

geoLOGIC_{NEWS}

A publication of Subsurface Consultants & Associates, LLC

The New Green Shoots

A message from our President



The term “green shoots” usually implies economic recovery and a return to normalcy. Today that might include the growing commitment by numerous companies to an environmentally sustainable (green) future. Though many countries are still emerging from the pandemic, the global economy is showing signs of recovery. It now seems reasonable to assume that energy demand will return to pre-covid levels sooner than previously estimated and will likely continue to grow in the coming decades as the world’s emerging economies reinvigorate their strategies to lift their populations out of poverty.

A stark reality, seemingly unrecognized by those who enthusiastically promote the immediate conversion to renewable energy sources while aggressively dismantling the oil industry, is that a dire energy shortfall is also looming. Global electrification via solar and wind energy faces huge resource and infrastructure challenges in mature economies, not to mention the billion or so people on the planet who have no access to electricity. No realistic multiplier will result in renewable options filling the imminent energy gap, not to mention the inevitable NIMBY (Not In My Back Yard) battles that will ensue once the enormous footprint of the required wind and solar farms is recognized. When pump prices and home heating/cooling bills begin to spike, the energy industry will be blamed for being short-sighted, and we will scramble again to find enough hydrocarbons to fill the gap. Hopefully all those thousands of years of oil finding knowledge that have left the industry in recent years will still be available to come off the bench and help bridge the experience gap.

We are seeing signs of economic recovery, or “green shoots”, in the form of the calls we are getting from our clients to fill technical roles with candidates that have specific expertise. We are available to help with your consulting or full-time hiring needs as your activity level recovers.

Hal Miller
President

inside this issue:

- P1 — Message From Our President
- “The New Green Shoots”
- P2 — Live Online Courses
- P7 — SPE Regional Distinguished
Corporate Support Award
- P8 — Daniel J. Tearpock Geoscience
Certification Program
- P9 — Upcoming Training Calendar



Stay connected with SCA

Live Online Training Courses

The following courses are available in a virtual format for remote learning.
Contact SCA's Training Department at training@scacompanies.com for more information.

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Applied Biostratigraphy in Oil and Gas Exploration and Production

Instructor: William Krebs, PhD

Discipline: Geoscience

Length: 3 Half-Day Sessions (12.0 Total Hours)

This course introduces the microfossil groups that are commonly used in the petroleum industry, their strengths and limitations, and their application to chronostratigraphic and paleoenvironmental analysis. Key learning outcomes for participants include the identification of unconformities and condensed sections, paleoenvironments and provenance, potential reservoir, seal, and source rocks, and the calibration of seismic and geologic data to geologic time.



Applied Deep-Water Sedimentology & Stratigraphy

Instructor: Jon R. Rotzien, PhD

Discipline: Geoscience

Length: 6 Half-Day Sessions (24.0 Total Hours)

This course provides participants with a modern awareness of the spectrum of deep-water sedimentation, stratigraphy and depositional environments. Taught from the perspective of an upstream oil and gas business unit, diverse industry datasets are used throughout the course to illustrate the broad variation of deep-water sedimentation and the implications for petroleum reservoirs and their quality.



Applied Drilling Engineering Optimization for Drilling Engineers

Instructor: Robello Samuel, PhD

Discipline: Engineering

Length: 4 Half-Day Sessions (16.0 Total Hours)

Students will study algorithms and optimization techniques used in the various stages of drilling and well completion operations. The course also focuses on presenting different optimization methods and exposure to a variety of problems and to solve them successfully. Other topics discussed include hydraulic optimization, different nozzle selection criteria, diamond and roller cone bit weight on bit, rotary speed drilling optimization, and hydraulic optimization with special downhole tools.

Applied Drillstring Mechanics for Drilling Engineers

Instructor: Robello Samuel, PhD

Discipline: Engineering

Length: 4 Half-Day Sessions (16.0 Total Hours)

This course provides a comprehensive treatment of drill string design and practices with theoretical underpinnings. Various operational loads and limits discussed will provide a larger view of the drillstring mechanics. Students will also cover advanced drilling engineering which enables them to understand drillstring integrity under various operating load conditions.

Principles and Practices of Mud Motor

Instructor: Robello Samuel, PhD

Discipline: Engineering

Length: 2 Half-Day Sessions (8.0 Total Hours)

Participants of this course will develop an understanding of positive displacement motors, commonly called mud motors. A mud motor is a simple but elegant machine that has become an integral part of the bottom-hole assembly (BHA), particularly when drilling shale wells. Concepts, performance, advancements, future designs, and how and when to use mud motors during difficult scenarios are also discussed.



Applied Seismic Interpretation

Instructor: James J. Willis, PhD

Discipline: Geoscience

Length: 4 Half-Day Sessions (16.0 Total Hours)

During this course, students will review and apply the basics of seismic interpretation as related to oil and gas exploration, development and production. Topics covered include geophysical principles of reflection seismology, tying well data to seismic lines and structural (fault) interpretation, mapping seismic sequence boundaries, interpreting depositional environments and sedimentary facies, and estimating ultimate recovery for a prospect or newly discovered field.



Basic Petroleum Engineering for Non-Engineers

Instructor: Susan Howes, PE, PHR
Discipline: Multi-Disciplinary & Introductory
Length: 4 Half-Day Sessions (16.0 Total Hours)

This course covers the main aspects of petroleum engineering with the different engineering functions of the petroleum business broken down into a discussion of each discipline. Emphasis is placed on what a reservoir engineer does, what data is required, where it is obtained, and how it affects the analysis of the reservoir. Discussions include volumetric parameters, hydrocarbon characteristics, volumetric calculations, recovery and drive mechanisms, and reservoir evaluation.

Basics of the Petroleum Industry

Instructor: Susan Howes, PE, PHR
Discipline: Multi-Disciplinary & Introductory
Length: 3 Three-Hour Sessions (9.0 Total Hours)

A MUST course for new hires in the industry as well as non-technical personnel and support staff. This course covers a wide variety of topics such as the generation and trapping of hydrocarbons, the nature of geophysics, and basic petroleum engineering practices. The key skills, terminology, and tools involved in each discipline are highlighted, and all concepts are thoroughly illustrated with current examples.



Basic Reservoir Engineering for Non-Petroleum Engineers

Instructor: Christine Ehlig-Economides, PhD
Discipline: Multi-Disciplinary & Introductory
Length: 6 Half-Day Sessions (24.0 Total Hours)

Participants of this course will study the main aspects of reservoir engineering. The module begins with a broad overview showing how reservoir engineers assess the value of the reservoir from volumetric, fluids, flow, and investment perspectives. This is followed by an elaboration on how much oil can be recovered from various natural reservoir drive mechanisms. Decline curves are used to explain how investors forecast well or reservoir production.

Pressure Transient Well Test Design and Interpretation

Instructor: Christine Ehlig-Economides, PhD
Discipline: Engineering, Formation Evaluation
Length: 6 Half-Day Sessions (24.0 Total Hours)

This course emphasizes how well and reservoir parameters of practical interest can be quantified from well tests. A brief derivation of the models used for pressure transient analysis and hands-on interpretation basics is discussed. Students will then learn how to characterize vertical and lateral reservoir limits and how the latter relates to seismic data interpretation. Both pressure transient and production data are considered for horizontal fractured wells.



Carbonate Sedimentology and Sequence Stratigraphy

Instructor: Oscar Lopez-Gamundi, PhD
Discipline: Geoscience
Length: 6 Half-Day Sessions (24.0 Total Hours)

This course covers the concepts of carbonate sedimentology and sequence stratigraphy with emphasis on their practical applications for oil and gas exploration, appraisal, and production. All concepts are illustrated with examples of outcrop well-log, core, and seismic data. The primary objective is to provide industry professionals with tools and methodologies of carbonate sedimentology and sequence stratigraphy to effectively predict the presence and quality of reservoir, source rock, and seal.

Sequence Stratigraphy Applied to O&G Exploration

Instructor: Oscar Lopez-Gamundi, PhD
Discipline: Geoscience
Length: 3 Half-Day Sessions (12.0 Total Hours)

This course covers the concepts and practical applications of sequence stratigraphy for oil and gas exploration, appraisal and production. The ultimate objective of the course is to provide the practitioner with tools and methodologies of sequence stratigraphy to effectively predict the presence and quality of reservoir, source rock and seal and define the key architectural elements of stratigraphic traps.



Depositional Evolution of the Gulf of Mexico Sedimentary Basin

Instructor: John W. Snedden, PhD
Discipline: Geoscience
Length: 10 Two-Hour Sessions (20.0 Total Hours)

Course participants will learn how to interpret fluids and source rock data to add value to projects from exploration to environmental remediation in both conventional and unconventional petroleum systems world-wide. The fundamentals of petroleum composition and properties, analytical techniques for evaluating the potential of source rocks, characterization and risking of source rocks, and assessment of reservoir compartmentalization during appraisal and development will be covered.



Drilling Fluids

Instructor: Lee A. Richards, PhD
Discipline: Engineering
Length: 3 Half-Day Sessions (12.0 Total Hours)

This course is designed to improve understanding of drilling fluids and the theory behind fluid treatment and maintenance, and to take the mystery out of drilling fluid operations. Participants will learn both oil-based and water-based drilling fluid maintenance and application, how fluids interact with drilled formations, governing principles behind mud report numbers, and how to recognize proper and improper treatment strategies.

Introduction to Drilling Engineering

Instructor: Lee A. Richards, PhD
Discipline: Engineering, Multi-Disciplinary & Introductory
Length: 3 Half-Day Sessions (12.0 Total Hours)

Students will receive an overview of well drilling and the principles that govern operation margins for land drilling. It gives insight into how the rig operates and the logistics of carrying out operations on a land rig. Furthermore, participants with a high level working knowledge of the mechanics associated with drilling operations will gain an understanding of the engineering principles associated with downhole operations.



Elements of Petroleum Geology

Instructor: Stephen A. Sonnenberg, PhD
Discipline: Geoscience, Multi-Disciplinary & Introductory
Length: 4 Half-Day Sessions (16.0 Total Hours)

The course uses a petroleum system approach, reviewing the elements (source, reservoir, seal, and overburden rocks) and processes (generation, migration, entrapment, and preservation). Students examine the basic factors that control hydrocarbon generation, migration, and accumulation; procedures used to discover and produce those hydrocarbons; data collection and interpretation techniques; and the roles and skills required of exploration and development professionals.

Reservoir Characterization for Mudrock Reservoirs

Instructor: Stephen A. Sonnenberg, PhD
Discipline: Engineering, Multi-Disciplinary & Introductory, Unconventional Reservoirs
Length: 4 Half-Day Sessions (16.0 Total Hours)

A wide range of topics are covered in this course to familiarize participants with the important nuances of both successful and unsuccessful mudrock plays. The petroleum system approach will be used. A key emphasis of this course will be to show the important elements and processes for continuous oil and gas accumulations. The participant will learn screening techniques which may help identify continuous types of accumulations.

Unconventional Resource Plays - Workshop

Instructor: Stephen A. Sonnenberg, PhD
Discipline: Geoscience, Engineering, Unconventional Reservoirs
Length: 4 Half-Day Sessions (16.0 Total Hours)

This workshop introduces sound evaluation techniques used in choosing and developing “unconventional resource new ventures.” It combines geology, reservoir engineering, reserves evaluation, economic forecasting, and the concepts of multivariate analysis to develop skills that help predict productivity in O&G systems. Gas and oil plays in shale and stacked tight sands that are developed with horizontal and vertical wells are covered.



Energy Transition for Petroleum Professionals

Instructor: Nathan Meehan, PhD
Discipline: Engineering, Geoscience
Length: 6 Half-Day Sessions (24.0 Total Hours)

This course is designed for energy professionals with an understanding of oil and gas operations and activities but not necessarily any background in climate change, energy transition, life cycle analysis or alternative fuels. The course emphasizes the role of fossil fuels in a world with increasing drivers away from such fuels. Practical approaches to minimize the carbon impact of oil and gas operations are presented.



Hydraulic Fracturing: Theory & Application

Instructor: Jennifer Miskimins, PhD
Discipline: Engineering, Unconventional Reservoirs
Length: 6 Half-Day Sessions (24.0 Total Hours)

Course participants will take an in-depth look at hydraulic fracturing, first from a theoretical viewpoint, but also how this theory translates into application of the technique. The course starts with a discussion of the goals of hydraulic fracturing and the economic justifications that go along with them. From there, the reservoir characteristics such as in-situ stresses, rock mechanical properties, etc. and their impacts on hydraulic fracture behavior are covered.



Evaluating Well Performance For Unconventional and Conventional Reservoirs

Instructor: Robert 'Bob' Barba

Discipline: Engineering, Unconventional Reservoirs

Length: 4 Half-Day Sessions (16.0 Total Hours)

This course teaches how to maximize asset value in horizontal or vertical wells in unconventional and conventional reservoirs. Students will learn methods that evaluate well performance using the recovery factor technique for all reservoirs and the effective frac length technique for conventional reservoirs. Participants will also learn how to determine if poor production is a function of a poor completion, reservoir rock, or both.

Practical Interpretation of Open Hole Logs

Instructor: Robert 'Bob' Barba

Discipline: Engineering, Formation Evaluation

Length: 6 Half-Day Sessions (24.0 Total Hours)

Attendees will learn basic interpretation techniques needed to interpret open hole well logs. Both quick-look qualitative interpretations and more rigorous quantitative interpretations are covered. The course is generic in technical scope, so no specific software is used. Both the theory and practice of practical, applied interpretation are covered as well as practical advice, applied exercises, discussions and the study of actual logs.

Predicting Organic Shale Well Performance

Instructor: Robert 'Bob' Barba

Discipline: Engineering, Unconventional Reservoirs

Length: 4 Half-Day Sessions (16.0 Total Hours)

Learning outcomes of this course include: (1) Developing a calibrated petrophysical model to estimate hydrocarbons in place, (2) Learning techniques to integrate oil in place and gas in place (OIP/GIP) data with rock properties and production data to estimate recovery factors as a function of frac vintage, and (3) Developing well performance models specific to reservoirs and export equations for application in reservoirs.

Refrac Candidate Selection, Execution and Performance Evaluation for Conventional and Unconventional Reservoirs

Instructor: Robert 'Bob' Barba

Discipline: Engineering, Unconventional Reservoirs

Length: 4 Half-Day Sessions (16.0 Total Hours)

Participants will learn a methodology that first accurately characterizes reservoir properties to evaluate the effectiveness of the original hydraulic fracture treatment with production data. This enables a determination of the cause of poor production performance as a function of a poorly designed or executed completion or poor quality reservoir rock. If the remaining volumetric reserves are economic, techniques are presented to effectively access these reserves with refracturing treatment(s).



For Safe Drilling: Formation – Fracture Pressure Interpretations and Analysis

Instructor: Selim Shaker, PhD

Discipline: Engineering

Length: 6 Half-Day Sessions (24.0 Total Hours)

This course teaches students how to recognize the effect of pore pressure – geomechanics interrelation on bore hole stability, caving, tight holes, etc. Participants will also learn the different prediction methods and how to select the right software for a proposed well location. Other topics discussed include assessment of drilling safety, especially in deepwater, and appraisal of proposed completion operations based on geopressure compartmentalization.

Pore Pressure, Fracture Pressure, and Well-Bore Stability

Instructor: Selim Shaker, PhD

Discipline: Formation Evaluation

Length: 6 Half-Day Sessions (24.0 Total Hours)

This is a comprehensive course using the basic models of geology, rock-mechanics, and hydrodynamics to predict and appraise subsurface geopressure and, consequently, evaluate your prospect risk pre-and post-drilling. Participants will learn how to calculate and run their own pore pressure (PP) prediction and analyses based on a geo-scientific foundation rather than software design.

Seal and Reservoir Pressures Analysis for E&P Prospect's Risk Assessment

Instructor: Selim Shaker, PhD

Discipline: Engineering, Geoscience

Length: 6 Half-Day Sessions (24.0 Total Hours)

Students will learn how to use measured pressure data from wire-line tests (MDTs, RFTs etc.) and production tests (DSTs) to design pressure-depth plots which reveal permeability barriers (sealed), communications, and breached reservoir (seal failure). Students will also examine how seismic velocities and well logs' petrophysical properties establish seal integrity via subsurface pressure drift.



Introduction to Energy Data Science in Python

Instructor: John T. Foster, PhD

Discipline: Engineering, Geoscience, Multi-Disciplinary & Introductory, Unconventional Reservoirs

Length: 5 Half-Day Sessions (20.0 Total Hours)

This workshop focuses on the application of programming, visualizations, and data science solutions to energy industry data. Python is a key tool in data analytics and data science. Consequently, this workshop is geared towards teaching students how to leverage the Python data science ecosystem (Numpy, Pandas, Matplotlib, and Jupyter, etc) and its application to energy industry data. Students will have practical experience designing tools that will optimize workflows.



Introduction to Subsurface Machine Learning

Instructor: Michael J. Pyrcz, PhD

Discipline: Engineering, Geoscience, Multi-Disciplinary & Introductory, Unconventional Reservoirs

Length: 4 Half-Day Sessions (16.0 Total Hours)

This workshop focuses on the advanced application of data analytics, geostatistics, and machine learning to energy industry data. The course is a critical step in laying the foundation necessary for thinking statistically and identifying the key signals from the noise that is data. Participants will learn to effectively prepare data and ensure drawn conclusions are reliable, make predictions from data using certain techniques, and understand the assumptions and limits of data.



Managing Mature Oilfields with Capacitance-Resistance Modelling

Instructor: Larry Lake, PhD and Jerry Jensen, PhD

Discipline: Engineering, Geoscience

Length: 6 Half-Day Sessions (24.0 Total Hours)

Developing and managing mature oil fields can have many challenges. Ideally, a history-matched reservoir simulation model using a comprehensive reservoir model will guide choices. Many fields, however, lack such tools and need simpler, less sophisticated methods to improve results. This is where the capacitance-resistance model (CRM) can help. This course provides prospective users with the knowledge to use the CRM and apply its results to manage mature fields.



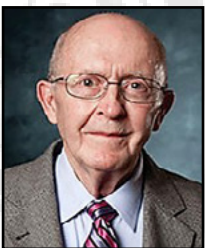
Petroleum Fluids and Source Rock in E&P Projects

Instructor: Alexei Milkov, PhD

Discipline: Geoscience, Unconventional Reservoirs

Length: 6 Half-Day Sessions (24.0 Total Hours)

Course participants will learn how to interpret fluids and source rock data to add value to projects from exploration to environmental remediation in both conventional and unconventional petroleum systems world-wide. The fundamentals of petroleum composition and properties, analytical techniques for evaluating the potential of source rocks, characterization and risking of source rocks, and assessment of reservoir compartmentalization during appraisal and development will be covered.



PRMS and SEC Reserves and Resources Regulations

Instructor: W. John Lee, PhD

Discipline: Engineering

Length: 4 Half-Day Sessions (16.0 Total Hours)

This course summarizes the PRMS resources classification system and the SEC regulatory system for reporting reserves. The PRMS guidelines, the basis for many of the modernized SEC reserves guidelines, are also covered. These guidelines provide a systematic procedure to inventory resources, which is especially important for resources other than reserves (ROTR). SEC reserves definitions, reporting requirements, and guidance are included.

Production Forecasting For Low Permeability Reservoirs

Instructor: W. John Lee, PhD

Discipline: Engineering, Unconventional Reservoirs

Length: 4 Half-Day Sessions (16.0 Total Hours)

This course summarizes decline curve analysis (DCA), including Arps' decline models, linear flow models, and other recent decline analysis approaches. We provide background information on basic fluid flow theory, which enhances understanding of strengths and limitations of both traditional and recent decline analysis methods. Numerous short class exercises illustrating principles will be included.



Reservoir Characterization of Clastic (Sandstone) Reservoirs

Instructor: Lesli J. Wood, PhD

Discipline: Geoscience

Length: 6 Half-Day Sessions (24.0 Total Hours)

Participants of this course will examine the various types of clastic reservoirs within the context of regional influences and controls on their nature. Emphasis is placed on the variety of styles and causes of compartmentalization of these reservoirs and associated development and production issues. Students will learn to recognize and define compartmentalization in various types of data and predict problems prior to development by understanding the contextual stratigraphic framework.



Reservoir Management of Unconventional Reservoirs: From Inception to Maturity

Instructor: Shah Kabir

Discipline: Engineering, Unconventional Reservoirs

Length: 4 Half-Day Sessions (16.0 Total Hours)

This workshop provides a fundamental understanding of well performance with the use of several tools, such as rate-transient analysis (RTA) and decline-curve analysis (DCA). Suitability of these tools for reserves forecasting is the cornerstone of this course. Although deterministic reserves estimation will be predominant, probabilistic approaches will be also be discussed. Finally, students will learn about the well-bore lift issue with a plunger-lift model.



Structural Styles in Petroleum Exploration and Production

Instructor: Lansing Taylor, PhD

Discipline: Geoscience

Length: 6 Half-Day Sessions (24.0 Total Hours)

Structural geology is often the fundamental key to successful interpretation and prospecting. This course provides a strong fundamental background in structural geology of the various tectonic settings. Students will cover common structural styles in sedimentary basins worldwide and the geometry and evolution of trap-forming structures associated with compressional, extensional, salt, strike-slip, and reactivated structures.



Well Stimulation Workshop: Practical and Applied

Instructor: Leo Roodhart, PhD and Gerrit Nitters

Discipline: Engineering, Unconventional Reservoirs

Length: 5 Half-Day Sessions (20.0 Total Hours)

This course is designed for those involved in all aspects of inflow performance and well completion/outflow design. In order to make effective decisions, it is important to understand the characteristics of the “drainage volume” in relation to well paths. Candidate selection is therefore key and time will be spent discussing candidate selection strategies, how that will affect the inflow performance and, consequently, the stimulation design. The course also includes acidizing and fracturing design.



SPE Regional Distinguished Corporate Support Award

SCA is the recipient of the SPE Regional Distinguished Corporate Support Award for the Gulf Coast North America Region. This award acknowledges our support and service to the SPE members in the region.

Over the span of SCA's existence since 1988, we have supported the societies through sponsorships and participation in various meetings and activities. Some recent examples of this include:

- » Offered a five-day training class, “Applied Subsurface Geological Mapping” in 2019 for 25 Members in Transition (MiT) at a discount of 94% of the full price
- » Since 2017, SCA has provided a 50% discount to MiT to attend our public training classes
- » Provided use of a training room for several SPE-Gulf Coast Section (GCS) meetings free-of-charge in 2019-2020
- » Participated as a sponsor or recruiter for several “Energy Professionals Virtual Hiring Events” in 2017-2021
- » Coached numerous MiT on their job searches, several of whom started consulting or received a fulltime job due to SCA's efforts on their behalf
- » Continue to provide free webinars as a service for continuing education to the SPE-GCS membership
- » Susan Howes, SCA's Vice President of Engineering, has delivered 22 presentations in SPE-GCS meetings since joining SCA in 2016



We are honored to be receiving this award at the [2021 SPE-GCS Awards and Scholarships Banquet](#) on August 5th in Houston, TX.

THE DANIEL J. TEARPOCK Geoscience Certification Program (aka “Geoscience Boot Camp”)

September 27 - December 12, 2021 in Houston, TX

What is Geoscience Boot Camp?

This intensive 12-week training program includes six weeks of classroom courses taught by SCA's top instructors, followed by a six-week interpretation and mapping project.

Participants learn fundamental interpretation, engineering, and mapping skills, and then put those skills to the test using seismic data, well logs, and production information from an actual development prospect. During the project phase, SCA engages a team of senior-level geoscientists to serve as mentors to the participants and help guide their interpretation and decision-making process. The program is designed to raise the competency level and knowledge of the participants in a short period of time.



Since its debut in 2008, SCA's Boot Camp has trained numerous participants from around the world. Many of our participants are employees of national oil companies that are seconded to major US-based oil and gas companies. Major oil companies have found our program valuable in meeting training obligations for foreign nationals.

Due to popular demand, we have started offering the program twice a year, and can also accommodate additional sessions upon special request with a minimum commitment of ten attendees.

Who should register?

This program is recommended for new university graduates with up to three years of experience and entry-level employees from different disciplines such as mining, environmental geology, earthquake seismology, etc. It is highly recommended for employees of national oil companies that are seconded to major US-based oil and gas companies. New managers overseeing exploration and development programs will also benefit.

12-WEEK SCHEDULE OVERVIEW



Six-Week Classroom Phase:

- Basics of the Petroleum Industry
- Structural Styles in Petroleum Exploration and Production
- Structural & Sequence Stratigraphy Field Course
- Applied Seismic Interpretation
- Contouring Methods Workshop
- Practical Interpretation of Open Hole Logs
- Sequence Stratigraphy Applied to O&G Exploration
- Applied Subsurface Geological Mapping
- Mapping Seismic Data Workshop
- Basic Petroleum Engineering for Non-Engineers
- Modern Coastal Systems of Texas Field Course

Six-Week Project Phase:

This exciting six (6) week project provides hands-on training that develops a strong foundation for participants in geological and geophysical interpretation and mapping. Students will also understand the application of reservoir engineering, log analysis, risk analysis, and probabilistic and deterministic resources estimation.



Upcoming 2021 Training Calendar

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|-----|-----------|---|---------------|
| AUG | 02-06 | Artificial Lift & Production Optimization Solutions (Midland, TX)..... | Chokshi |
| | 02-06 | Applied Subsurface Geological Mapping (Denver, CO)  | Brenneke |
| | 09-12 | PRMS & SEC Reserves and Resources Regulations (LIVE ONLINE)... | Lee |
| | 16-17 | Reservoir Management of Unconventional Reservoirs..... | Kabir |
| | 16-18 | Drilling Fluids (LIVE ONLINE)..... | Richards |
| | 16-18 | Energy Transition for Petroleum Professionals (LIVE ONLINE P1).... | Meehan |
| | 16-20 | Applied Subsurface Geological Mapping (Midland, TX)  | Brenneke |
| | 23-25 | Energy Transition for Petroleum Professionals (LIVE ONLINE P2).... | Meehan |
| | 8/30-9/03 | Carbonate Sedimentology and Sequence Stratigraphy..... | Lopez-Gamundi |
| | 8/30-9/03 | Applied Subsurface Geological Mapping (Dallas, TX)  | Brenneke |

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| SEPT | 13-14 | Applied Drilling Engineering Optimization for Drilling Engineers (Midland, TX)..... | Samuel |
| | 13-15 | Petroleum Fluids and Source Rocks in E&P Projects..... | Milkov |
| | 15-16 | Applied Drilling Mechanics for Drilling Engineers (Midland, TX).. | Samuel |
| | 17 | Principles and Practices of Mud Motor (Midland, TX)..... | Samuel |
| | 20-21 | Predicting Organic Shale Well Performance (Midland, TX)..... | Barba |
| | 20-22 | Managing Mature Oilfields with Capacitance-Resistance Modelling (LIVE ONLINE P1)..... | Lake/Jensen |
| | 9/27-12/17 | Daniel J. Tearpock Geoscience Certification Program (aka "Geoscience Boot Camp")   | SCA Staff |
| | 27 | Basics of the Petroleum Industry  | Howes |
| | 27-29 | Managing Mature Oilfields with Capacitance-Resistance Modelling (LIVE ONLINE P2) | Lake/Jensen |
| | 9/28-10/01 | Structural Styles in Petroleum Exploration and Production  | Taylor |

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|-----|-------|--|---|------------------|
| OCT | 02-03 | Structural & Sequence Stratigraphic Field Course (Hill Country) |  | Taylor |
| | 04-05 | Reservoir Scale Geomechanics (Midland, TX) | | Fox |
| | 04-06 | Introduction to Energy Data Science in Python | | Foster |
| | 04-08 | The Book Cliffs, Utah: A Case Study in Coastal Sequence Stratigraphy | | Little |
| | 04-08 | Sequence Stratigraphy Applied to O&G Exploration |  | Lopez-Gamundi |
| | 07-08 | Reservoir Scale Geomechanics | | Fox |
| | 11-13 | Artificial Lift & Real-Time Optimization for Unconventional Assets | | Chokshi |
| | 11-15 | Practical Interpretation of Open Hole Logs | | Barba |
| | 11-15 | Applied Deepwater Sedimentology and Stratigraphy | | Rotzien |
| | 14-15 | Introduction to Subsurface Machine Learning | | Pyrz |
| | 18-19 | Basic Petroleum Engineering for Non-Engineers |  | Howes |
| | 18-20 | Depositional Evolution of the Gulf of Mexico Sedimentary Basin | | Snedden |
| | 18-22 | Well Stimulation Workshop: Practical & Applied (Midland, TX) | | Roodhart/Nitters |
| | 20-22 | Contouring Methods Workshop |   | Agah |
| | 25-28 | Production Forecasting For Low Permeability Reservoirs (LIVE ONLINE) | | Lee |
| | 25-29 | Applied Subsurface Geological Mapping |   | Agah |

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| NOV | 01-02 | Applied Seismic Interpretation  | Willis |
| | 01-02 | Geosteering: Best Practices, Pitfalls, & Applied Solutions..... | Knight |
| | 01-03 | The Practice of Seismic Stratigraphy in DW Settings..... | Prather |
| | 01-03 | Energy Transition for Petroleum Professionals..... | Meehan |
| | 01-05 | Well Stimulation Workshop: Practical & Applied (LIVE ONLINE)..... | Roodhart/Nitters |
| | 03-04 | Refrac Candidate Selection, Execution, and Performance Evaluation for Conventional and Unconventional Reservoirs..... | Barba |
| | 03-05 | Mapping Seismic Data Workshop  | Cherry |
| | 06 | Modern Coastal Systems of Texas Field Course (Galveston TX)  | Wellner |
| | 08-10 | Pore Pressure, Fracture Pressure, and Well-Bore Stability..... | Shaker |
| | 08-12 | Applied Subsurface Geological Mapping  | Brenneke |
| | 11/8-12/17 | "Geoscience Bootcamp" Project Phase (6 weeks)   | SCA Staff |
| | 11-12 | Cement Evaluation and Repair Workshop..... | Ott/Smolen |
| | 15-17 | Unconventional Resource Plays - Workshop..... | Sonnenberg |

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| DEC | 06-10 | Applied Subsurface Geological Mapping  | Agah |
| | 06-10 | Applied Subsurface Geological Mapping (Singapore)  | Shoup |

 Flagship Course  Boot Camp Course

All courses are located in Houston unless noted otherwise.



About SCA



Our Services

Subsurface Consultants & Associates, LLC provides upstream consultancy and training to professionals in the oil and gas industry. Founded in 1988 by Daniel J. Tearpock, SCA's primary services are consulting and direct-hire recruiting, training, upstream projects and studies, quality assurance, and oil and gas advisory.

Competency Development

IHRDC is a Boston-based company that accelerates workforce development through customized solutions to fit client needs. Through our Joint Marketing and Sales Agreement, SCA and IHRDC offer the oil and gas industry a broad spectrum of high-quality training content and effective blended learning delivery options.

Excellence That Runs Deep

SCA is considered an industry leader in subsurface exploration and development interpretation and mapping. We provide the personnel, technology, and proven methodologies that foster success by enabling better business decisions.

