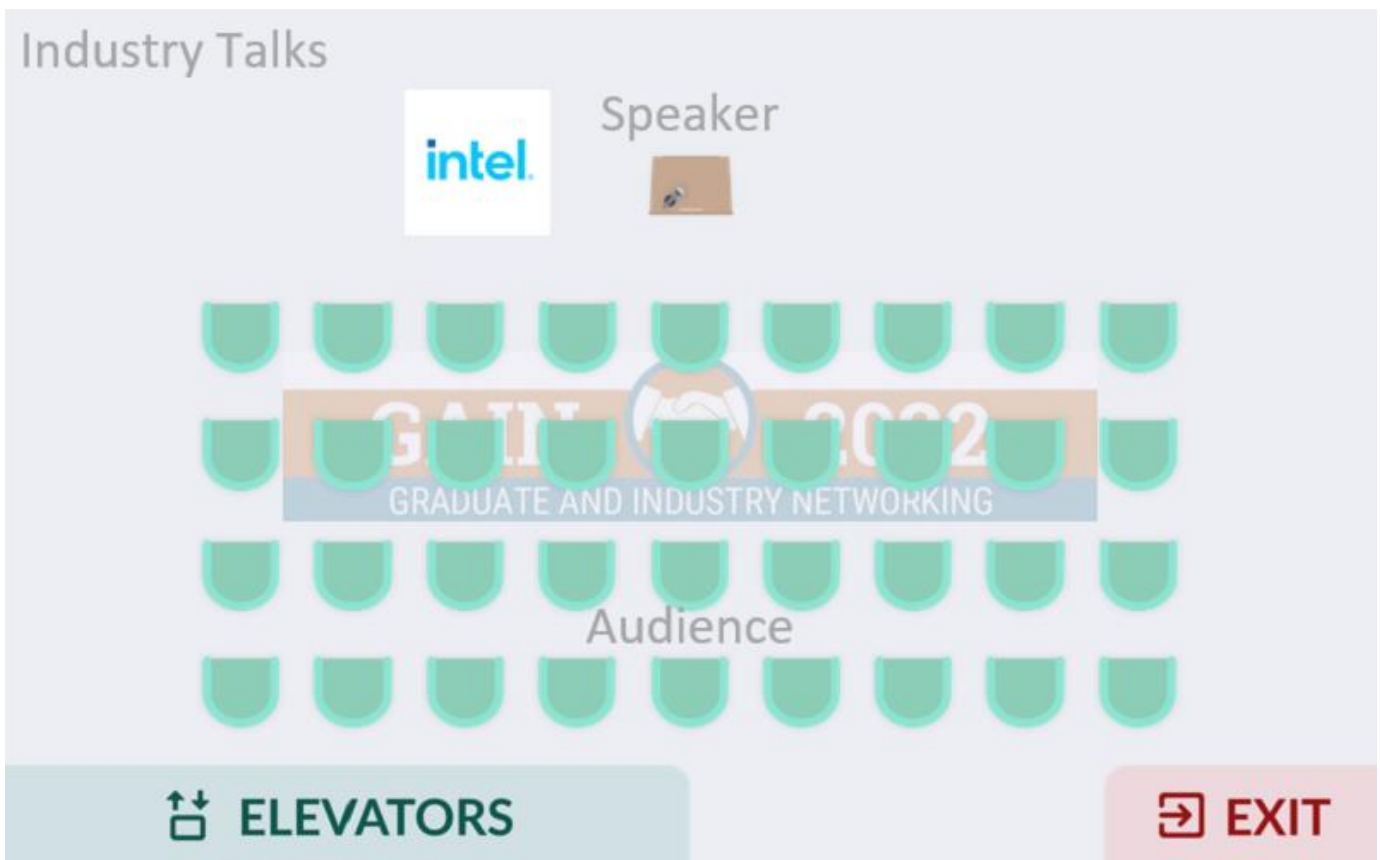
Student presenters will be stationed at their designated poster booths where they will have the ability to share their poster (using the “Share Screen” option) with any attendees that stop by their booth.





## Industry Talks: 2:00 – 2:30 PM

Industry representatives will deliver short presentations, followed by a Q&A Session on the Industry Talks Floor. Presenters will have the ability to broadcast their talk to everyone present in the Industry Talks Floor, so creating huddles is not required. Features such as “floor chats” are available to facilitate smoother interactions during the talk.







## Networking Session: 2:30 – 4:30 PM

Each sponsor partner has a dedicated floor where they can meet each student individually. The left side is the waiting area for students, and the right side is the recruiting area where you will talk to recruiters.

- Students should place their avatars in the chairs by order of arrival in the room. For example, if you are the first to enter the floor, go to Chair 1; if you are the second, go to Chair 2.
- From your initial queue chair, please move to the next available chairs in the waiting area as the avatars in front of you leave the waiting area to talk to recruiters.
- Once you become the first in line (Chair 1) AND if a recruiter is available (i.e., not in a huddle), feel free to connect with them and start a huddle. Make sure you have your resume ready to share.







# Corporate Sponsors

Special thanks to our corporate partners:

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At Intel, we're creating world-changing technology that enriches the lives of every person on Earth. For more than 50 years, our work has driven forward innovation, leading to modern advances in fields like

AI, analytics, and cloud-to-edge technology. Throughout these advances, we remain firmly focused on valuing our amazing employees that make it happen. Students like you are the heart of the ingenuity that have helped make Intel an industry leader, and we're laser focused on attracting—and retaining—the world's top talent. To that end, we provide excellent compensation packages that include competitive salary, quarterly and yearly bonuses, sabbaticals, generous employee stock options, and more. Our CEO started out as an intern at Intel. Imagine what your future career could be here! Join us and help make the future more wonderful for everyone.

<https://www.intel.com/content/www/us/en/jobs/jobs-at-intel.html>



## WHAT WE DO

We provide civil engineering, GIS, and survey services to public- and private-sector clients across Texas.

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A woman with short brown hair, wearing glasses and a blue blazer, is smiling broadly and shaking hands with a man whose back is to the camera. The man is wearing a blue suit jacket. The background is a bright, out-of-focus office interior with large windows.

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search for the specific career you're interested in.

You can also download the **Working at  
ExxonMobil** app to learn more about  
our company and career opportunities.





# Poster Presenters

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No.	Presenter Name	Title
1	Alexis Dimanche	Improving the hardware of intraoperative laser speckle contrast imaging of cerebral blood flow
2	Yuan-I Chen	Rapid fluorescence lifetime imaging (FLIM) for live cells and retinal endogenous fluorophores
3	Yin-Jui Chang	Multi-scale dynamical modeling of spike and field potential activity via biologically realistic neural network
4	Hyeonji Oh	Human-skin inspired structured biomimetic membranes based on beta-barrel membrane protein for protective fabrics
5	Laxmicharan Samineni	Energy-efficient nanoparticle removal in functionalized natural fiber filters
6	Korkut Kaynardag	Development of a laser doppler vibrometer based non-contact damage detection system for cracks in railhead
7	Mitchell Thompson	Perceived and objective air quality in residential indoor spaces: the role of olfaction
8	Xiaoyi Chen	Investigation of the effects of concrete slab-base interaction on the behavior of seamless bridge-CRCP systems
9	Hagen Fritz	Data fusion of consumer-grade sensors to answer indoor air quality research questions

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<b>No.</b>	<b>Presenter Name</b>	<b>Title</b>
10	Jingwen He	Development of seismic fragility curves for earth dams in Texas
11	Animesh Rastogi	Modeling energetic surfaces with curvature-resistance in soft solids and nanostructures
12	Chen-Kai Fan	Supporting the deployment of offshore wind in Texas: an economic and jobs analyses for a just transition
13	Xinxin Sui	Using decision tree to assess uncertainty in rainfall climatology products
14	Mahshid Alamdar	Magnetic tunnel junction devices and circuits for in-memory and radiation-hard computing
15	Satyam Kumar	TransMI: transfer learning framework for longitudinal motor imagery training
16	Connor Fritz	Improving poverty prediction with network science
17	Raleigh Robertson	Impact on indoor air quality and volatile organic compound exposure to consumers from coffee
18	Yixian Wang	Anode-free sodium metal batteries

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<b>No.</b>	<b>Presenter Name</b>	<b>Title</b>
19	Erik Cheng	Fundamental understanding of silicon nitride PEALD from atomistic simulations
20	Aminur Rashid Chowdhury	Gold plasmonic island photocatalyst development for photocatalytic degradation of volatile organic compounds
21	Gabriella Small	The effect of dual-tasks on cognitive performance and balance control during walking with altered step widths
22	Manojkumar Lokanathan	Influence of surfactant on electrowetting-induced surface electrocoalescence of water droplets in hydrocarbon media
23	Awan Bhati	Modeling mass transfer in spray-based systems for CO <sub>2</sub> capture
24	Ozdemir Can Kara	A reliable and sensitive framework for simultaneous type and stage detection of colorectal cancer polyps
25	Dongyoung Yoon	A data-driven approach of condition-based maintenance (CBM) of mud pumps
26	Anuradha Radhakrishnan	Analysis and recommendations for current capabilities in measuring upstream flare volumes in the Permian basin
27	Moises Velasco	Modeling of transport of solutes in two-phase porous media: solutions for advective- and capillary-dominated systems
28	Esmail Eltahan	A study on well placement in Uinta basin considering geological uncertainty

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# Poster Judges

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<b>Name</b>	<b>Affiliation</b>
Hal Alper	UT Austin   Chemical Engineering
Swastik Basu	UT Austin   Chemical Engineering
Tan Bui	UT Austin   Aerospace Engineering and Engineering Mechanics
Edward Castillo	UT Austin   Biomedical Engineering
Marc Eitner	UT Austin   Aerospace Engineering and Engineering Mechanics
Dong Guo	UT Austin   Mechanical Engineering
Matthew Hall	UT Austin   Mechanical Engineering
Yantao Huang	UT Austin   Civil, Architectural and Environmental Engineering
Tanya Hutter	UT Austin   Mechanical Engineering
Keith Johnston	UT Austin   Chemical Engineering
Hadi Khani	UT Austin   Mechanical Engineering
Quoc Nguyen	UT Austin   Petroleum and Geosystems Engineering
Maša Prodanović	UT Austin   Petroleum and Geosystems Engineering
Manuel Rausch	UT Austin   Aerospace Engineering and Engineering Mechanics
Elias Saqan	UT Austin   Civil, Architectural and Environmental Engineering
Doug Sassaman	UT Austin   Mechanical Engineering
Stephanie Seidlits	UT Austin   Biomedical Engineering
August Shi	UT Austin   Electrical and Computer Engineering
Jon Tamir	UT Austin   Electrical and Computer Engineering
Wennie Wang	UT Austin   Chemical Engineering
Yue Zhang	Dow Inc.
Wenbo Zhu	UT Austin   Chemical Engineering

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# Special Thanks

The University of Texas at Austin Partners:

**Department of Aerospace Engineering & Engineering  
Mechanics**

**Department of Biomedical Engineering**

**McKetta Department of Chemical Engineering**

**Department of Civil, Architectural & Environmental  
Engineering**

**Department of Electrical & Computer Engineering**

**Walker Department of Mechanical Engineering**

**Hildebrand Department of Petroleum & Geosystems  
Engineering**



# Special Thanks

**Dr. Gerald E. Speitel, Jr.**

Associate Dean of Academic Affairs & Professor, GEC  
Advisor

**Sheila Gerardo**

Co-Director of GAIN 2021

**Michael Powell**

Director, Engineering Career Assistance Center

**Pam Vrabel**

Executive Assistant, Engineering Student Life, Cockrell  
School of Engineering