



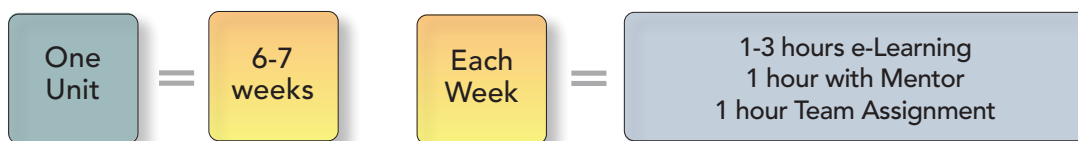
Virtual Mentored Learning 2021

Join Us for Challenging Virtual Learning Offerings

Virtual Programs with Simulation Games and Experienced Mentors

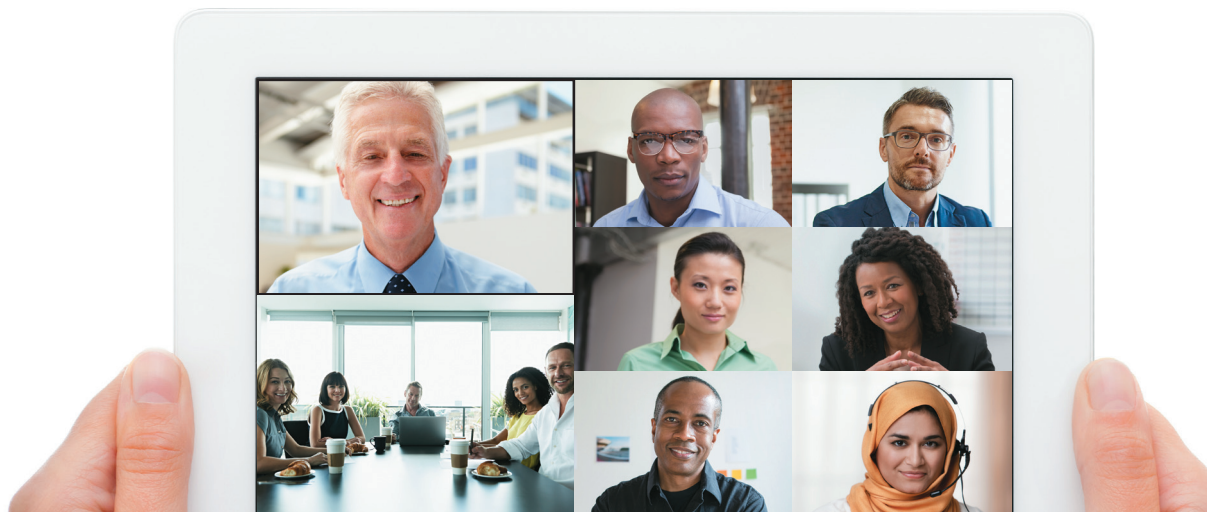
PETROLEUM BUSINESS • GAS BUSINESS • LEADERSHIP • PROJECT ECONOMICS • E&P TECHNICAL

IHRDC's VML programs allow you and your team to learn at your own pace, from home or office, on a regular schedule, with the weekly support of an **engaging Virtual Mentor**. VML programs are scheduled in **6-7 week Units** during which you devote **1-3 hours per week to e-Learning, 1 hour per week with your Virtual Mentor**, and in many of our programs an additional hour with your team engaged in **challenging learning simulation game assignments**. Every offering has a "kick-off" meeting with the Mentor to meet individuals and teams, establish web-based communication and set weekly meeting times. In most programs, there is a supplemental Mentor session during the last week to summarize the simulation game results, present Certificates and award the Team Prize. IHRDC will form virtual teams if you do not have your own team for the program. All programs are delivered worldwide through IHRDC's web-based training platform.



"This is the best program I have had in my career. I recommend it to all young professionals."

- 2019 PARTICIPANT



We encourage you to enroll today in one of our programs shown below. It's a great way to learn!

P01: Upstream Petroleum Business Fundamentals with a Challenging Learning Simulation Game

3 Continuing Education Units
30 Professional Development Hours

For six weeks, the participants will learn the essence of the [Upstream Petroleum Business](#) in weekly sessions that include three hours of individual e-Learning and one hour online with an IHRDC virtual mentor, who discusses the weekly topics and introduces the IHRDC's West Africa petroleum business simulation assignments. Participants then work with their teams to analyze and make decisions during the simulated exploration and development of a challenging petroleum prospect. The results of the simulation game are announced during a final Mentor session.

Pre-Program Learning: *Upstream Oil and Gas Agreements; Project Cash Flow Analysis*

Content: *Petroleum Supply, Demand and Pricing; Petroleum Geology and the Exploration Process; Drilling and Well Completions; Resource Estimation and Oilfield Development Planning; and Marketing and Trading of Crude Oil; and Mentor Review of Simulation Game Results.*

Audience: Anyone who seeks an integrated understanding of the upstream petroleum business.

Mentors: Dr. David A.T. Donohue, Dr. Charles Brankman, Dr. Serdar Dogulu, Christopher Davin

Dates: January 25 – March 12, 2021 and April 19 – June 4, 2021

P02: Midstream/Downstream Petroleum Business Fundamentals with a Challenging Learning Simulation Game

3 Continuing Education Units
30 Professional Development Hours

This six-week program is devoted to the [midstream and downstream petroleum value chain](#) with emphasis on technology, commercial fundamentals, and global markets for a wide range of petroleum processes and products. Weekly sessions include three hours of individual e-Learning and one-hour virtual session with an IHRDC mentor, who discusses the weekly learnings and introduces the business simulation assignments. Participants are then asked to evaluate alternatives and make decisions with respect to the midstream and downstream development of the West Africa project simulation assignment for that week.

Pre-Program Learning: *Oil and Gas Industry Overview*

Content: *Crude Oil Transportation; Gas Processing and NGL Markets; Petroleum Refining; Overview of Petrochemicals; Marketing and Distribution of Petroleum Products; and Mentor Review of Simulation Game Results.*

Audience: Anyone who seeks an integrated understanding of the midstream and downstream petroleum businesses.

Mentors: Dr. David A.T. Donohue, Dr. Charles Brankman, Dr. Serdar Dogulu

Dates: March 8 – April 23, 2021 and May 31 – July 16, 2021

L01: Emerging Leaders Program

3 Continuing Education Units
30 Professional Development Hours

IHRDC's [Emerging Leaders Program](#) provides those individuals, who are targeted for or who aspire to become leaders, with an integrated and practical understanding of key leadership skills, with an oil and gas industry perspective. A competency based approach is used to structure the program components, which include weekly mentor presentations, e-Learning assignments, discussion of case studies, guidance and interaction with the mentor as well as fellow participants. There will be a pre and post assessment exercise that will produce a graphic result for measuring the learning achieved from the program.

Content: *Introduction: What is Leadership?; Communication for Leaders; Emotional Intelligence; Personal Excellence and Self Awareness; Creative Thinking; Leading Change; Program Review and Wrap Up with the Mentor*

Audience: Individuals who are targeted for or aspire to become leaders.

Mentors: Sam Ghonem, Robert Taylor

Dates: January 25 – March 12, 2021; April 5 – May 21, 2021 and June 21 – August 6, 2021

G01: Upstream Gas Business Fundamentals with a Challenging Learning Simulation Game

3 Continuing Education Units
30 Professional Development Hours

This program is an abbreviated version of IHRDC's very popular international gas business workshop. It emphasizes the commercial, technical, financial and market aspects of **upstream gas project development** from host country agreement to exploration, reserves estimation and field development. The simulation game scenario takes place in one of three possible regions: Atlantic Basin, East Africa or Asia. Weekly learning includes three hours of e-Learning, one hour online with an IHRDC virtual mentor, who discusses the weekly assignment and introduces the gas business simulation session for that week.

Pre-Program Assignment: *Host Country Agreements; Project Cash Flow Analysis*

Content: *Gas Measurements, Gas Industry Structure and Pricing; Petroleum Geology and Exploration Processes; Drilling and Well Completions; Resource Estimation, Gas Field Design and Development; Mentor Review of Simulation Game Results.*

Audience: Anyone who seeks an integrated understanding of the dynamic gas business along the upstream value chain.

Mentors: Dr. David A.T. Donohue, Dr. Charles Brankman, Dr. Serdar Dogulu, Christopher Davin

Dates: January 25 – March 12, 2021 and April 26 – June 11, 2021

G02: Midstream/Downstream Gas Business Fundamentals with a Challenging Learning Simulation Game

3 Continuing Education Units
30 Professional Development Hours

This six-week program covers the **midstream and downstream sectors** of the natural gas value chain with emphasis on technical concepts, commercial analysis, and global natural gas markets. This is a continuation of Unit G01 during which the discovered gas resource is commercialized. Weekly sessions include three hours of individual e-Learning and one-hour virtual session with an IHRDC mentor, who discusses the weekly learnings and introduces the business simulation assignments. Participants are then asked to evaluate alternatives and recommend decisions on the project simulation assignment for that week. During the program the learning is focused on five midstream and downstream gas value chain sectors.

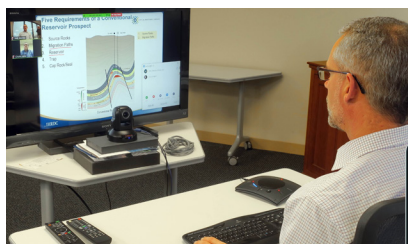
Pre-Program Assignment: *Oil and Gas Industry Overview; Project Cash Flow Analysis*

Content: *Natural Gas Pipelines and Tariffs; Gas Processing and LPG Facilities; LNG Systems and Transportation; Major Industrial Gas Markets: Power and Petrochemicals; Gas Distribution and Load Balancing, Mentor Review of Simulation Game Results.*

Audience: Anyone who seeks an integrated understanding of the midstream and downstream gas businesses.

Mentors: Dr. David A.T. Donohue, Dr. Charles Brankman, Dr. Serdar Dogulu

Dates: March 15 – April 30, 2021 and June 7 – July 23, 2021



Dr. Charles Brankman delivering a virtual mentor session.



Participants attending a Zoom Mentor Session during the Petroleum Economics VML Program.

GL01: Fundamentals of Petroleum Geology I

3 Continuing Education Units
30 Professional Development Hours

This five-week Virtual Mentored Learning program provides an overview of topics crucial to the **discipline of petroleum geology**. Guided by an experienced industry specialist, participants will cover a series of technical topics that form the basis for the exploration, resource assessment, and development of hydrocarbon reservoirs. The program begins with an introduction to petroleum geology, including hydrocarbon properties, reservoir characteristics, and the major components of a petroleum system including generation, migration, and trapping.

Content: *Fundamentals of Petroleum Geology; Elements of a Petroleum System; Depositional Environments; Understanding Subsurface Structure; Mapping and Interpreting the Subsurface.*

Audience: Petrotechnical professionals looking to understand the critical role geology plays in the petroleum industry. Management looking to better understand the roles and responsibilities of geologists in their organization. Cross-functional training for commercial, legal, procurement, supply chain, and other professionals that work with, and around, petroleum projects. Any oil industry professional looking to refresh their geosciences competencies will find a high level of value in this program.

Mentors: Dr. Charles Brankman and Piers Cooke-Yarborough

Dates: February 8 – March 12, 2021

GL02: Fundamentals of Petroleum Geology II

3 Continuing Education Units
30 Professional Development Hours

This five-week Virtual Mentored Learning program offers a **deeper analysis of reservoir rocks and their properties**, a topic crucial to the discipline of petroleum geology. Guided by an experienced industry specialist, participants will cover a series of technical topics that offer a comprehensive understanding of hydrocarbon reservoirs. This program consists of further technical topics: sedimentology and stratigraphy, subsurface facies analysis, structural geology, and the characterization of clastic and carbonate reservoirs. The course also provides introductions to the common set of tools and methods used by petroleum geologists, including cross-sections, subsurface mapping, well log analysis and seismic interpretation.

Content: *Nonmarine Sandstone Reservoirs; Shelf Marine and Marginal Marine Sandstone Reservoirs; Deep Water Sandstone Reservoirs: Porosity Evolution in Carbonate Rocks; Carbonate Reservoirs; and Seismic Interpretation*

Audience: Petrotechnical professionals looking to understand the critical role of reservoir rocks in petroleum exploration and field development. Management looking for a deeper understanding of the techniques used by geologists in their organization. Any oil industry professional looking to deepen their technical competency will find a high level of value in this program.

Mentors: Dr. Charles Brankman and Piers Cooke-Yarborough

Dates: March 22 – April 23, 2021

GP01: Petroleum Geophysics Fundamentals

3 Continuing Education Units
30 Professional Development Hours

This program provides an overview of the **Fundamentals of Petroleum Geophysics** in seven weekly sessions. The program emphasizes the applications of geophysics in petroleum exploration, appraisal and field development. It includes basic gravity, magnetics, electromagnetics and seismic theory, acquisition and processing operations, data quality considerations, interpretation, and common pitfalls. It also includes a deeper discussion of 3D seismic acquisition, data processing and interpretation.

Content: *Geophysics Overview; Non-Seismic Methods; Seismic Methods; Seismic Data Acquisition; Seismic Data Processing and Imaging; Seismic Data Interpretation; Additional Seismic Methods and Case Studies*

Audience: Petrotechnical professionals looking to further understand the critical role that geophysics plays in the upstream petroleum industry; all areas and levels of management looking to better understand the roles of geophysicists in their organization; cross-functional training for commercial, legal, procurement and supply chain professionals that work in, and around, geophysical projects; and any industry professional looking to build or refresh their technical competency will find a high level of value in this program.

Mentors: Christopher Davin and Dr. Charles Brankman

Dates: March 22 – April 7, 2021

E01: Petroleum Project Economics with a Challenging Learning Simulation Game

3 Continuing Education Units
30 Professional Development Hours

During this virtual program, an abbreviation of our instructor-led course, you will learn, in a practical and realistic manner, the essentials of **petroleum project management** and how to analyze the financial performance of oil and gas project investments from both the project and corporate reporting perspectives. Your teams will be asked to build a financial model in Excel for a challenging oil and gas project opportunity near Indonesia, identify its key performance metrics, and then incorporate its major risks and uncertainty into the analysis. You will then present your team's recommendations to a Board that will compare your recommendations with other teams and select the best plan for the **Team Prize**.

Pre-Program Assignment: *Host Country Agreements*

Content: *Dynamic Energy Industry Supply, Demand and Pricing Fundamentals; Project Management and Development Essentials; Project Economics: Cash Flow and Measures of Financial Performance; Financial Statements and Measures of Corporate Performance; Project Capital and Debt Financing; Management of Risk and Uncertainty; and Mentor Review of Integrated Project Economic Model*

Audience: Individuals who wish to learn petroleum project fundamentals and how to analyze their economic attractiveness.

Mentors: Richard Squires, Dr. Serdar Dogulu, Dr. Erhan Aslan

Dates: January 25 – March 19, 2021; April 12 – June 4, 2021 and June 21 – August 6, 2021

IHRDC continues to add new VML programs to our 2021 Schedule.
For the most updated listing please visit: www.ihrdc.com

IHRDC Virtual Mentored Learning Enrollment Fees

Our individual enrollment fee for our public programs is as follows: **US\$950/person**; or **US\$3,750/Team** (up to 5 team participants)

Corporate Packages

IHRDC's global customers have been extremely enthusiastic about our new Virtual Mentored Learning (VML) programs and have requested a **flexible "package price"** so that they can regularly and easily send participants to our VML programs scheduled **throughout a 12-month license period**. The following special Corporate Packages will be offered during 2021:

Corporate VML Package 1: US\$10,000 allows a company to enroll **20 participants** in IHRDC public VML programs during a 12-month period.

Corporate VML Package 2: US\$25,000 allows a company to enroll **60 participants** in IHRDC public VML programs during a 12-month period.

Corporate VML Package 3: US\$50,000 allows a company to enroll **150 participants** in IHRDC public VML programs in a 12-month period.

*The 12-month period starts from the date of the first program that the company enrolls in.
There is a limit to the maximum number of participants in each program.
Enrollments are handled on a first come first served basis.*

To Register or for more information on any of our Virtual Mentored Learning Programs
Email us at: vml@ihrdc.com

VML Private Programs

In the event the scheduled dates of the current public programs do not work with your training plans, IHRDC can schedule a private offering of one of our VML Programs. The advantages of this arrangement would be having a private mentor, the flexibility of scheduling the program, weekly mentor sessions at times best suited to your needs, and the ability to openly discuss proprietary information. For more information on scheduling and pricing for a Private VML Program please contact your local IHRDC Sales Manager or email vml@ihrdc.com.

IHRDC VML Program Mentors



Dr. David A. T. Donohue, Founder and President of IHRDC and Arlington Storage Corporation, is an accomplished technical specialist, businessman, attorney, project developer and lecturer who has designed and taught energy industry management programs to more than 10,000 members of the international oil and gas industry. He developed an industry-sponsored, 120-module, video-based learning system in E&P technology, which was subsequently converted to the widely licensed IPIMS e-Learning system. He was also the developer and owner of independent underground gas storage facilities in New York State. In his early career he held various engineering and research positions for Exxon and, for four years, served on the faculty of Pennsylvania State University. Dr. Donohue studied engineering at McGill University, holds a Ph.D. in Petroleum and Natural Gas Engineering from Penn State and a J.D. from Boston College Law School. He is active in public affairs in his hometown, a Distinguished Member and winner of the Rand Gold Medal of SPE, Alumni Fellow of Penn State and Alumnus of Year as BC Law School.



Dr. Charles Brankman is a professional geologist and project developer whose work has encompassed E&P including CO₂ enhanced oil recovery initiatives. Dr. Brankman has been a lead instructor in IHRDC's Oil and Gas Management Programs for the past six years and a mentor for our early petroleum VML programs. He received a B.S. in geological engineering from Princeton University, an M.S. in structural geology from Stanford and a Ph.D. in structural geology and earth resources at Harvard. He worked with Mobil Oil in exploration and reservoir characterization, as an engineering geologist siting gas pipelines and power plants and as founder and Vice President of Geosciences at C12 Energy, a company focused on enhanced oil recovery projects using anthropogenic CO₂.



Christopher Davin's career as a geophysicist began with Exxon as an Exploration Geophysicist, then continued with Unocal as a Senior Research Geophysicist and Team Leader in Thailand. He then worked for Chevron Indonesia (2001-08) as Earth Science Operations Manager, and four additional years in senior management position in Houston. From 2012-2016, he worked as a Geophysical Project Manager for Cobalt International Energy leading international exploration projects, and before joining IHRDC in 2019, he was the COO for DownUnder GeoSolutions in Perth, Australia. During his career, Mr. Davin has built an extensive knowledge of geophysics, from technology to its practical application, and strong project management skills. His in-country experience includes assignments in Thailand, Indonesia, Angola, Brazil and Australia. Mr. Davin holds a M.S. in Geophysics from the University of Houston, and a B.S. from the College of William and Mary in Williamsburg, Virginia.



Dr. Y. Serdar Dogulu is Vice President of Innovative Learning Solutions at IHRDC, guiding the content and interface development of interactive Learning Simulators and associated training products. Dr. Dogulu has been active in building and teaching company-specific programs for IHRDC clients and is the principal developer and instructor for IHRDC's highly regarded E&P Learning Simulators. He has also worked extensively with IHRDC's Arlington Group affiliate in technical and financial modeling studies of underground gas storage projects. After earning his Ph.D. in Petroleum and Natural Gas Engineering from Pennsylvania State University, Dr. Dogulu held a postdoctoral researcher position with Penn State's Energy and Geo-Environmental Engineering Department. He also worked a summer as a Research Technologist at the Chevron Petroleum Technology Company developing reservoir simulation and management tools, including stream-tube simulation techniques for modeling large oil reservoirs.



Sam Ghonem has 15 years of experience as a Management Training and Development Specialist with a focus on training, coaching, and career development. Mr. Ghonem graduated from American International College, started his career as a System Engineer, is certified as a Professional System Engineer (Microsoft, CompTIA & Cisco) and became a certified business and leadership trainer through extensive studies both in the US and UK. During his career in the Gulf Cooperative Council and Middle East-North Africa regions, he has worked in a broad range of learning and development disciplines in the Oil & Gas business, Stock Markets, Telecommunication and Learning/Education sectors. Since Mr. Ghonem moved to UAE he has used his strong background to develop and teaches a wide selection of management, leadership and talent management programs for a cross-section of clients in the region. He joined IHRDC on a full-time basis in early 2020 and works out of the Abu Dhabi office.



Rick Squires an IHRDC Senior Lecturer, is the founder of PiEnergy, which provides consulting services to the energy industry. He has extensive experience in the international energy sector at the senior management level across a wide range of activities and fuels. He spent four year as Senior Vice President of Boston-based InterGen, an international power company with over 1000 employees and 16 GW of power plants in ten countries. Prior to InterGen, Rick headed the Power Business within Shell Gas and Power in London. His 25-year Shell career also included senior management positions in International Oil Trading, Coal Business Development and Marketing in the UK, South Africa and Japan. Rick holds a First Class Honours Degree in Electrical Engineering



Robert W. Taylor is Vice President of Global Business Development for IHRDC and an instructor in its Energy Management Programs. Since joining IHRDC in 1999, he has coordinated worldwide sales and business opportunities, provided learning and competency development advice and ensured quality products and services for all IHRDC clients. From 1977 to 1999, Mr. Taylor held positions of increasing responsibility for Otis Engineering and Halliburton Energy Services, including that of Halliburton Scandinavian Business Development Manager. Mr. Taylor holds an M.S. in Adult and Organizational Learning from Suffolk University and a B.S. in Mechanical Engineering from the University of Kentucky. He also holds the Certification in Workplace Assessment Using Direct and Indirect Methods SCQF LEVEL 8 from the Scottish Qualifications Authority and has completed certificate level courses from Cornell ILR School in Advanced HR Studies. He is a long-time member of the Society of Petroleum Engineers, ASTD, and an author of numerous technical and professional papers.