

Schlumberger Eclipse Reference Manual

Energy Geotechnics includes 97 technical papers presented at the 1st International Conference on Energy Geotechnics (ICEGT 2016, Kiel, Germany, 29-31 August 2016). The contributions provides significant advances and critical challenges facing the areas of fundamentals, constitutive and numerical modelling, testing techniques and energy geotechnics applications. Energy Geotechnics contains seven regular sessions and six minisymposia, with contributions on discrete and continuum based modelling as well as investigations based on experimental studies at various scales. The papers on discrete and continuum based modelling examine the behaviour of gas hydrate sediments, cyclic and Thermo-Hydro-Mechanical (T-H-M) modelling of energy piles, non-linear behaviour of energy geo-storage and geo-structures, deformation of geomaterials, modelling of borehole heat exchangers and energy walls, analysis of hydraulic fracturing and discontinuities in reservoirs, engineering problems involving gas hydrates sediments, and modelling of environmental impact of energy geotechnical processes. The technical papers on experimental investigations present small and large scale findings on particle effects, particle-particle and fluid-particle interactions, saturation and thermal effects, water retention, creep behaviour, T-H-M monitoring of energy geotechnical structures, new techniques in laboratory analysis, geomechanical behaviour and cyclic loading of geomaterials. Energy Geotechnics will be of interest to academic and non-academic parties working in the areas of energy production, transport and storage as well as in the fields of energy geotechnics and geomechanics, geotechnical engineering, soil and rock mechanics and geological engineering. Presents numerical methods for reservoir simulation, with efficient implementation and examples using widely-used online open-source code, for researchers, professionals and advanced students. This title is also available as Open Access on Cambridge Core.

This book provides a self-contained introduction to the simulation of flow and transport in porous media, written by a developer of numerical methods. The reader will learn how to implement reservoir simulation models and computational algorithms in a robust and efficient manner. The book contains a large number of numerical examples, all fully equipped with online code and data, allowing the reader to reproduce results, and use them as a starting point for their own work. All of the examples in the book are based on the MATLAB Reservoir Simulation Toolbox (MRST), an open-source toolbox popular popularity in both academic institutions and the petroleum industry. The book can also be seen as a user guide to the MRST software. It will prove invaluable for researchers, professionals and advanced students using reservoir simulation methods. This title is also available as Open Access on Cambridge Core.

The Journal of Canadian Petroleum Technology

Innovative Exploration Methods for Minerals, Oil, Gas, and Groundwater for Sustainable Development

SPE Reservoir Engineering

Proceedings of the Annual Convention - Indonesian Petroleum Association

Geologic Carbon Sequestration

Oil & Gas Science and Technology

Geophysical Monitoring for Geologic Carbon Storage Storing carbon dioxide in underground geological formations is emerging as a promising technology to reduce carbon dioxide emissions in the atmosphere. A range of geophysical techniques can be deployed to remotely track carbon dioxide plumes and monitor changes in the subsurface, which is critical for ensuring for safe, long-term storage. Geophysical Monitoring for Geologic Carbon Storage provides a comprehensive review of different geophysical techniques currently in use and being developed, assessing their advantages and limitations. Volume highlights include: Geodetic and surface monitoring techniques Subsurface monitoring using seismic techniques Subsurface monitoring using non-seismic techniques Case studies of geophysical monitoring at different geologic carbon storage sites The American Geophysical Union promotes discovery in Earth and space science for the benefit of humanity. Its publications disseminate scientific knowledge and provide resources for researchers, students, and professionals.

Many leading experts contribute to this follow-up to An Introduction to Reservoir Simulation using MATLAB/GNU Octave: User Guide for the MATLAB Reservoir Simulation Toolbox (MRST). It introduces more advanced functionality that has been recently added to the open-source MRST software. It is however a self-contained introduction to a variety of modern numerical methods for simulating multiphase flow in porous media, with applications to geothermal energy, chemical enhanced oil recovery (EOR), flow in fractured and unconventional reservoirs, and in the unsaturated zone. The reader will learn how to implement new models and algorithms in a robust, efficient manner. A large number of numerical examples are included, all fully equipped with code and data so that the reader can reproduce the results and use them as a starting point for their own work. Like the original textbook, this book will prove invaluable for researchers, professionals and advanced students using reservoir simulation methods.

The return of the congress to North America after 20 years of absence could not have been in a more ideal location. The beauty of Banff and the many offerings of the Rocky Mountains was the perfect background for a week of interesting and innovative discussions on the past, present and future of geostatistics. The congress was well attended with approximately 200 delegates from 19 countries across six continents. There was a broad spectrum of students and seasoned geostatisticians who shared their knowledge in many areas of study including mining, petroleum, and environmental applications. You will find 119 papers in this two volume set. All papers were presented at the congress and have been peer-reviewed. They are grouped by the different sessions that were held in Banff and are in the order of presentation. These papers provide a permanent record of different theoretical perspectives from the last four years. Not all of these ideas will stand the test of time and practice; however, their originality will endure. The practical applications in these proceedings provide nuggets of wisdom to those struggling to apply geostatistics in the best possible way. Students and practitioners will be digging through these papers for many years to come. Oy Leuangthong Clayton V. Deutsch ACKNOWLEDGMENTS We would like to thank the industry sponsors who contributed generously to the overall success and quality of the congress: De Beers Canada Earth Decision Sciences Maptek Chikita. Mira Geoscience Nexen Inc. Petro-Canada Placer Dome Inc.

SPE Computer Applications

Advanced Modeling with the MATLAB Reservoir Simulation Toolbox

Vol 1 : Congress overview, plenaries, review and forecast papers, subject index Vol 5 : Excellence & responsibility in managing the petroleum business with economic, environmental and social dimensions

First North American Conference on Multiphase Technology

Quantifying Uncertainty in Subsurface Systems

Thermo-Hydro-Mechanical-Chemical Processes in Fractured Porous Media: Modelling and Benchmarking

This book presents the proceedings of the 4th International Conference on Integrated Petroleum Engineering and Geosciences 2016 (ICIEPG 2016), held under the banner of World Engineering, Science & Technology Congress (ESTCON 2016) at Kuala Lumpur Convention Centre from August 15 to 17, 2016. It presents peer-reviewed research articles on exploration, while also exploring a new area: shale research. In this time of low oil prices, it highlights findings to maintain the exchange of knowledge between researchers, serving as a vital bridge-builder between engineers, geoscientists, academics, and industry.

This exclusive compilation written by eminent experts from more than ten countries, outlines the processes and methods for geologic sequestration in different sinks. It discusses and highlights the details of individual storage types, including recent advances in the science and technology of carbon storage. The topic is of immense interest to geoscientists, reservoir engineers, environmentalists and researchers from the scientific and industrial communities working on the methodologies for carbon dioxide storage. Increasing concentrations of anthropogenic carbon dioxide in the atmosphere are often held responsible for the rising temperature of the globe. Geologic sequestration prevents atmospheric release of the waste greenhouse gases by storing them underground for geologically significant periods of time. The book addresses the need for an understanding of carbon reservoir characteristics and behavior. Other book volumes on carbon capture, utilization and storage (CCUS) attempt to cover the entire process of CCUS, but the topic of geologic sequestration is not discussed in detail. This book focuses on the recent trends and up-to-date information on different storage rock types, ranging from deep saline aquifers to coal to basaltic formations.

The 29th European Symposium on Computer Aided Process Engineering, contains the papers presented at the 29th European Symposium of Computer Aided Process Engineering (ESCAPE) event held in Eindhoven, The Netherlands, from June 16-19, 2019. It is a valuable resource for chemical engineers, chemical process engineers, researchers in industry and academia, students, and consultants for chemical industries. Presents findings and discussions from the 29th European Symposium of Computer Aided Process Engineering (ESCAPE) event

SPE Journal

Rock Mechanics and Rock Engineering: From the Past to the Future

6th European Conference on the Mathematics of Oil Recovery

Guidelines, Scotland, 8-11 September 1998 : Oral Presentations

Streamline Simulation

An Official Publication of the Society of Petroleum Engineers

An Introduction to Reservoir Simulation Using MATLAB/GNU OctaveUser Guide for the MATLAB Reservoir Simulation Toolbox (MRST)Cambridge University Press

The production of carbon dioxide from the oxidation of fossil-carbon over the past 200 years has resulted in the accumulation of CO2 in the atmosphere. CO2-like other greenhouse gases-slows the rate at which infrared radiation is emitted from the Earth. By increasing the concentration of CO2 in the atmosphere, humanity is altering the Earth's radiation balance in potentially dangerous way.Mitigating humanity's impact on Earth's climate system requires transforming the global energy infrastructure to decrease anthropogenic emissions of CO2. The body of work presented here covers a range of physical and chemical topics important for the mitigation of anthropogenic climate change through the capture and storage of carbon dioxide. This book is focused primarily on addressing CO2 emissions from large stationary point-sources through CO2 capture and storage. A portion of the work, however, is aimed at addressing the long tail of the CO2 point-sources distribution by removing CO2 directly from the atmosphere.The entire CCS supply chain from the thermodynamic limit of the work required the capture of CO2 from power-plants to the long-term chemical and physical evolution of carbon dioxide.

The present book provides guidance to understanding complicated coupled processes based on the experimental data available and implementation of developed algorithms in numerical codes. Results of selected test cases in the fields of closed-form solutions (e.g., deformation processes), single processes (such as groundwater flow) as well as coupled processes are presented. It is part of the OpenGeoSys initiative - an open source project to share knowledge and experience in environmental analysis and scientific computation with the community.

Energy Geotechnics

AAPG Memoir 80

Computational Models for CO2 Geo-sequestration & Compressed Air Energy Storage

The Birds of Nebraska

Revue de L'Institut Français Du Pétrole

Proceedings of the 1st International Conference on Energy Geotechnics, ICEGT 2016, Kiel, Germany, 29-31 August 2016

Under the Earth's surface is a rich array of geological resources, many with potential use to humankind. However, extracting and harnessing them comes with enormous uncertainties, high costs, and considerable risks. The valuation of subsurface resources involves assessing discordant factors to produce a decision model that is functional and sustainable. This volume provides real-world examples relating to oilfields, geothermal systems, contaminated sites, and aquifer recharge. Volume highlights include:

- **A multi-disciplinary treatment of uncertainty quantification**
- **Case studies with actual data that will appeal to methodology developers**
- **A Bayesian evidential learning framework that reduces computation and modeling time**
- **Quantifying Uncertainty in Subsurface Systems is a multidisciplinary volume that brings together five major fields: information science, decision science, geosciences, data science and computer science. It will appeal to both students and practitioners, and be a valuable resource for geoscientists, engineers and applied mathematicians. Read the Editors' Vox: https://eos.org/editors-vox/quantifying-uncertainty-about-earths-resources**

The Petrel E&P software platform started 20 years ago when Technoguide, a Norwegian startup based in Oslo, released the first version of Petrel 1.0 in December 1998. The Petrel platform has become an industry standard and has revolutionized the way we work in all domains. Today, the active global community of users continue to push the boundaries of subsurface platform understanding using the Petrel platform. In creating this special anniversary book, we want to take a moment to reflect on that history and to celebrate the many achievements we have made together with you—our customers and partners.

Innovative Exploration Methods for Mineral, Oil, Gas, and Groundwater for Sustainable Development provides an integrated approach to exploration encompassing geology, geophysics, mining, and mineral processing. In addition, groundwater exploration is included, as it is central to the development of earth resources. As the demand for coal, minerals, oil and gas, and water continues to grow globally, researchers must prioritize sustainable exploration methods. Old technologies are being replaced swiftly and exploration work has become fast, focused, meaningful, and readily reproducible keeping in pace with the changing global scenario. The themes of exploration of energy resources, exploration of minerals, groundwater exploration and processing and mineral engineering are separated out into sections and chapters included in these sections include case studies focusing on tools and techniques for exploration. Innovative Exploration Methods for Mineral, Oil, Gas, and Groundwater for Sustainable Development gives insight to modern concepts of exploration for those working in the various fields of energy, mineral, and groundwater exploration. Presents innovative research that will both challenge and complement the traditional concepts of exploration Covers a wide range of instruments and their applications, as well as the tools and processes that need to be followed for modern exploration work Includes research on groundwater exploration with a focus on conservation and sustainable exploration and development

Reservoir Model Design

Theory and Practice

Proceedings of the International Conference on Integrated Petroleum Engineering and Geosciences

Report

Proceedings ... SPE Annual Technical Conference and Exhibition

Integration of Outcrop and Modern Analogs in Reservoir Modeling

Petroleum Reservoir Simulation, Second Edition, introduces this novel engineering approach for petroleum reservoir modeling and operations simulations. Updated with new exercises, a new glossary and a new chapter on how to create the data to run a simulation, this comprehensive reference presents step-by-step numerical procedures in an easy to understand format. Packed with practical examples and guidelines, this updated edition continues to deliver an essential tool for all petroleum and reservoir engineers. Includes new exercises, a glossary and references Bridges research and practice with guidelines on introducing basic reservoir simulation parameters, such as history matching and decision tree content Helps readers apply knowledge with assistance on how to prepare data files to run a reservoir simulator

Rock Mechanics and Rock Engineering: From the Past to the Future contains the contributions presented at EUROCK2016, the 2016 International Symposium of the International Society for Rock Mechanics (ISRM 2016, Ürgüp, Cappadocia Region, Turkey, 29-31 August 2016). The contributions cover almost all aspects of rock mechanics and rock engineering from theories to engineering practices, emphasizing the future direction of rock engineering technologies. The 204 accepted papers and eight keynote papers, are grouped into several main sections: - Fundamental rock mechanics - Rock properties and experimental rock mechanics - Analytical and numerical methods in rock engineering - Stability of slopes in civil and mining engineering - Design methodologies and analysis - Rock dynamics, rock mechanics and rock engineering at historical sites and monuments - Underground excavations in civil and mining engineering - Coupled processes in rock mass for underground storage and waste disposal - Rock mass characterization - Petroleum geomechanics - Carbon dioxide sequestration - Instrumentation-monitoring in rock engineering and back analysis - Risk management, and - the 2016 Rocha Medal Lecture and the 2016 Franklin Lecture

Rock Mechanics and Rock Engineering: From the Past to the Future will be of interest to researchers and professionals involved in the various branches of rock mechanics and rock engineering. EUROCK 2016, organized by the Turkish National Society for Rock Mechanics, is a continuation of the successful series of ISRM symposia in Europe, which began in 1992 in Chester, UK. This book gives practical advice and ready to use tips on the design and construction of subsurface reservoir models. The design elements cover rock architecture, petrophysical property modelling, multi-scale data integration, upscaling and uncertainty analysis. Philip Ringrose and Mark Bentley share their experience, gained from over a hundred reservoir modelling studies in 25 countries covering clastic, carbonate and fractured reservoir types, and for a range of fluid systems - oil, gas and CO2, production and injection, and effects of different mobility ratios. The intimate relationship between geology and fluid flow is explored throughout, showing how the impact of fluid type, displacement mechanism and the subtleties of single- and multi-phase flow combine to influence reservoir model design. The second edition updates the existing sections and adds sections on the following topics: - A new chapter on modelling for CO2 storage - A new chapter on modelling workflows - An extended chapter on fractured reservoir modelling - An extended chapter on multi-scale modelling - An extended chapter on the quantification of uncertainty - A revised section on the future of modelling based on recently published papers by the authors

The main audience for this book is the community of applied geoscientists and engineers involved in understanding fluid flow in the subsurface: whether for the extraction of oil or gas or the injection of CO2 or the subsurface storage of energy in general. We will always need to understand how fluids move in the subsurface and we will always require skills to model these quantitatively. The second edition of this reference book therefore aims to highlight the modelling skills developed for the current energy industry which will also be required for the energy transition of the future. The book is aimed at technical-professional practitioners in the energy industry and is also suitable for a range of Master's level courses in reservoir characterisation, modelling and engineering. • Provides practical advice and guidelines for users of 3D reservoir modelling packages • Gives advice on reservoir model design for the growing world-wide activity in subsurface reservoir modelling • Covers rock modelling, property modelling, upscaling, fluid flow and uncertainty handling • Encompasses clastic, carbonate and fractured reservoirs • Applies to multi-fluid cases and applications: hydrocarbons and CO2, production and storage; rewritten for use in the Energy Transition.

Proceedings of the 17th World Petroleum Congress

A Practitioner's Guide

On the Physics and Chemistry of Carbon Dioxide Capture and Storage in Terrestrial and Marine Environments

Carbon Dioxide in Terrestrial & Marine Environments

The Schlumberger Adventure

This annotated list of the birds of Nebraska grew gradually out of research associated with my writing of the Birds of the Great Plains: Breeding Species and Their Distribution (Johnsgard, 1979a). It expands and updates an earlier version that was published in 2013 by the University of Nebraska-Lincoln Libraries DigitalCommons' Zea Books (Johnsgard, 2013a). It has been updated and modified in its current revision to conform with the most recent (2017) major revision of the American Ornithologists' Society's Checklist of North American Birds (Chesser et al., 2017). It has also been modified in its current revision to conform very closely to the most recent "Official List of the Birds of Nebraska" by the Nebraska Ornithologists' Union (Gubanyi, 1997, and later supplements in the Nebraska Bird Review, to 84:138-150). The NOU's official state list of birds (461 species as of 2017) is based on actual specimen evidence or some other convincing basis of each species' proven occurrence in the state. That list includes 337 "regular" species, 29 "casual" species, 90 "accidental" species, and 5 extinct or extirpated species. In this edition I have classified 368 of the 461 species of Nebraska birds as ranging in relative frequency of occurrence as "abundant" to "rare." There are also 61 species considered to be of "accidental" occurrence, having been reliably reported in Nebraska no more than five times, 20 that are considered "extremely rare" or "very rare," if reported from six to 25 times. There are also three extinct, and five unsuccessfully introduced species. Thirteen hypothetical species of dubious origin or identification are mentioned parenthetically. The text includes more than 123,000 words, nearly 200 literature references, and 19 pages of drawings and maps.

This book explores mathematics in a wide variety of applications, ranging from problems in electronics, energy and the environment, to mechanics and mechatronics. The book gathers 81 contributions submitted to the 20th European Conference on Mathematics for Industry, ECMI 2018, which was held in Budapest, Hungary in June 2018. The application areas include: Applied Physics, Biology and Medicine, Cybersecurity, Data Science, Economics, Finance and Insurance, Energy, Production Systems, Social Challenges, and Vehicles and Transportation. In turn, the mathematical technologies discussed include: Combinatorial Optimization, Cooperative Games, Delay Differential Equations, Finite Elements, Hamilton-Jacobi Equations, Impulsive Control, Information Theory and Statistics, Inverse Problems, Machine Learning, Point Processes, Reaction-Diffusion Equations, Risk Processes, Scheduling Theory, Semidefinite Programming, Stochastic Approximation, Spatial Processes, System Identification, and Wavelets. The goal of the European Consortium for Mathematics in Industry (ECMI) conference series is to promote interaction between academia and industry, leading to innovations in both fields. These events have attracted leading experts from business, science and academia, and have promoted the application of novel mathematical technologies to industry. They have also encouraged industrial sectors to share challenging problems where mathematicians can provide fresh insights and perspectives. Lastly, the ECMI conferences are one of the main forums in which significant advances in industrial mathematics are presented, bringing together prominent figures from business, science and academia to promote the use of innovative mathematics in industry.

A comprehensive mathematical and computational modeling of CO2 Geosequestration and environment are two interrelated issues of great concern to modern civilization. As the world population will soon reach eight billion, the demand for energy will dramatically increase, intensifying the use of fossil fuels. Ut

Proceedings

29th European Symposium on Computer Aided Chemical Engineering

Productivity and Injectivity of Horizontal Wells

Extended Abstracts Book: Poster presentations

ICIEPG 2016

Understanding Reservoir Behavior