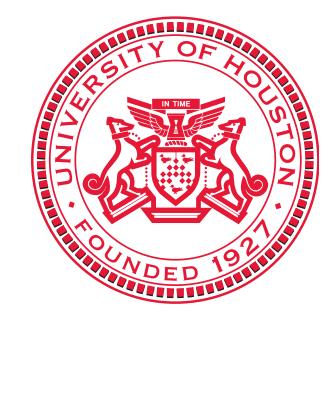


Convocation Thursday, December 14, 2017





## UNIVERSITY of HOUSTON

### Letter from the President

December 2017

Dear University of Houston Graduates:

Congratulations on this most memorable day of your college career! The degree you are about to receive symbolizes the world-class, tierone education you obtained at the University of Houston.

There were many factors that contributed to your success. The support of your parents, families and friends, and the encouragement of your faculty, advisors and staff played a significant part. But what made it all possible was the personal commitment, drive and resolve that helped you cross the finish line. We take profound satisfaction in knowing these same attributes will serve you well as you make your mark in the world.

Please leave today as proud UH graduates, confident you are the best prepared, best educated and best equipped individuals of your generation. I know in my heart that you are now ready and able not just to compete, but to succeed and be leaders in your chosen careers.

With my best wishes for a bright and rewarding future,

Renu khator

Renu Khator President, University of Houston



### Letter from the Dean

Dear Engineering Graduates,

By nature of you being here today, you are among the best, brightest and hardest working engineers the world has to offer.

You have made it through one of the most rigorous engineering programs in the country. During your time as an engineering student, you have collectively spent thousands of hours researching, volunteering and interning in the city of Houston, adding to the strength and vibrancy of our community. When you leave our labs and classrooms to embark on your careers, your professional contributions will have a resounding impact here, in the city of Houston, and around the world.

You are the thinkers, doers and creators of our modern world. You will be the designers, builders, problem-solvers and inventors of our tomorrow. Although you represent a wide variety of backgrounds and disciplines, as you walk across the stage to accept your diploma, you all have one thing in common: you are world-class engineers.

From here, the world is at your fingertips. Work hard, give back and trust in the knowledge you have acquired during your time as a student at the UH Cullen College of Engineering. Everything else will fall into place.

Congratulations, Cougar engineers! I look forward to seeing the impact your bright careers will have on our future and our world. Please stay in touch and fill me in on all of your successes: dean@egr.uh.edu.

Sincerely,

Joseph W. Tederco

Joseph W. Tedesco Elizabeth D. Rockwell Dean and Professor



### **Convocation Speaker**

### CYNTHIA OLIVER COLEMAN, P.E. Retired ExxonMobil Chemical Engineer

Cynthia Oliver Coleman, P.E. is a retired ExxonMobil Chemical Engineer and passionate Engineering Volunteer Leader. Since

graduating magna cum laude in 1971 and becoming the first Black woman to receive a chemical engineering degree from the University of Houston (UH) Cullen College of Engineering (CCE), she has been on a lifelong mission helping others, especially women and minorities, pursue engineering. She currently serves on the UH Petroleum Engineering Advisory Board, the College's Campaign Committee for UH \$1 Billion Campaign, and the UH Alumni Association Foundation Board. She is a dedicated Advocate & Donor for UH Women in Engineering, and Counselor for UH Society of Women Engineers. She is a past President of the UH Engineering Alumni Association (UH EAA), and Founder & Chair Emeritus of UH EAA Engineers Week that has provided more than \$460,000 in scholarships to UH engineering students and student organizations.

In 1967 when Cynthia became a chemical engineering freshman at UH, she was the only woman in her class. Even though she had doubts about engineering, she persevered to obtain her degree. In doing so, she became first in her family to graduate college. She began her career as the first woman engineer in Humble Oil's East Texas Division which became Exxon's Oil & Gas Division. During her 33-year ExxonMobil career she was a role model featured in various publications, and she held positions in gas engineering, reservoir engineering, engineering applications, engineering recruiting, and engineering information systems before her retirement in 2004.

Cynthia has received an engineering leadership service award, an outstanding volunteer award, and the recognition of having a women in engineering award named after her. She has been featured in various UH magazines, and she is 1 of 238 women engineers in the country featured in "True Stories of Women Engineers" book used in educational outreach. She is a Life Member of the Society of Women Engineers, National Society of Black Engineers, and Alpha Kappa Alpha Sorority, Inc. Cynthia is married to UH alumnus Leonard, and they are proud parents of UH alumna daughter Kelly.

### University of Houston

**Cullen College of Engineering** 

### Convocation

Thursday, December 14, 2017, 10 a.m. Bayou City Event Center

PROCESSIONAL	Grand Marshal Chad Wilson Instructional Assistant Professor
	Grand Marshal Leonard Trombetta Associate Professor
	Faculty
	Banner Bearer
	Platform Party
	Dean Joseph Tedesco
PRESENTATION OF THE COLORS	UH ROTC
NATIONAL ANTHEM	Moores School of Music
WELCOME AND INTRODUCTORY REMARKS	Joseph W. Tedesco Elizabeth D. Rockwell Dean and Professor
REGENT'S REMARKS	The Honorable Durga Agrawal Regent, University of Houston Board of Regents
CONVOCATION ADDRESS	Cynthia Oliver Coleman Cullen College of Engineering Alumnus
PRESENTATION OF BEST DISSERTATION AWARDS	Suresh Khator Associate Dean for Graduate Programs and Computing Facilities
PRESENTATION AND HOODING OF DOCTORAL CANDIDATES	Mike Lejeune Presenter
PRESENTATION OF MASTER'S CANDIDATES	Mike Lejeune Presenter
PRESENTATION OF BACHELOR'S CANDIDATES	Mike Lejeune Presenter
CLOSING REMARKS	Dean Tedesco
ALMA MATER	Moores School of Music
RECESSIONAL	

Event music provided by the Moores School of Music.



The University of Houston Cullen College of Engineering, established in 1941, is accredited by the Engineering Accreditation Commission of ABET. The Cullen College is ranked among the top 100 engineering schools in the country and is recognized as one of Best Engineering Schools of 2017 by U.S. News & World Report.

Approximately 5,000 students are enrolled in engineering courses—3,267 undergraduates as well as 1,287 master's and doctoral students in biomedical, chemical, civil, computer, electrical, environmental, geosensing systems, industrial, mechanical and petroleum engineering. The college also offers interdisciplinary graduate programs in space architecture, subsea, aerospace, materials, and computer and systems engineering. Chemical, mechanical, electrical, computer and civil engineering are ranked among the top graduate programs nationally by U.S. News & World Report.

The mission of the Cullen College of Engineering at the University of Houston is to serve the Greater Houston community, Texas and the nation by educating engineers to assume leadership positions in the identification and solution of the complex technical challenges of society, to advance the state of knowledge through pioneering research and scholarly work, to facilitate the transfer of new technology to Texas and U.S. industries, to play a key role in economic development for the Greater Houston region and the State of Texas, and to benefit the public sector through service to the university, community, industry, government and the engineering profession.

### ADMINISTRATION

## Administration

Joseph Tedesco Elizabeth D. Rockwell Dean and Professor

Hanadi Rifai Associate Dean for Research and Facilities

Suresh Khator Associate Dean for Graduate Programs and Computing Facilities

Frank Claydon Director of the Division of Undergraduate Programs and Student Success

Metin Akay Chair, Department of Biomedical Engineering

Michael Harold Chair, Department of Chemical and Biomolecular Engineering

Roberto Ballarini Chair, Department of Civil and Environmental Engineering

Badrinath Roysam Chair, Department of Electrical and Computer Engineering

Gino Lim Chair, Department of Industrial Engineering Pradeep Sharma Chair, Department of Mechanical Engineering

Mohamed Soliman Chair, Department of Petroleum Engineering

Jagannatha Rao Director of Online Programs and Extension Services

Phaneendra Kondapi Director of Engineering Programs, UH Katy

Russell Dunlavy Chief Development Officer - UH STEM

Stephen Bangerter Executive Director of Business Operations

Audrey Grayson Executive Director of Communications

Janice Quiroz-Perez Director of the Engineering Career Service Center

Roshawnda Anderson Assistant Dean of Administration

## National Academy of Engineering Members

J.J. Azar Petroleum Engineering

Benton Baugh Subsea Engineering

Charles Cutler Chemical and Biomolecular Engineering

Christine Ehlig-Economides Petroleum Engineering

S. M. Farouq Ali Petroleum Engineering

John Lienhard Mechanical Engineering

Dan Luss Chemical and Biomolecular Engineering Andrea Prosperetti Mechanical Engineering

Kaushik Rajashekara Electrical and Computer Engineering

James Symons Civil and Environmental Engineering

Jerome Schultz Biomedical Engineering

Ganesh Thakur Petroleum Engineering

Anestis Veletsos Civil and Environmental Engineering

Kaspar Willam Civil and Environmental Engineering

## Department of Biomedical Engineering

Mohammad Abidian Associate Professor

Metin Akay Professor and Chair

Yasemin Akay Instructional Assistant Professor

Muayyad Al-Ubaidi Professor

Joseph Francis Associate Professor

Howard Gifford Associate Professor Nuri Ince Assistant Professor

Kirill Larin Professor

Sheereen Majd Assistant Professor

Elebeoba May Associate Professor

Chandra Mohan Professor and Associate Chair

Muna Naash Professor

FACULTY

Jerome Schultz Professor Sergey Shevkoplyas Associate Professor Tianfu Wu Assistant Professor

Yingchuan Zhang Assistant Professor

## Department of Chemical and Biomolecular Engineering

Vemuri Balakotaiah Professor Praveen Bollini Assistant Professor Patrick Cirino Associate Professor Jacinta Conrad Associate Professor Vincent Donnelly Professor Demetre Economou Professor Lars Grabow Associate Professor Michael Harold Professor and Chair Alamgir Karim Professor

Ramanan Krishnamoorti Professor

Dan Luss Professor Michael Nikolaou Professor Mehmet Orman Assistant Professor Jeremy Palmer Assistant Professor Jeffrey Rimer Associate Professor Megan Robertson Associate Professor Navin Varadarajan Associate Professor Peter Vekilov Professor

Richard Willson Professor

## Department of Civil and Environmental Engineering

Roberto Ballarini Professor and Chair Abdeldjelil Belarbi Professor

Mina Dawood Associate Professor Egor Dontsov Assistant Professor Craig Glennie Associate Professor Reagan Herman Instructional Associate Professor Thomas Hsu Professor Yandi Hu Assistant Professor Konrad Krakowiak Assistant Professor Hyongki Lee Associate Professor Arturo Leon Associate Professor Stacey Louie Assistant Professor

Yi-Lung Mo Professor Kalyana Nakshatrala Associate Professor Hanadi Rifai Professor and Associate Dean William Rixey Associate Professor and Associate Chair Debora Rodrigues Associate Professor Ramesh Shrestha Professor Joseph Tedesco Professor and Dean Cumaraswamy Vipulanandan Professor Keh-Han Wang Professor

## Department of Electrical and Computer Engineering

Jiming Bao Associate Professor Aaron Becker Assistant Professor Stanko Brankovic Associate Professor Ji Chen Professor

Jiefu Chen Assistant Professor Jinghong Chen Associate Professor Yuhua Chen Associate Professor Frank Claydon Professor and Director

### FACULTY

Jose Contreras-Vidal Professor Rose Faghih Assistant Professor Xin Fu Associate Professor Zhu Han Professor Thomas Hebert Associate Professor David Jackson Professor Harish Krishnamoorthy Assistant Professor Han Le Professor Huang Quang Le Instructional Assistant Professor Jung Uk Lim Instructional Assistant Professor Dmitri Litvinov Professor Stuart Long Professor David Mayerich Assistant Professor Hien Nguyen Assistant Professor

Miao Pan Assistant Professor Shin-Shem Pei Professor Saurabh Prasad Assistant Professor Kaushik Rajashekara Professor **Badrinath** Roysam Professor and Chair Paul Ruchhoeft Associate Professor Xiaonan Shan Assistant Professor David Shattuck Associate Professor Bhavin Sheth Associate Professor Wei-Chuan Shih Associate Professor Leonard Trombetta Associate Professor and Associate Chair John Wolfe Professor Yan Yao Associate Professor Wanda Zagozdzon-Wosik Associate Professor

## Department of Industrial Engineering

Christopher Chung Associate Professor Qianmei Feng Associate Professor

.....

- Ali Kamrani Associate Professor Suresh Khator Professor and Associate Dean Taewoo Lee Assistant Professor Gino Lim Professor and Chair Ying Lin Assistant Professor
- Jiming Peng Associate Professor Lawrence Schulze Associate Professor Randal Sitton Instructional Associate Professor Yaping Wang Instructional Assistant Professor

### Department of Mechanical Engineering

Ashutosh Agrawal Associate Professor

Daniel Araya Assistant Professor

Haleh Ardebili Associate Professor

Richard Bannerot Professor

Theocharis Baxevanis Assistant Professor

Christina Chang Instructional Assistant Professor

Xuemei Chen Instructional Assistant Professor

Yi-Chao Chen Professor

Zheng Chen Assistant Professor Matthew Franchek *Professor* 

Hadi Ghasemi Assistant Professor

Karolos Grigoriadis Professor

Phaneendra Kondapi Instructional Professor and Director

Yashashree Kulkarni Associate Professor

Dong Liu Associate Professor

Holley Love Instructional Assistant Professor

Philippe Masson Assistant Professor

Anastassios Mavrokefalos Assistant Professor

FACULTY

Ralph Metcalfe Professor

Rodolfo Ostilla Monico Assistant Professor

Andrea Prosperetti Professor

Jagannatha Rao Associate Professor, Associate Chair and Director

Jae-Hyun Ryou Assistant Professor

Venkat Selvamanickam Professor Pradeep Sharma Professor and Chair

Gangbing Song Professor

Li Sun Professor

Su Su Wang Professor

Kenneth White *Professor* 

Di Yang Assistant Professor

Cunjiang Yu Assistant Professor

## Department of Petroleum Engineering

Christine Ehlig-Economides Professor

S. M. Farouq Ali Professor

Lori Hathon Assistant Professor

Dimitrios Hatzignatiou Professor

Konstantinos Kostarelos Associate Professor

Kyung Jae Lee Assistant Professor

Michael Myers Associate Professor Guan Qin Associate Professor

Ahmad Sakhaee-Pour Assistant Professor

Mohamed Soliman Professor and Chair

Ganesh Thakur Professor

Huai Wang Instructional Assistant Professor

George Wong Associate Professor

### Cullen College of Engineering FACULTY

## Division of Undergraduate Programs and Student Success

Daniel Burleson Instructional Assistant Professor

Diana de la Rosa-Pohl Instructional Assistant Professor

Jerrod Henderson Instructional Assistant Professor Brian Metrovich Instructional Associate Professor

Erin McCave Instructional Assistant Professor

Chad Wilson Instructional Associate Professor

### **DISSERTATION AWARD**

## Best Ph.D. Dissertation Award

### Summer 2017 and Fall 2017 Graduates

This semester, we have two outstanding dissertation award winners. A plaque and a check for \$1,000 will be given to the following two individuals:

Rui Li, Ph.D. in Chemical and Biomolecular Engineering DISSERTATION TITLE: Multifaceted Approaches to Tailor Zeolite Properties and Elucidate the Role of Precursors in Nonclassical Crystallization

DISSERTATION ADVISORS: Dr. Jeffrey Rimer

Meysam Heydari Gharahcheshmeh Ph.D. in Materials Science and Engineering

DISSERTATION TITLE: Structural and Electromagnetic Study of Heavily Doped ZR-Added Rebco Coated Conductors Fabricated by Reel-to-Reel MOCVD

DISSERTATION ADVISORS: Dr. Venkat Selvamanickam

### THE HONORS COLLEGE

## The Honors College Honors

The Honors College at the University of Houston offers students special opportunities to develop their academic abilities. Below are the Honors College honors designations.

### University Honors with Honors in Major

Students who complete the Honors College curriculum (36 hours) and complete a senior honors thesis.

### **University Honors**

Students who complete the Honors College curriculum and elect not to complete a senior honors thesis.

### Collegiate Honors and Collegiate Honors with Honors in Major

Students who fulfill the requirements for the honors program in the college of their major, including 21 hours of honors courses; who complete an Honors College minor, or who complete 21 hours of approved honors courses. If students also complete a senior honors thesis, they graduate with Collegiate Honors with Honors in Major.

# Membership in The Honors College and Membership in The Honors College with Honors in Major

Students who affiliate with the Honors College during their undergraduate years and complete fewer than 21 hours of honors courses. If students also complete a senior honors thesis and fulfill the requirements of their major with distinction, they graduate with Membership in The Honors College with Honors in Major.

### Honors in Major

Students who complete a senior honors thesis but are not members of the Honors College.

## Summer 2017 Honors Recipients

### **Collegiate Honors**

Tri Huu Nguyen

### Membership in The Honors College

Fernando Sergio Curiel

## Fall 2017 Honors Recipients

### University Honors with Honors in Major

Chandika Silva

### **University Honors**

Cristian Antonio Aparicio Laura L. Clark Victoria Y. Dieu Thomas Ing Hsu Kevin J. McEnery Walter A. Rodriguez Abdullah Rami Tuffaha Andrew Vodinh Jonathan Boris Zelenko

.....

### **Collegiate Honors**

Michael S. Alexander

Shubhangi S. Mundhada

ACADEMIC HONORS

### Honors

Undergraduate students who have completed the graduation requirements of the Honors College, including a senior honors thesis or senior honors project, are graduated with "University Honors with Honors in Major." Undergraduate students who have completed all requirements of the Honors College except for the thesis or project are graduated with "University Honors."

Undergraduate students who successfully complete a senior honors thesis or senior honors project and who are not members of the Honors College are graduated with "Honors in Major."

Undergraduate students who complete their degree requirements under catalogs beginning in Fall 2010 will graduate with the stated academic honors if they achieve the following grade point averages earned in the last fifty-four (54) hours (all of which must be A, B, C,... letter grade courses) completed at the University of Houston. Grades of S, U, I and W are not assigned grade point values and are not used in the computation of the grade point average.

3.90 to 4.0	Summa Cum Laude (with highest honors)
3.70 to 3.89	Magna Cum Laude (with high honors)
3.50 to 3.69	Cum Laude (with honors)

Further, the honors calculation will include all hours completed in the semester in which the first of those final fifty-four (54) hours was completed.

### CANDIDATES FOR GRADUATION

### Fall 2017

### DOCTOR OF PHILOSOPHY IN CHEMICAL ENGINEERING

#### FNU Aseem

Oxidative Coupling of Methane over Mixed Metal Oxide Catalysts: Thermokinetic and Oxygen Distribution Effects ADVISOR: Dr. Michael P. Harold

Karthik Venkata Rama Krishna Dadi Transient and Steady-State Light-Off Features During Co-Oxidation of CO and HCs in DOC ADVISORS: Dr. Vemuri Balakotaiah and Dr. Dan Luss

Shuai He

Molecular Modeling of Shale Gas Transport Mechanisms in Shale Nanopores ADVISOR: Dr. Guan Qin

Sashank Kasiraju

Catalysis of Imperfections: Importance of the Nature and Abundance of Defects in Oxides and Chalcogenides for Diverse Applications ADVISOR: Dr.Llars C. Garbow

#### Rui Li

Multifaceted Approaches to Tailor Zeolite Properties and Elucidate the Role of Precursors in Nonclassical Crystallization ADVISOR: Dr. Jeffrey D. Rimer

#### Shobhit Misra

Building Models of Process Systems: Applications in Control & Design ADVISOR: Dr. Michael Nikolaou

### DOCTOR OF PHILOSOPHY IN CIVIL ENGINEERING

Niousha Amani

Characterization and Modeling the Dynamic Responses, Gas Leakage and Contamination on the Behavior of the Smart Cement Composite **ADVISOR:** Dr. Cumaraswamy Vipulanandan

Mohammed Fathi Mohammed Bashar Subcritical Flow Computation in an Open-Channel Network with Dividing Junctions and Sluice Gates ADVISOR: Dr. Keh-Han Wang

Jassim Mustafa Qadir Jaf Interaction of Solitary Waves with a Submerged Breakwater and

Experimental Visualizations of Induced Vortex Characteristics ADVISOR: Dr. Keh-Han Wang

Prakash Poudel

### DOCTOR OF PHILOSOPHY IN ELECTRICAL ENGINEERING

Md Masud Parvez Arnob 3D Plasmonic Nanoarchitectures: Fabrication, Charaterization, and Applications ADVISOR: Dr. Wei-Chuan Shih

#### Nikunj Arunkumar Bhagat

Brain-Machine Interface with Closed-Loop Neuromuscular Stimulation for Grasping in Stroke and Spinal Cord Injury Survivors ADVISOR: Dr. Jose L. Contreras-Vidal

#### Kedar Balaji Grama

Computational Analysis of Remodeling in the Rat Brain after Traumatic Brain Injury **ADVISOR:** Dr. Badrinath Roysam Qicheng Huang Power Sharing and Power Quality Improvement in Parallel Connected Power Converters in the Microgrid ADVISOR: Dr. Kaushik Rajashekara

#### Lianyang Li

mTBI Detection and Assessment based on EEG/MEG Analysis ADVISOR: Dr. George Zouridakis

#### Lintong Li

Development of an Absorbing Radio Frequency Shield for Safe Magnetic Resonance Imaging ADVISOR: Dr. Ji Chen

#### Xinyu Liu

Transparent and Non-transparent Microstrip Antenna on a CubeSat **ADVISOR:** Dr. David R. Jackson

#### Kaveh Shervin

Development of High Efficiency Low Cost III-V Solar Cells ADVISOR: Dr. Alexandre Freundlich

Radwa Aly Mohammed Hussein Sultan Utilizing Full Duplex Multiple Antenna in Heterogeneous Networks ADVISOR: Dr. Zhu Han

#### Hsu-Hsiang Wu

Evaluation & Exploration of Complex Subterranean Formations Using Numerical Modeling: Azimuthal EM Deep Resistivity Applications ADVISOR: Dr. Ji Chen

#### Junchao Wu

Design and Analysis of Hardwarebased Scheduler and Multi-photon Quantum Cryptography Protocol ADVISOR: Dr. Yuhua Chen Huaqing Zhang A Hierarchical Game Framework for Distributive Resource Allocation in Future HetNet ADVISOR: Dr. Zhu Han

### DOCTOR OF PHILOSOPHY IN GEOSENSING SYSTEMS ENGINEERING AND SCIENCES

Xiao Wang Filtering of Single Photon LiDAR Data ADVISOR: Dr. Craig Glennie

### DOCTOR OF PHILOSOPHY IN MATERIALS ENGINEERING

Su-Chi Chang

Synthesis and Characterization of Two Dimensional Transition Metal Dichalcogenide Materials ADVISOR: Dr. Shin-Shem Steven Pei

#### Saman Gheytani

Long Cycle-Life Aqueous Batteries Enabled by Organic Electrode Materials ADVISOR: Dr. Yan Yao

#### Yao Yao

Hetero-Epitaxial Growth of Ge and ZnO on Metal Substrates by Reelto-Reel Physical Vapor Deposition for Flexible Device Fabrication **ADVISOR:** Dr. Venkat Selvamanickam

### DOCTOR OF PHILOSOPHY IN MECHANICAL ENGINEERING

#### Mete Mutlu

Dynamic Analysis of Subsea Blowout Preventer Fluid Power System ADVISOR: Dr. Matthew A. Franchek

### **CANDIDATES FOR GRADUATION**

Peter Alexander Smith Miniature Axial Flow Blood Pump: Hydraulic Development & Design ADVISOR: Dr. Ralph W. Metcalfe

#### Milad Yarali

Thermal and Thermoelectric Transport Measurements of Carbon Nanotube Networks, Silicon Nanomembranes, and Transition Metal Dichalcogenides ADVISOR: Dr. Anastassios Mavrokefalos

### MASTER OF SCIENCE IN AEROSPACE ENGINEERING

Leonard Perez

### MASTER OF SCIENCE IN BIOMEDICAL ENGINEERING

Zhilin Guo Jeffrey Sun

### MASTER OF CHEMICAL ENGINEERING

Diane Lynn Hayes Johannes Kawi Zerayacob Barsula Sermollo Fahad Nayaz Sheriff

### MASTER OF SCIENCE IN CHEMICAL ENGINEERING

Mohammed Masoud E. Alamiri

### MASTER OF SCIENCE IN CIVIL ENGINEERING

Hazeem Amer Amit Awal Shaima Mohammed Aziz Aziz Vladimir Berka Garrett Powell Best Vikhyath Kumar Gattu Abrar Siddiq Hazari Joel Brian Huber Owanari Oluwakemi Iyalla Shivani Pokharel Bishow Pant

### MASTER OF SCIENCE IN COMPUTER AND SYSTEMS ENGINEERING

Akhil Kumar Reddy Chityala Wilson Paul Deshapaga Jih-Tsen Lin Ashoka Vardhan Pasupula Krishna Priya Peddi Giridhar Gourav Puttamsetty Aashritha Vundyala

### MASTER OF ELECTRICAL ENGINEERING

Lijuan Hou Sree Sai Ram Narayana Sudarsan Sadasivuni

### MASTER OF SCIENCE IN ELECTRICAL ENGINEERING

Krishnagopal Ashok Venkata Gowtam Srivatsav Chemudupati Anusha Chinni Seyeddavar Daeinejad Hieu Trong Dinh Mayuri Harikumar Yashraja Reddy Obulam Cristobal A. Pena Sinh Phan Pham Hrishikesh Prabhu Pallavi Rawat Jorge Rivera Arvindhan Sayapathy Sayandeep Sen Sayeed Shakaib Ahmed Sulav Sharma Gautam Manish Reddy Sudini Mohammad M. Sultan Xiaohui Wang Zhiheng Zuo

### MASTER OF SCIENCE IN ENVIRONMENTAL ENGINEERING

Sergio De La Fuente Sai Sheetal Garlapati Divya Dharmendra Khandelwal Eric Minh Le Peter Shashank Lyman Jose G. Mendiola Annie T. Nguyen Akhil Reddy Vakiti

### MASTER OF INDUSTRIAL ENGINEERING

Akshay Agrawal Sai Nishanth Reddy Anumandla Laxmi Bhandari Harsh Kalpesh Desai Sandeep Gundla Sajal Sanjay Gupta Yingzhe Huang Mohammed Noor Ul Haq Hussain Vinod Kaushal Irukulla Chaitanya Kumar Isukala Reza Jarvand Sai Chaitanya Kantipudi Lokesh Karthikeyan Nithin Prakash Kashyap Lizyle Leslie Machado

Gangadhar Mahalingappa Shashank Manghat Suraj Mattoo Aravindhakshan Mohan Nikitha Muddapuram Sai Krishna Manish Munnangi Satya Sai Sandeep Mupparaju Parvathy Muralidharan Harish Uday Nagesh Srihari Nalla Nagula Sravani Nanduri Madhav Jayeshkumar Pandya Poojan Ajaykumar Patel Hardik Maganbhai Pokal Lokanadh Sasank Prabhala Nirmal Kumar Ravichandran Savantrini Saha Siddhartha Sarkar Dinesh Sigireddy Dinesh Babu Sivasamy Sai Ravi Krishna Subramani John Pradeep Sugumar Tipu Sultan Tony Thomas Pattathil Sai Teja Tumuluru Bharat Vadapalli

### MASTER OF SCIENCE IN INDUSTRIAL ENGINEERING

Linh Quoc Vu

### MASTERS OF SCIENCE IN MATERIALS SCIENCE AND ENGINEERING

Anjali Bhattarai I. Kang Wu

### **CANDIDATES FOR GRADUATION**

### MASTER OF SCIENCE IN MECHANICAL ENGINEERING

Nnamdi Thaddeus Agbo Yufei Ai Omar Ashraf Ali Ravi Teja Chaganti Luis Alfonso Daza Juan D. Delgadillo Morales Ramkumar Ethirajulu Ubong Etukudo Mauricio Gonzalez Neeraj Gupta Graham Hunter Christopher James Ingold Mehul Jain Abhishek Kaurav Edison Lamsal Mukhtar Mobolaji Mustapha Jeison Yamit Palomino Keyur Tarunkumar Patel Vedang Dipakbhai Patel Shadman Hussain Oaisar Anand Rathnam Ahmed Khan Salman Kishan Prabhakar Savant Uduakobong Patrick Solomon Sweekrith Suresh Arpan Upadhyaya Venkata Sai Raviteja Vankadara Bajio Varghese Kaleeckal Deepankar Verma

### MASTER OF PETROLEUM ENGINEERING

Troy Aalund Zachariah K Al-Shafei Robert De Gobbi

Reza Faraji Utkarsh Gupta Hussein Amr Khorshed Samuel Lau Zhaosheng Lin Haoran Liu Andrea Alejandra Mateos John E. Musa Olabode J. Otunola Connor A. Rivard Aakash Subhashbhai Shah Vicky Singla Robert Strong Linan Su Rahul Pravin Umrani Chukwuma Carl Ukegbu Sai Sharan Yalamarty Yeling Zhou Yunbo Zhou Zhenxing Zhou Fares Ziari

### MASTER OF SCIENCE IN PETROLEUM ENGINEERING

Bhaskar Jyoti Bhargav Ankit Bhowmick Panuswee Naushir Dwivedi Ravi Khandelwal Sunit Mathur Nitya Mohan Uche Uche Junior Ohafia Bharat Thakur

### MASTER OF SCIENCE IN SPACE ARCHITECTURE

Anchal Bhaskar Kyle A. Kesling John T. Phillips-Hungerford

### MASTER OF SCIENCE IN SUBSEA ENGINEERING

Abimbola Oluwatoyin Adeleye Mariana Coelho Pinto Torres Tosan Precious Egbejule Henry Nkemdi Egejuru Neethi Anand Gangidi Sathira Ayu Larasati Hanqi Liu Ajibola Jibril-Temiloluwa Oladipo Salmat Kehinde Oladipupo Devvrat Singh Rathore

### BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING

Ashwin Panikkar

### BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

Hiba N. Ahmed Juan Sebastian Arevalo Joseph R. Guzman<sup>3</sup> Jose Luis Ramirez<sup>3</sup> Christopher Rolen David Charlemagne Sandwidi Sarath Aniyan Thayil

### BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Saad Adil Ahmed Jose E. Alfaro-Vasquez Mustafa Tahir Al-Marzooq Cristian Antonio Aparicio <sup>3</sup> Ahmad Yazan Badri <sup>3</sup> Reagan H. Broom William Warren Byland Danielle M. Camacho Wai Ting Wallace Chan <sup>3</sup>

Robert Anthony Davila Victoria Y. Dieu Samuel J. Donnelly Alberto Joel Dorantes Jacob Gonzalez Escobedo Almuatz Nouri Ghafil Ghafil 3 Idene Hadjizamani Mohamad A. Kanaan<sup>2</sup> Yousef A. Kanaan<sup>2</sup> Chase A. Keltgen Kaitlin Leigh Kocurek Luis Manuel Murillo Phuc Hong Nguyen Ryan Taylor Schilhab Ibrahim Yahia Sheikh Kassem<sup>2</sup> Isabel Rose Shulyak Ioshua W. Sills Neil Andrew Williams<sup>3</sup>

### BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

Nicholas Asuquo Archibong Luis A. Ayala Tam Duc Dong Daniel Trong Duong<sup>3</sup> Elizabeth Ngo Duong Robert Guy England Kelly A. Evangelista Ryan Joseph Galate<sup>2</sup> Shubhangi S. Mundhada Vaibhave B. Patel Jose Manuel Perez Luis Ernesto Robles Guillermo M. Rodriguez<sup>3</sup> Chandika Silva Rapipat Sujaritkul<sup>2</sup> Steven Ventura Gia Vinh Duc Vu

### **CANDIDATES FOR GRADUATION**

### BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Mark Anthony Alvarado Neamen M. Asfaha Gabriel E. Blanco Legra Alexander B. Camba Luis E. Chavez Laura L. Clark Binh Doan<sup>2</sup> Austin Taylor Dodge Mason Wakefield Edgar 3 Luis Alberto Galvan Michael Joseph Green Zhenyu Hu<sup>3</sup> Ermias Getachew Kebede<sup>3</sup> Allison Theresa Keene<sup>3</sup> Kevin Allen Klicker Anh Ouoc Lu Adrian Dante Martin Joseph Alexander McCarthy Ionathan My Nguyen Nicholas Soren Nourani Ikechi Uchenna Nwachukwu Leonard Kenechukwu Nwankwo Igor Pacheco Paulo 3 Tri Huy Minh Phan Patrick Daniel Roberts Theodore A. Rodriguez Tharindu N. S Pathiranage Basil M. Sabu<sup>2</sup> Frank Salgado 3 Tu Tran Abdullah Rami Tuffaha Justin Wang<sup>2</sup> Jonathan Boris Zelenko<sup>2</sup>

### BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

Babasijibomi Oluwadunsin Akinde Abdullah Sultan Al Angari Michael S. Alexander Faisal Ibrahim A. Alghunaim Aabed Alhabashi Saad Abdullah S. Alsubaie Fernando Gomez-Rodriguez Sazan Salar Ibrahim Zara Ahmed Khan Tommy Lin Kimberly N. Rangel Hadeel Witwit

### BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Amina Ahmed Pedro Almeida Bordieri Marlo O. Amaya Ibrahim Ahmad Ayyash Jonathan Gram Baguley Cesar Banda Christian Behrend David W. Briggs Alejandra Fabiola Cruz Hai Kd Dao John Rey Dela Cruz De Leon Ivan Depaz-Osoria Juan Paolo Santos Estepa Kyle J. Feagin Parteek Gouri Alex H. Haggblom Alan Hernandez Yang Huai 2,4 Alvaro Ibarra Alan Xuandon Le

Benjamin A. Le<sup>3</sup> Jarrett L. Lonsford Clement Ma Kevin J. McEnery Julio C. Moreno Grant Austin Mottershaw John David Murphy Cole T. Nelson<sup>2</sup> Trang Hien Nguyen 3 Ujjwal Oli 3 Cesar Pedraza Navam Perez Calvin William Pineiro Aaron Rajan John Anthony Ramirez, Jr. Walter A. Rodriguez<sup>3</sup> Lauren A. Scott Adnan Aaron Tabsch Herbas Hoang Huy Tran Linlin Wang Nicolas K. Xiong Tsz To Yeung Tyler Keith Yingst Fernando Daniel Zuniga Salazar<sup>2</sup>

### BACHELOR OF SCIENCE IN PETROLEUM ENGINEERING

Jacob Alexander Abels Ahmed Reda Abouserie Roberto Acuna Eduard Louis Agirre Mahmoud-Taher Nabil Ajine Ahmed Al Alshaikh Beatriz Ismirna Amaya Siddharth Arora Bryan Emmanuel Atanga Robert S. Bakondy<sup>2</sup> Matthew Joseph Bordelon<sup>3</sup> Jason M. Carr Divyansh Singh Chauhan Kheng Koon Chew Ravin Raj Chhatrapati Charles Aaron Claxton Justin Omar Cruz Bang Hai Dang Elizabeth A. Demel Jenny Quyen Dinh Christopher Dominguez Prashant Shane Dookeran Cesar Enriquez Sean T. Finnegan Shrinag Gaddipati Jairo Ramon Garcia Yuriria Balanzar Gonzalez David S. Gratvol Francisco Javier Gutierrez Vinh Bac Ha Naif Ul Haq Caleb M. Hawkesworth Khoi Trong Ho<sup>2</sup> Vi Trieu Hong Thomas Ing Hsu Ali H. Hussain Wenzoodo Brice Godrefroy Ilboudo Daniel A. Iroanya Nader J. Khashab Sung Kim Lanh Lai <sup>3</sup> Nhat O. Le<sup>3</sup> Shin Yun Lim<sup>2</sup> Duc Chi Luu William Sebastian Martinez Aubrey Luke Milliron Megan Lee Mobbs Elyar Mohammadi Ryan Andrew Moon

### GRADUATES

John Paul-Walter Morris Kouassi Christ Evrard Niamike <sup>2</sup> Connor J. Oliver Jason A. Pate Ricardo Luis Pequeno <sup>3</sup> Huy Quoc Pham Quoc Phu Pham Sohil Suleman Pirani Cristina Belen Reeves Chanel Nicolette Reyes Euler David Reyes Andrew Hyon Roh Zain Abbas Sheikh Nathan Shlimak Kundyz Dana Smith Jonathan Christian Solomon Vickie Thai Song Hanna K. Soudah Abdul Nasser Ahmad Suleiman Cristian Torquemada Christian David Torres Ricardo Veyna Andrew Vodinh Chris Ashley Walker <sup>2</sup> Abel A. Yax Ahmad Taysir Zahra Anas Fathi Zaidan

### Summer 2017

### DOCTOR OF PHILOSOPHY IN BIOMEDICAL ENGINEERING

#### Majid Latif, Jr.

Investigation of E. coli Biofilm Formation Dynamics Using Integrated in silico and in vitro Methods ADVISOR: Dr. Elebeoba E. May

#### Su Liu

Investigation of High Frequency Oscillations in Epilepsy Using Computational Intelligence ADVISOR: Dr. Nuri Ince

#### Ilknur Telkes

Investigation of Spatio-Spectral Dynamics of Local Field Potentials in Parkinson's Disease ADVISOR: Dr. Nuri Firat Ince

### DOCTOR OF PHILOSOPHY IN CHEMICAL ENGINEERING

Michael Corey Byington On Protein Crystal Nucleation Precursors ADVISORS: Dr. Peter G. Vekilov and Dr. Jacinta C. Conrad Sanbir Kaler Etching of Silicon, Silicon Nitride, and Atomic Layer Etching of Silicon Dioxide using Inductively Coupled Plasma Beams ADVISORS: Dr. Vincent Donnelly and Dr. Demetre J. Economou

#### Mengmeng Li Spatio-temporal Features of Combined NOx Storage and Reduction and Selective Catalytic Reduction

Selective Catalytic Reduction ADVISOR: Dr. Michael P. Harold

#### Qiaowei Lou

Optical Spectroscopy of CH3F/O<sub>2</sub>, CH3F/ CO<sub>2</sub> and c-C4F8 Inductively Coupled Plasmas **ADVISORS:** Dr. Vincent M. Donnelly and Dr. Demetre J. Economou

#### Vivek Yadav

Controlling the Molecular Weight Distribution of Polymer Brushes to Tune Stimulus-Response and Bacterial Adhesion ADVISOR: Dr. Jacinta C. Conrad and Dr. Megan L. Robertson

### DOCTOR OF PHILOSOPHY IN CIVIL ENGINEERING

Masoud Dehghani Champiri Crash Analysis of Degraded Concrete Containment Structures ADVISOR: Dr. Kaspar Willam

Ahmed Amine El Kacimi El Hassani Nondestructive Real-Time Interface Bonding Characterization between Fiber Reinforced Polymer Strands and Highly Sensing Cement and Polymer Composite Matrix during Loading and Chemical Degradation ADVISOR: Dr. Cumaraswamy Vipulanandan

#### Yan Miao

Hydrodynamic Interactions between a Solitary Wave and a Partially Submerged Structure of Either a Thin Porous Wall or a 2-D Finite-Length Body with Attached Dual Porous Walls **ADVISOR:** Dr. Keh-Han Wang

Mir Mohammad Reza Mousavi Plasticity Based Formulations for Pressure Sensitive Materials ADVISOR: Dr. Roberto Ballarini

### DOCTOR OF PHILOSOPHY IN ELECTRICAL ENGINEERING

#### Jingting Li

Innovations in Raman Spectroscopy Instrumentation and Applications in Biosensing and Plasmonic Engineering ADVISOR: Dr. Wei-Chuan Shih

#### Kuang Qin

A Hierarchical Game Framework for Distributive Resource Allocation in Future HetNet ADVISOR: Dr. Jarek Wosik

#### Ning Wang

A New Generation Unified Framework for Remote Laboratory System Development **ADVISOR:** Dr. Gangbing Song

#### Fusheng Zhao

Advances in Lithographically Patterned Plasmonic Nanoparticles: Fabrication, Characterization, Modeling, and Applications of Porous/Nonporous Nanoparticles and Arrays ADVISOR: Dr. Wei-chuan Shih

#### Xiong Zhou

Semi-Supervised and Deep Learning in Optimal Subspaces for Classification of Disparate Hyperspectral Data ADVISOR: Dr. Saurabh Prasad

### DOCTOR OF PHILOSOPHY IN ENVIRONMENTAL ENGINEERING

Hang Ngoc Nguyen Graphene and Graphene Oxide Toxicity and the Impact to Environmental Microoganisms ADVISOR: Dr. Debora Frigi Rodrigues

### DOCTOR OF PHILOSOPHY IN INDUSTRIAL ENGINEERING

Guven Kaya Large Scale Optimization Models and Algorithms in Healthcare Delivery ADVISOR: Dr. Gino J. Lim

### DOCTOR OF PHILOSOPHY IN MATERIALS SCIENCE AND ENGINEERING

Meysam Heydari Gharahcheshmeh Structural and Electromagnetic Study of Heavily Doped ZR-Added Rebco Coated Conductors Fabricated by Reel-to-Reel MOCVD ADVISOR: Dr. Venkat Selvamanickam

#### Yan Jing

Design, Synthesis, and Characterization of Quinone Electrode Materials for Sustainable Energy Storage ADVISOR: Dr. Yan Yao

### GRADUATES

#### Min Lu

Elastomer Degradation in Chemically Reactive Environment under Elevated Temperature and Pressurized Condition ADVISOR: Dr. Li Sun

### DOCTOR OF PHILOSOPHY IN MECHANICAL ENGINEERING

Himani Agrawal Atomistic and Continuum Reinvestigation of Protein Membrane Interactions ADVISOR: Dr. Pradeep Sharma

### MASTER OF SCIENCE IN BIOMEDICAL ENGINEERING

Chika A. Okolo

MASTER OF CHEMICAL ENGINEERING

Rahul Radhakrishna Pillai

### MASTER OF SCIENCE IN CHEMICAL ENGINEERING

Kyle Andrew Karinshak Hanyang Li

MASTER OF SCIENCE IN CIVIL ENGINEERING

Ram Guliani Nischal Karthik Mapakshi

### MASTER OF SCIENCE IN ELECTRICAL ENGINEERING

Mehmet Emin Akdogan Orin Henry Council Jason Robert Graika Madhuri Manjunath Paraag Ashok Kumar Megharaj Rikesh Prakashkumar Shah Soumya Sinha

### MASTER OF SCIENCE IN ENVIRONMENTAL ENGINEERING

J. Garrett Alexander Jason Heckler Elise Torre

### MASTER OF INDUSTRIAL ENGINEERING

Lapaigerian O. Ceasar

### MASTER OF SCIENCE IN INDUSTRIAL ENGINEERING

Bilal Majeed Maulin Yogesh Raval

### MASTER OF SCIENCE IN MATERIALS SCIENCE AND ENGINEERING

Navjot Singh Randhawa

#### MASTER OF MECHANICAL ENGINEERING

Ramsha Hussain Khan Virginia Elizabeth Phifer

### MASTER OF PETROLEUM ENGINEERING

Marvin Philip Mrinal David Saldanha Kewen Sun

### GRADUATES

### MASTER OF SCIENCE IN PETROLEUM ENGINEERING

Naveen Krishnaraj Sabyasachi Prakash Anandhan M. Selveindran Yan Song Xiaonan Xiong

### BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING

Mahdi Saleh A. Alqaffas

### BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

Francisco Ivan Caballero

### BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

David Ali Oshkoohi

### BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Muhammad Bilal Balagamwala

### BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

Hussain Abdullah H. Almuhanna Brandon Kit Kwan Haitham Mohamad Musa

### BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Hazuki Chino <sup>3</sup> Fernando Sergio Curiel <sup>2</sup> Thomas J. Hillman Garrett Tyler Huffman John Carmichael Pimentel Jimenez Hristo Ivanov Kaludov Areeb Hussain Khan Mohammad Imran Khan Tri Huu Nguyen <sup>3</sup> Corbin Mitchell Stephens Hany Daniel Tabsch Herbas Michelle D. Wood

### BACHELOR OF SCIENCE IN PETROLEUM ENGINEERING

Jason Andrew Argueta 3 Ola Ali Elsaadi Bowen Fu Mike Fuentes Mesfin Haile Gebissa Jamie Choe Im Phillip John Jefferson John Patrick Cruz Macusi Victor Saul Mendoza Valdes Mandana Merrikh Travis James Hilber Mikel Andrea Nicole Milam Fernando Ochoa, Jr. Alejandro Palafox Mohamed Mahmoud Raslan<sup>2</sup> Paulin G. Serrano Ibrahim K. Shahin Christopher Francis Tighe<sup>2</sup> Juan David Vargas Zachary Joseph Gordon White Shan Rui Zhao

THE UH ALMA MATER

## The Alma Mater

All hail to thee, Our Houston University. Our hearts fill with gladness When we think of thee. We'll always adore thee Dear old varsity. And to thy memory cherished, True we'll ever be.

Words and music by Harmony Class of 1942

ACADEMIC REGALIA

## Academic Regalia

THE ATTIRE of the participants dates back to the 12th and 13th centuries, when universities began to be established in Europe. In 1321, at the University of Coimbra in Portugal, gowns were required attire not just for faculty members, but also for students of all classifications. Other European universities started requiring gowns, but there was not a standard design. In 1887, Gardner Leonard volunteered to design the graduation gowns for his class at Williams College. His design, as well as the standardization of colors to denote areas of study, were later adopted by an intercollegiate commission, and are the ones used today by most United States colleges and universities.

GOWNS. The bachelor's gown has long pointed sleeves; the master's gown has an oblong sleeve open at the wrists (some older gowns may be open near the upper part of the arm); the doctoral gown is fuller than the others with full-length velvet panels on the front and three velvet crossbars on each sleeve in black or in the color distinctive to the academic discipline of the wearer's degree.

HOODS. The hood, worn by master's and doctoral degree recipients, drapes over the shoulders and down the back and indicates the academic discipline to which the degree pertains; the field of the hood denotes the university that conferred the degree. The size of the hood indicates the level of the degree.

**CAPS.** The black mortarboard is the most common cap used. The tassel fastened to the center of the cap is black, although it may be the color appropriate to the subject of the degree. The tassel for the doctoral cap may be of gold thread. Candidates for bachelor's degrees wear the tassels on the right side, shifting it to the left side after being awarded their degrees. Candidates for master's and doctoral degrees wear their tassels on the left side and do not shift them after receiving their degrees.

BACHELOR'S DEGREES	<i>Gown:</i> Black <i>Tassel:</i> Orange
MASTER'S DEGREES	<i>Gown:</i> Black <i>Hood:</i> Orange <i>Tassel:</i> Black
DOCTORAL DEGREES	<i>Gown:</i> Black <i>Hood:</i> Dark Blue <i>Tassel:</i> Old Gold

**SPECIAL THANKS** 

A special thanks to the Convocation Committee and volunteers who assisted in making this memorable event possible.

### Convocation Committee

Sandra Sierra Convocation Co-Coordinator and Administrative Assistant

Brandon Green Convocation Co-Coordinator and Academic Records Coordinator

> Shirley Mate Academic Advisor III

Miranda Vernon-Harrison Director of Graduate Student Affairs

Roshawnda Anderson Assistant Dean of Administration

### Volunteers

Lupe Alicea Ingrid Blacklaw Delvina Branch Nee Bui Connor Dawson Jennifer Dunn Veronica Ellison Yvette Farnum Kenneth Garcia Juan Guzman Lilliane Habib Antonio Hurt Trina Johnson Angie Keyes Carolina Linares Viviana Linares

Nafeesa Lynn Yolanda Norman Kenneth Pham Maria Pinzon Rigo Ruiz Shanese Robinson-Valyan Jose Rodriguez Monica Sanchez Cecily Smith Nicolette Solano Gregory Spillers Barbara Torres Rachell Underwood Sarah Williamson Yebine Yabi Amanda Zabaneh

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