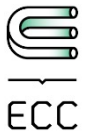


Year:  
**2021**

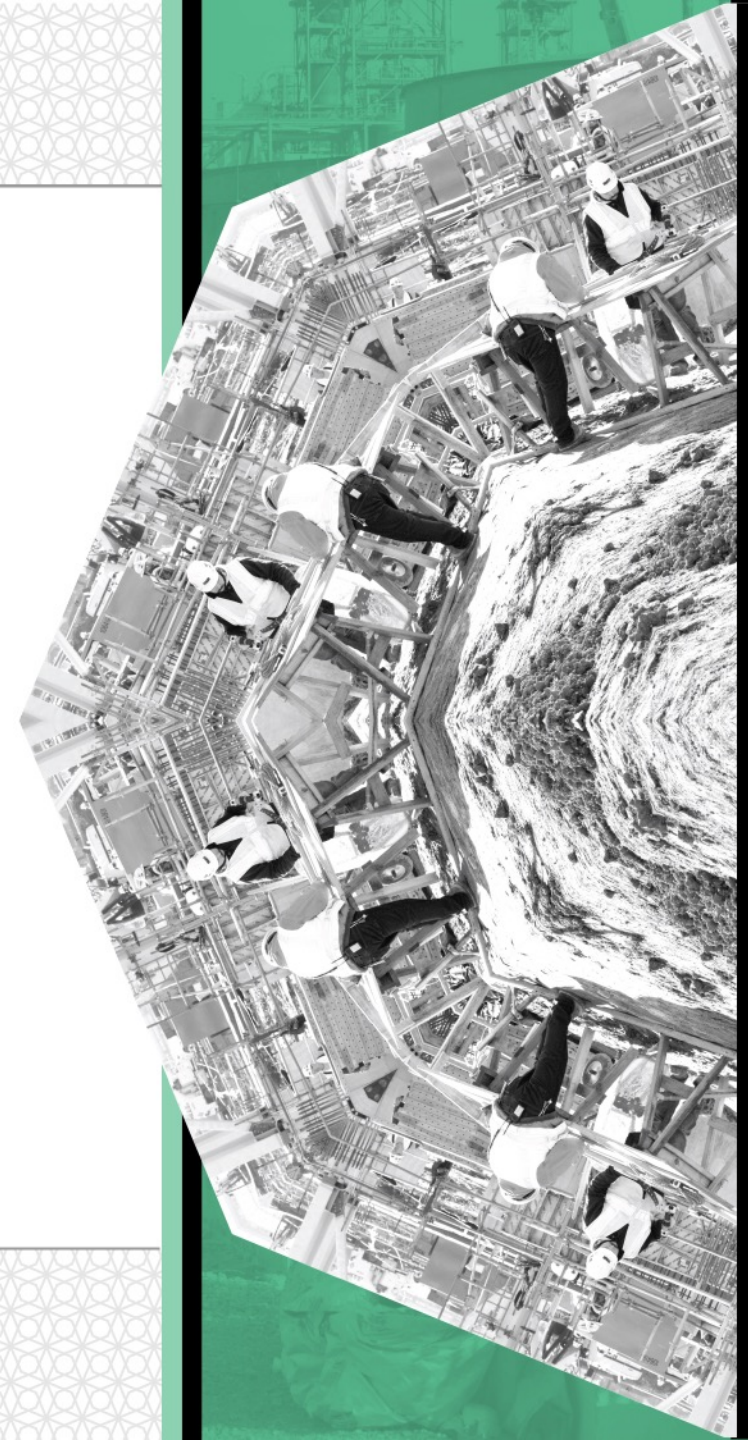
Website:  
**ECC-Conference.org**

## **ECC AWDC-Academia Work Session**

# **Preparing Industry-Ready Graduates through Industry-Academia Partnership**

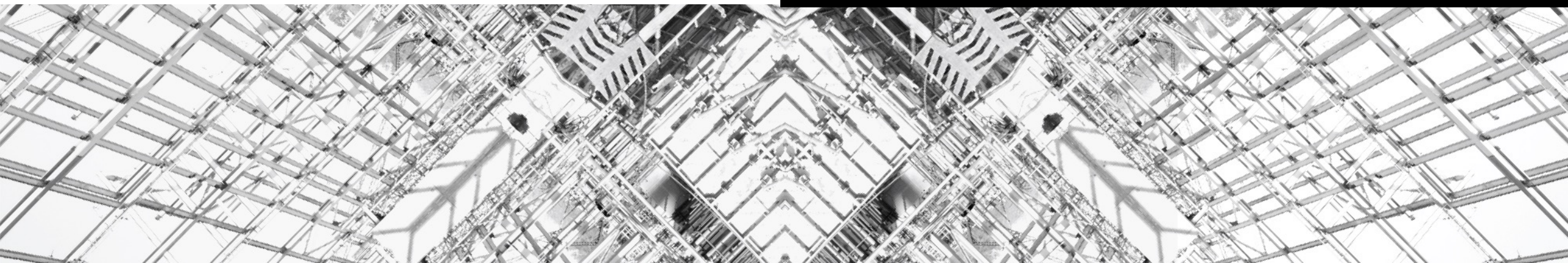


September 8, 2021





# Welcome & Safety Moment



# AGENDA

8:30

## ECC AWDC Updates

- AWDC mission, Academia initiative, & Workforce Development update

9:15

## Industry-Academia Exchange Program

- Program overview

9:25

## Panel: A day as a faculty intern/industry professor

- Experience & lessons learned

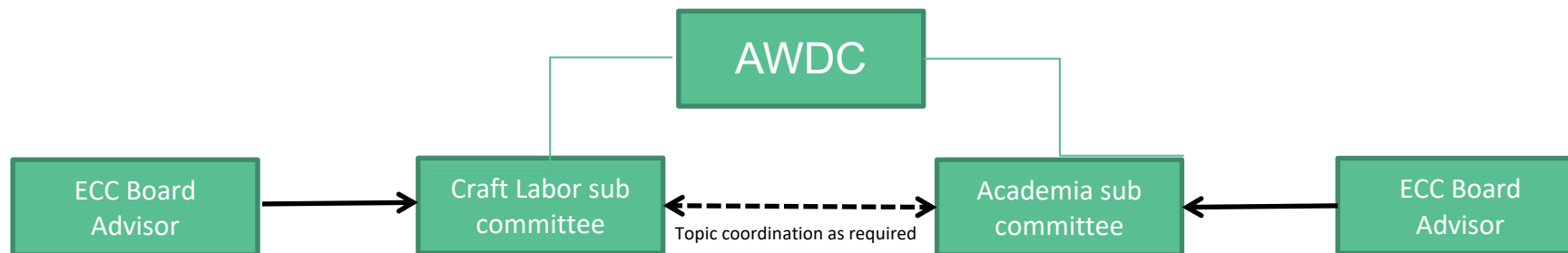
10:20

## Panel: Best practices on improving industry readiness

- Internship & Best Practice curriculum

# ECC AWDC Background & Mission

- Competency and capability of our engineering and craft labor professionals is an enabler of project success
  - **ECC** has long played a key role working with universities and colleges to ensure alignment on curriculum and industry requirements
  - However, gaps in industry focus on craft labor support for competency development and sustainment was identified as an area requiring additional attention
- **Academic and Workforce Development Committee (AWDC)** was established in 2020 to focus on both craft skill and professional development
  - Goal: Increase industry focus and attention on engineering staff and craft labor professionals by improving awareness, competency attainment and other support
  - Intention is to establish ECC as the 'go-to' organization to serve as catalyst to improve professional staff and craft workforce development



# AWDC-Academia Update

- AWDC- Academia: Prepare industry-ready graduates for today & tomorrow
  - Advocate industry needs
  - Promote changes and actions through industry-university partnership
  - Who teach them (professor), what is being taught (curriculum), and where (e.g. internship)
- 2021 Initiative
  - Industry-Academia Exchange Program
    - Faculty Residency
    - Industry Professor
  - Pilot implementation
  - ECC roles: Define, connect, pilot & guidance

# AWDC-Workforce Development Update

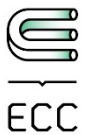
- Facilitate collaboration across industry training, workforce and academia to address labor challenges
- Put forward a common directive for workforce training
  - **Simplicity** ... simple to access from competency training to onsite solutions
  - **Alignment** ... complete alignment of training, industry, funding, academia ...
  - **Awareness** ... get the words out and gain owner-community support
- ECC can act as the integrator to work across industry created “swim lanes” to increase the focus on craft training.
- The result should be improved yield in safety and execution certainty with the improved training.

Year:  
**2021**

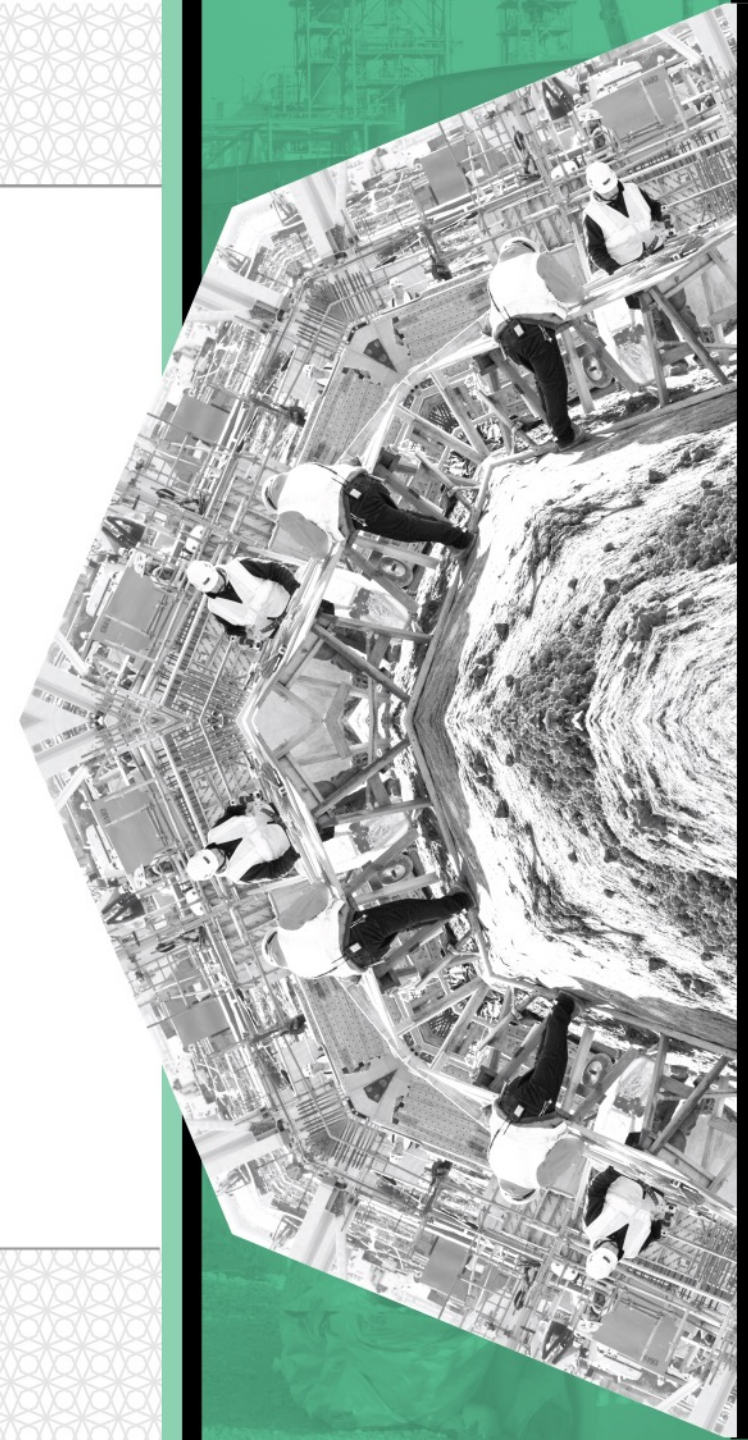
Website:  
**ECC-Conference.org**

2021 ECC-AWDC Initiative

# An Overview of the Industry-Academia Exchange Program



**ECC AWDC-Academia**



# 2021 Initiative

## Industry-Academia Exchange Program

- An exchange of university professors and industry practitioners
  - **Faculty Residency**
  - **Industry Professor**



**Faculty Residency**

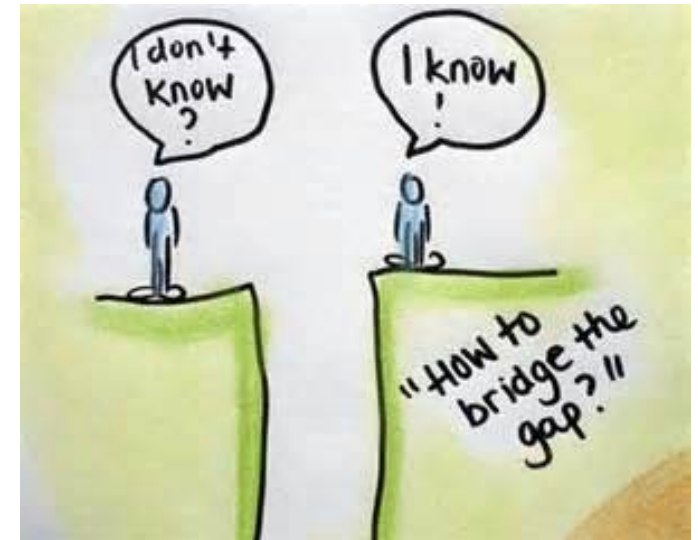


**Industry Professor**



# WHY: Industry Readiness (IR)

- IR defined
  - New hires immediately **adding value** to employers
  - Deliver **project success** today and lead **industry revolution** into the future
- Gaps
  - The reality: **30/45%** employers thinks graduates are **not ready** for workforce/capital projects
- Opportunities
  - Acknowledge the issue!
  - Industry-academia partnership ... the 70% majority



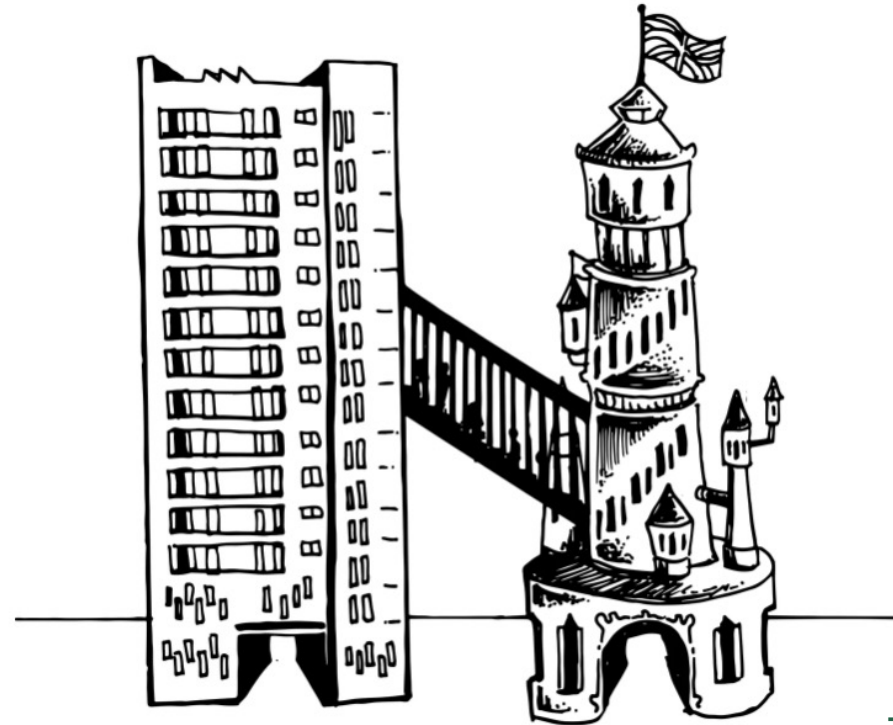
# Corporate vs. Ivory Tower

## Professionals

Practice, problem solving, complex & uncertainty, performance, team, communication ...

## Business

ROI, KPI, manage risk, adapt to change, stay competitive ...



## Students

Theory, structured problems, academic rigor, individual GPA, graduation ...

## Higher Education

Research funding, publication, ranking, enrollment ...

## Faculty

Tenure = research, research, research + teaching & service ... PhD required, but not industry experience

# Improving IR

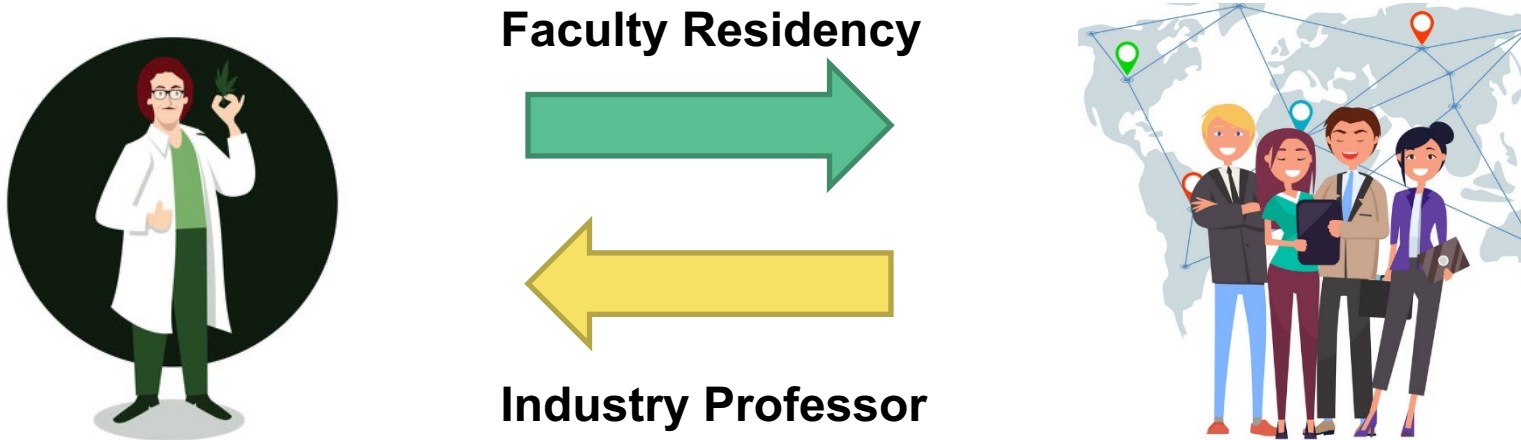
Improve IR	Rating /5
Communication & team skills	3.4
<u>Faculty with industry experience</u>	3.3
Internship/CO-OP	3.2
<b>Project-based learning</b>	3.2
Industry expert teaching	3.0 Neutral
Industry best and latest practice	2.9
For engineering students: business & management	2.8
For construction students: engineering & trade	2.7
Industry advisory board	2.6

Industry ready to help	Rating / 5
Join university advisory boards	3.8
<u>Industry experts teach</u>	3.8
<b>Share training materials</b>	3.3
<u>Provide faculty internship</u>	3.3
Support accreditation efforts	3.1 Neutral
Contribute to scholarship	3.1
Support student competition	2.8
Offer research/teaching grants	2.6

... and the industry is ready to help

# Who Teaches Matters ...

- THE NEED: **Inexperienced professors** would not produce “**industry-ready**” graduates
- SOLUTION: An exchange of university professors and industry practitioners
  - **Faculty Residency** for professors (on leave from university to industry)
  - **Industry Professor** for practitioners (on leave from industry to university), or both simultaneously
- **Haven't we done that?** ... informal, sporadic, personal/luck ...
- **ECC ROLE:** Define, connect, pilot & guide

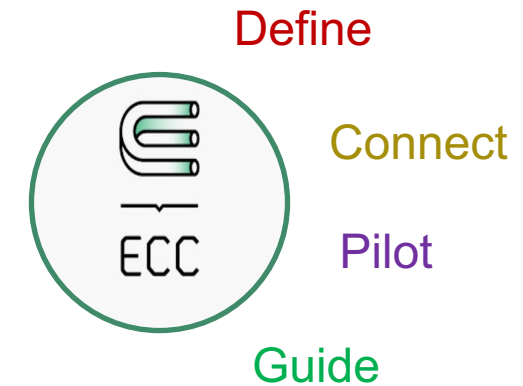


# What is in it for me? 4 WINS

- **Students**: link theory with **applications**; make learning more **meaningful & fun**; understand the “**additional**” profession requirements; **career** planning
- **Faculty**: professional development (keep up with **the latest**), effective & relevant **teaching**, **applied research** ... **network** with the industry
- **Industry**: better PR and **branding**; university **recruiting**; help prepare **IR graduates**; an **expert consultant** as a sounding board, an agent for change
- **Universities**: better attract & retain **students**, **applied research**, stronger industry-academia partnership

# Industry Professors

- Qualification
- Work scope
  - Part time vs. guest lecturing
  - Teach your subject of expertise & passion
- Get permission/employer support
- Local vs. remote
- Compensation
- Teaching support (course materials, TA, IT ...)
- Legal ... who owns the content?
- Innovative practice
  - Team teach with professors ...



## Industry Professor

- Professor of Practice
- Team teach ...
  - Project control
  - Cost engineering
  - Effective communication
- Official start on Sept. 1, 2021



**UHTODAY**  
The News Source for Faculty and Staff

### Tony Bazzini, Former ExxonMobil Global Projects Company Chief Project Management Engineer Joins UH Department of Construction Management



An industry innovator and leader with nearly 40 years of experience has joined the College of Technology as a Professor of Practice in Construction Management. Recently retired from ExxonMobil's Global Projects Company as Chief Project Management Engineer, Tony Bazzini joined the University of Houston's College of Technology effective September 2021.

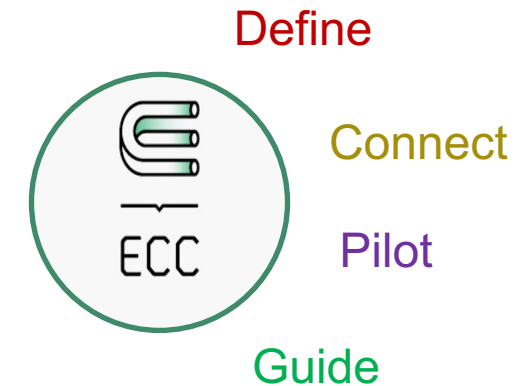
As Chief Project Management Engineer, Tony was involved with many of ExxonMobil's most complex technical and organizational issues impacting the Company's capital project portfolio. In his position as Chief Engineer he also provided guidance to the Company's senior management on project related issues, helping guide decision making on some of the world's largest capital project ventures.

Prior to his role as Chief Engineer, Tony led the project management function for ExxonMobil's refining and chemicals large project (>\$100M) portfolio for nearly 10 years, guiding development of execution and contracting strategies, cost & schedule estimates and staffing decisions for project teams in multiple domestic and international locations. Tony also played a key role in developing career development plans and tools for ExxonMobil's project practitioners enabling them to achieve their aspirations as a project professional. Prior to this role, Tony had multiple

Prof. Bazzini hopes to provide its construction management students with both context and perspective informed by his

# Faculty Residency

- Planning and recruit
  - Match candidates with work scope
  - Overhead vs. project assignment
- Summer, part-time, or sabbatical year?
- Compensation, worker's comp., liability insurance
- Supervision & reporting
- Academic deliverables
- Legal ... confidentiality, publication review, and IP
- Innovative practice
  - Attracting faculty ... Hourly pay + research contract ...





Independent  
Project  
Analysis

## Faculty Residency, Summer 22

- 8-10 weeks faculty program
- Carbon reduction benchmarking research focusing on the downstream sector
- Application in fall 2021

# Path forward & Thank you!

- Guidebook
- Pilots
- Welcome your participation
  
- Committee
  - Tony Bazzini
  - Steve Cabano
  - Jim Craig
  - Ineke Finlayson
  - Lingguang Song

## Panel Discussion - 1

# A Day as a Faculty Intern/Industry Professor: Experience & Lessons Learned



**Dr. Mohamed Diab**  
Professor  
Minnesota State University  
(virtual attendance)



**Prof. Anthony Marraro**  
Director of Continuing Education  
Texas A&M University



**Prof. Tony Bazzini (Host)**  
ExxonMobil (retired) & Professor of  
Practice, Univ. of Houston



**10-min Coffee Break**

## Panel Discussion - 2

# Best Practices on Improving Industry Readiness of Graduates: Internship & Curriculum



**Dr. Stephen Mulva**  
Executive Director  
CII



**Dr. Lingguang Song**  
Department Chair & Professor  
University of Houston



**Mr. Steve Cabano (Host)**  
President  
Pathfinder, LLC.



# THANK YOU

Questions, interests ...?

- AWDC: Tony Bazzini
- Academia/Higher Education: Lingguang Song
- Workforce Development: Stephen Toups