

Petroleum Engineering Lecture Notes

Successfully estimate risk and reliability, and produce innovative, yet reliable designs using the approaches outlined in *Offshore Structural Engineering: Reliability and Risk Assessment*. A hands-on guide for practicing professionals, this book covers the reliability of offshore structures with an emphasis on the safety and reliability of offshore facilities during analysis, design, inspection, and planning. Since risk assessment and reliability estimates are often based on probability, the author utilizes concepts of probability and statistical analysis to address the risks and uncertainties involved in design. He explains the concepts with clear illustrations and tutorials, provides a chapter on probability theory, and covers various stages of the process that include data collection, analysis, design and construction, and commissioning. In addition, the author discusses advances in geometric structural forms for deep-water oil exploration, the rational treatment of uncertainties in structural engineering, and the safety and serviceability of civil engineering and other offshore structures. An invaluable guide to innovative and reliable structural design, this book:

- Defines the structural reliability theory
- Explains the reliability analysis of structures
- Examines the reliability of offshore structures
- Describes the probabilistic distribution for important loading variables
- Includes methods of reliability analysis
- Addresses risk assessment and more

Offshore Structural Engineering:

Online Library Petroleum Engineering Lecture Notes

Reliability and Risk Assessment provides an in-depth analysis of risk analysis and assessment and highlights important aspects of offshore structural reliability. The book serves as a practical reference to engineers and students involved in naval architecture, ocean engineering, civil/structural, and petroleum engineering. This book details the analytical processes, and interpretation of the resulting data, needed in order to achieve a comprehensive source-rock evaluation of organic-rich shales. The authors employ case studies on Permian and Cretaceous shales from various Indian basins and other petroleum-bearing basins around the world to illustrate the key features of their organic-rich shale characterization methodology. These case studies may also help to identify potential zones within shale formations that could be exploited for commercial gas and/or oil production. Given its scope, the book will be of interest to all researchers working in the field of source-rock analysis. In addition, the source-rock evaluation techniques – and the various intricacies associated with them – discussed here offer valuable material for postgraduate geology courses.

This book covers several aspects of reservoir management, from initial analysis to enhanced recovery methods, simulation, and history matching. Split into four parts, part one provides readers with an introduction to the physical properties of reservoir rocks. Part two provides an introduction to enhanced recovery methods used for conventional oil production. Part three shows how numerical methods can be used to simulate the behaviour of oil and gas reservoirs. Finally, part four

Online Library Petroleum Engineering Lecture Notes

looks at history matching of reservoirs through the building of numerical models using past data, in order to provide best practice for future reservoir development and management. Written as the third volume in the Imperial College Lectures in Petroleum Engineering, and based on lectures that have been given in the world-renowned Imperial College Masters Course in Petroleum Engineering, Topics in Reservoir Management provides the basic information needed for students and practitioners of petroleum engineering and petroleum geoscience. Contents: Introduction to Rock Properties (Robert W Zimmerman) Introduction to Enhanced Recovery Processes for Conventional Oil Production (Samuel C Krevor and Ann H Muggerridge) Numerical Simulation (Dave Waldren) History Matching (Deryck Bond) Readership: Students of the petroleum engineering, earth sciences, engineering and geoscience. Keywords: Rock Properties; Reservoir Modelling; History Matching; Reservoirs; Oil; Geoscience; Geology; Petroleum Engineering Review: 0

Drilling and production wells are becoming more digitalized as oil and gas companies continue to implement machine learning and big data solutions to save money on projects while reducing energy and emissions. Up to now there has not been one cohesive resource that bridges the gap between theory and application, showing how to go from computer modeling to practical use. Methods for Petroleum Well Optimization: Automation and Data Solutions gives today's engineers and researchers real-time data

Online Library Petroleum Engineering Lecture Notes

solutions specific to drilling and production assets. Structured for training, this reference covers key concepts and detailed approaches from mathematical to real-time data solutions through technological advances. Topics include digital well planning and construction, moving teams into Onshore Collaboration Centers, operations with the best machine learning (ML) and metaheuristic algorithms, complex trajectories for wellbore stability, real-time predictive analytics by data mining, optimum decision-making, and case-based reasoning. Supported by practical case studies, and with references including links to open-source code and fit-for-use MATLAB, R, Julia, Python and other standard programming languages, *Methods for Petroleum Well Optimization* delivers a critical training guide for researchers and oil and gas engineers to take scientifically based approaches to solving real field problems. Bridges the gap between theory and practice (from models to code) with content from the latest research developments supported by practical case study examples and questions at the end of each chapter Enables understanding of real-time data solutions and automation methods available specific to drilling and production wells, such as digital well planning and construction through to automatic systems Promotes the use of open-source code which will help companies, engineers, and researchers develop their prediction and analysis software more quickly; this is especially appropriate in the application of multivariate techniques to the real-world problems of petroleum well optimization This book presents guidelines for the design, operation

Online Library Petroleum Engineering Lecture Notes

and monitoring of CO₂ injection in fractured carbonates, with low permeability in the rock matrix, for geological storage in permanent trapping. CO₂ migration is dominated by fractures in formations where the hydrodynamic and geochemical effects induced by the injection play a key role influencing the reservoir behavior. CO₂ injection in these rocks shows specific characteristics that are different to injection in porous media, as the results from several research studies worldwide reveal. All aspects of a project of this type are discussed in this text, from the drilling to the injection, as well as support works like well logging, laboratory and field tests, modeling, and risk assessment. Examples are provided, lesson learned is detailed, and conclusions are drawn. This work is derived from the experience of international research teams and particularly from that gained during the design, construction and operation of Hontomín Technology Development Plant. Hontomín research pilot is currently the only active onshore injection site in the European Union, operated by Fundación Ciudad de la Energía-CIUDEN F.S.P. and recognized by the European Parliament as a key test facility. The authors provide guidelines and tools to enable readers to find solutions to their problems. The book covers activities relevant to a wide range of practitioners involved in reservoir exploration, modeling, site operation and monitoring. Fluid injection in fractured media shows specific features that are different than injection in porous media, influencing the reservoir behavior and defining conditions for safe and efficient operation. Therefore, this book is also useful to

Online Library Petroleum Engineering Lecture Notes

professionals working on oil & gas, hydrogeology and geothermal projects, and in general for those whose work is related to activities using fluid injection in the ground.

This book covers the principles, historical development, and applications of many acoustic logging methods, including acoustic logging-while-drilling and cased-hole logging methods. Benefiting from the rapid development of information technology, the subsurface energy resource industry is moving toward data integration to increase the efficiency of decision making through the use of advanced big data and artificial intelligence technologies, such as machine/deep learning. However, wellbore failure may happen if evaluations of risk and infrastructure are made using data mining methods without a complete understanding of the physics of borehole measurements. Processed results from borehole acoustic logging will constitute part of the input data used for data integration. Therefore, to successfully employ modern techniques for data assimilation and analysis, one must fully understand the complexity of wave mode propagation, how such propagation is influenced by the well, and the materials placed within the well (i.e., the cement, casing, and drill strings), and ultimately how waves penetrate into and are influenced by geological formations. State-of-the-art simulation methods, such as the discrete wavenumber integration method (DWM) and the finite difference method (FDM), are introduced to tackle the numerical challenges associated with models containing large material contrasts, such as the contrasts between borehole fluids

Online Library Petroleum Engineering Lecture Notes

and steel casings. Waveforms and pressure snapshots are shown to help the reader understand the wavefields under various conditions. Advanced data processing methods, including velocity analyses within the time and frequency domains, are utilized to extract the velocities of different modes. Furthermore, the authors discuss how various formation parameters influence the waveforms recorded in the borehole and describe the principles of both existing and potential tool designs and data acquisition schemes. This book greatly benefits from the research and knowledge generated over four decades at the Earth Resources Laboratory (ERL) of the Massachusetts Institute of Technology (MIT) under its acoustic logging program. Given its scope, the book is of interest to geophysicists (including borehole geophysicists and seismologists), petrophysicists, and petroleum engineers who are interested in formation evaluation and cementation conditions. In addition, this book is of interest to researchers in the acoustic sciences and to 4th-year undergraduate and postgraduate students in the areas of geophysics and acoustical physics.

This book presents a consistent methodology for making decisions under uncertain conditions, as is almost always the case. Tools such as value of information and value of flexibility are explored as a means to make more complex and nuanced decisions. The book develops the complete formalism for assessing the value of acquiring information with two novel approaches. Firstly, it integrates the fuzzy characteristics of data, and secondly develops a methodology for assessing data acquisition actions that optimize the value of projects from a holistic perspective. The book also

Online Library Petroleum Engineering Lecture Notes

discusses the formalism for including flexibility in the project decision assessment. Practical examples of oil- and gas-related decision problems are included and discussed to facilitate the learning process. This book provides valuable advice and case studies applicable to engineers, researchers, and graduate students, particularly in the oil and gas industry and pharmaceutical industry.

This book covers different aspects of gas injection, from the classic pressure maintenance operation to enhanced oil recovery (EOR), underground gas storage (UGS), and carbon capture and storage (CCS). The authors detail the unique characteristics and specific criteria of each application, including: material balance equations phase behaviour reservoir engineering well design operating aspects surface facilities environmental issues Examples, data, and simulation codes are provided to enable the reader to gain an in-depth understanding of these applications. Fundamentals and Practical Aspects of Gas Injection will be of use to practising engineers in the fields of reservoir engineering, and enhanced oil recovery. It will also be of interest to researchers, academics, and graduate students working in the field of petroleum engineering.

The past decade has seen remarkable growth in research related to petroleum reservoir simulation. This growth reflects several developments, not the least of which is the increased interest in oil recovery technologies requiring sophisticated engineering. Augmenting this interest has been the broader availability of supercomputers capable of handling the tremendous computational demands of a typical reservoir simulator. The field of reservoir simulation incorporates several major facets of applied mathematics. First, in view of the variety and complexity of the processes encountered, it is imperative that the modeler adopt a systematic approach to establishing the equations governing reservoir flows. Second,

Online Library Petroleum Engineering Lecture Notes

the mathematical structure of these flow equations needs to be carefully analyzed in order to develop appropriate and efficient numerical methods for their solution. Third, since some aspects of the discretized flow equations are typically stiff, one must develop efficient schemes for solving large sparse systems of linear equations. This monograph has three parts, each devoted to one of these three aspects of reservoir modeling. The text grew out of a set of lectures presented by the authors in the autumn of 1986 at the IBM Scientific Center in Bergen, Norway. We feel that it is only appropriate to caution the reader that many of the ideas that we present in this monograph do not reflect standard approaches in petroleum reservoir simulation. In fact, our aim is to outline promising new ways of attacking reservoir simulation problems, rather than to compile another textbook for the mainstream.

This book covers the fundamentals of reservoir engineering in the recovery of hydrocarbons from underground reservoirs. It provides a comprehensive introduction to the topic, including discussion of recovery processes, material balance, fluid properties and fluid flow. It also contains details of multiphase flow, including pore-scale displacement processes and their impact on relative permeability, with a presentation of analytical solutions to multiphase flow equations. Created specifically to aid students through undergraduate and graduate courses, this book also includes exercises with worked solutions, and examples of previous exam papers for further guidance and practice. As part of the Imperial College Lectures in Petroleum Engineering, and based on a lecture series on the same topic, Reservoir Engineering provides the introductory information needed for students of the earth sciences, petroleum engineering, engineering and geoscience.

This book shares the technical knowhow in the field of health,

Online Library Petroleum Engineering Lecture Notes

safety and environmental management, as applied to oil and gas industries and explains concepts through a simple and straightforward approach Provides an overview of health, safety and environmental (HSE) management as applied to offshore and petroleum engineering Covers the fundamentals of HSE and demonstrates its practical application Includes industry case studies and examples based on the author's experiences in both academia and oil and gas industries Presents recent research results Includes tutorials and exercises

This book gathers the latest advances, innovations, and applications in the field of computational geomechanics, as presented by international researchers and engineers at the 16th International Conference of the International Association for Computer Methods and Advances in Geomechanics (IACMAG 2020/21). Contributions include a wide range of topics in geomechanics such as: monitoring and remote sensing, multiphase modelling, reliability and risk analysis, surface structures, deep structures, dams and earth structures, coastal engineering, mining engineering, earthquake and dynamics, soil-atmosphere interaction, ice mechanics, landfills and waste disposal, gas and petroleum engineering, geothermal energy, offshore technology, energy geostructures, geomechanical numerical models and computational rail geotechnics.

Lecture notes for fundamentals of reservoir engineering by Ben H. Caudle Lecture Notes for Fundamentals of Reservoir Engineering. Part II Lecture Notes for Fundamentals of Reservoir Engineering Lecture Notes for Fundamentals of Reservoir Engineering Imperial College Lectures In Petroleum Engineering, The - Volume 5: Fluid Flow

Online Library Petroleum Engineering Lecture Notes

In Porous MediaWorld Scientific

This book details the major artificial lift methods that can be applied to hydrocarbon reservoirs with declining pressure. These include: the sucker rod pump, gas lift, electrical submersible pump, progressive cavity pump, and plunger lift. The design and applications, as well as troubleshooting, are discussed for each method, and examples, exercises and design projects are provided in order to support the concepts discussed in each chapter. The problems associated with oil recovery in horizontal wells are also explored, and the author proposes solutions to address the various extraction challenges that these wells present. The book represents a timely response to the difficulties associated with unconventional oil sources and declining wells, offering a valuable resource for students of petroleum engineering, as well as hydrocarbon recovery researchers and practicing engineers in the petroleum industry.

This book presents, in a self-contained form, the equations of fluid flow in porous media, with a focus on topics and issues that are relevant to petroleum reservoir engineering. No prior knowledge of the field is assumed on the part of the reader, and particular care is given to careful mathematical and conceptual development of the governing equations, and solutions for important reservoir flow problems. Fluid Flow in Porous Media starts with a discussion of

Online Library Petroleum Engineering Lecture Notes

permeability and Darcy's law, then moves on to a careful derivation of the pressure diffusion equation. Solutions are developed and discussed for flow to a vertical well in an infinite reservoir, in reservoirs containing faults, in bounded reservoirs, and to hydraulically fractured wells. Special topics such as the dual-porosity model for fractured reservoirs, and fluid flow in gas reservoirs, are also covered. The book includes twenty problems, along with detailed solutions. As part of the Imperial College Lectures in Petroleum Engineering, and based on a lecture series on the same topic, this book provides the introductory information needed for students of the petroleum engineering and hydrology.

Mitigation of Gas Pipeline Integrity Problems presents the methodology to enable engineers, experienced or not, to alleviate pipeline integrity problems during operation. It explains the principal considerations and establishes a common approach in tackling technical challenges that may arise during gas production. Covers third-party damage, corrosion, geotechnical hazards, stress corrosion cracking, off-spec sales gas, improper design or material selection, as-built flaws, improper operations, and leak and break detection Details various hazard mitigation options Offers tested concepts of pipeline integrity blended with recent research results, documented in a scholarly fashion to make it simple to the average reader This

Online Library Petroleum Engineering Lecture Notes

practical work serves the needs of advanced students, researchers, and professionals working in pipeline engineering and petrochemical industries. The TDS technique is a practical, easy, and powerful tool for well test interpretation. It uses characteristic features and points found on the pressure derivative versus time plot, so that reservoir parameters can be easily calculated by using several analytic expressions. Most calculations can be verified more than once and applied to systems where the conventional straight-line method has no applications. This book deals with well tests run in elongated systems, partially completed/penetrated wells, multirate tests, hydraulically fractured wells, interference tests, and naturally fractured reservoirs. This technique is used in all commercial well-testing software. Its use is the panacea for well test interpretation and can also be extended to rate-transient analysis, although not shown here. This book provides a clear and basic understanding of the concept of reservoir engineering to professionals and students in the oil and gas industry. The content contains detailed explanations of key theoretic and mathematical concepts and provides readers with the logical ability to approach the various challenges encountered in daily reservoir/field operations for effective reservoir management. Chapters are fully illustrated and contain numerous calculations involving the

Online Library Petroleum Engineering Lecture Notes

estimation of hydrocarbon volume in-place, current and abandonment reserves, aquifer models and properties for a particular reservoir/field, the type of energy in the system and evaluation of the strength of the aquifer if present. The book is written in oil field units with detailed solved examples and exercises to enhance practical application. It is useful as a professional reference and for students who are taking applied and advanced reservoir engineering courses in reservoir simulation, enhanced oil recovery and well test analysis.

Six years ago, at the end of my professional career in the oil industry, I left my management position within Agip S.p.A., a major multinational oil company whose headquarters are in Italy, to take up the chair in reservoir engineering at the University of Bologna, Italy. There, I decided to prepare what was initially intended to be a set of lecture notes for the students attending the course. However, while preparing these notes, I became so absorbed in the subject matter that I soon found myself creating a substantial volume of text which could not only serve as a university course material, but also as a reference for wider professional applications. Thanks to the interest shown by the then president of Agip, Ing. Giuseppe Muscarella, this did indeed culminate in the publication of the first Italian edition of this book in 1989. The translation into English and publication of these volumes owes much to the encouragement

Online Library Petroleum Engineering Lecture Notes

of the current president of Agip, Ing. Guglielmo Moscato. My grateful thanks are due to both gentlemen. And now - the English version, translated from the second Italian edition, and containing a number of revisions and much additional material. As well as providing a solid theoretical basis for the various topics, this work draws extensively on my 36 years of worldwide experience in the development and exploitation of oil and gas fields.

This interdisciplinary book encompasses the fields of rock mechanics, structural geology and petroleum engineering to address a wide range of geomechanical problems that arise during the exploitation of oil and gas reservoirs. It considers key practical issues such as prediction of pore pressure, estimation of hydrocarbon column heights and fault seal potential, determination of optimally stable well trajectories, casing set points and mud weights, changes in reservoir performance during depletion, and production-induced faulting and subsidence.

The book establishes the basic principles involved before introducing practical measurement and experimental techniques to improve recovery and reduce exploitation costs. It illustrates their successful application through case studies taken from oil and gas fields around the world. This book is a practical reference for geoscientists and engineers in the petroleum and geothermal industries, and for research scientists interested in stress

Online Library Petroleum Engineering Lecture Notes

measurements and their application to problems of faulting and fluid flow in the crust.

This short monograph focuses on the theoretical backgrounds and practical implementations concerning the thermodynamic modeling of multiphase equilibria of complex reservoir fluids using cubic equations of state. It aims to address the increasing needs of multiphase equilibrium calculations that arise in the compositional modeling of multiphase flow in reservoirs and wellbores. It provides a state-of-the-art coverage on the recent improvements of cubic equations of state.

Considering that stability test and flash calculation are two basic tasks involved in any multiphase equilibrium calculations, it elaborates on the rigorous mathematical frameworks dedicated to stability test and flash calculation. A special treatment is given to the new algorithms that are recently developed to perform robust and efficient three-phase equilibrium calculations. This monograph will be of value to graduate students who conduct research in the field of phase behavior, as well as software engineers who work on the development of multiphase equilibrium calculation algorithms.

Some vols., 1920-1949, contain collections of papers according to subject.

Jackups, semisubmersibles and drillships are the marine vessels used to drill offshore wells and are referred to collectively as mobile offshore drilling

Online Library Petroleum Engineering Lecture Notes

units (MODUs). MODUs are supplied through newbuild construction and operate throughout the world in highly competitive regional markets. The Offshore Drilling Industry and Rig Construction Market in the Gulf of Mexico examines the global MODU service and construction industry and describes the economic impacts of rig construction in the United States. The industrial organization and major players in the contract drilling and construction markets are described and categorized. Dayrates in the contract drilling market are evaluated and hypotheses regarding dayrate factors are tested. Models of contractor decision-making are developed, including a net-present value model of newbuilding investment and stacking decisions, and market capitalization models are derived. Jackup construction shipyards and processes are reviewed along with estimates of labor, equipment, and material cost in U.S. construction. Derivation of newbuild and replacement cost functions completes the treatise. The comprehensive and authoritative coverage of The Offshore Drilling Industry and Rig Construction Market in the Gulf of Mexico makes it an ideal reference for engineers, industry professionals, policy analysts, government regulators, academics and other readers wanting to learn more about this important and fascinating industry.

"This book is fast becoming the standard text in its

Online Library Petroleum Engineering Lecture Notes

field", wrote a reviewer in the Journal of Canadian Petroleum Technology soon after the first appearance of Dake's book. This prediction quickly came true: it has become the standard text and has been reprinted many times. The author's aim - to provide students and teachers with a coherent account of the basic physics of reservoir engineering - has been most successfully achieved. No prior knowledge of reservoir engineering is necessary. The material is dealt with in a concise, unified and applied manner, and only the simplest and most straightforward mathematical techniques are used. This low-priced paperback edition will continue to be an invaluable teaching aid for years to come.

A rich literature exists on computational methods based on wave equations for seismic imaging and earth-parameter estimation. Somewhat lost in the advance to progressively more sophisticated computational techniques are the intuitive ideas with roots that reach back to Hagedoorn and are based on ray theory, the geometry of data, and the geometry of wave propagation. In Seismic True-Amplitude Imaging (SEG Geophysical Developments Series No. 12), the authors describe their research of many years, demonstrating that those simple ideas also lead to a broad description of the structure of the earth's interior and the changes in medium parameters across reflectors.

Demonstrations in the open literature of the efficacy

Online Library Petroleum Engineering Lecture Notes

of their methods abound. Now those ideas have been collected and reorganized. The book gives a pictorial presentation of the basic principles of Kirchhoff-type imaging and proceeds to a comprehensive treatment of its kinematic and dynamic aspects. The text is a valuable addition to the library of anyone interested in the theory and practices of seismic data processing for imaging and parameter estimation with all its attendant processes.

This book covers the fundamentals of the earth sciences and examines their role in controlling the global occurrence and distribution of hydrocarbon resources. It explains the principles, practices and the terminology associated with the upstream sector of the oil industry. Key topics include a look at the elements and processes involved in the generation and accumulation of hydrocarbons and demonstration of how geological and geophysical techniques can be applied to explore for oil and gas. There is detailed investigation into the nature and chemical composition of petroleum, and of surface and subsurface maps, including their construction and uses in upstream operations. Other topics include well-logging techniques and their use in determining rock and fluid properties, definitions and classification of resources and reserves, conventional oil and gas reserves, their quantification and global distribution as well as

Online Library Petroleum Engineering Lecture Notes

unconventional hydrocarbons, their worldwide occurrence and the resources potentially associated with them. Finally, practical analysis is concentrated on the play concept, play maps, and the construction of petroleum events charts and quantification of risk in exploration ventures. As the first volume in the Imperial College Lectures in Petroleum Engineering, and based on a lecture series on the same topic, *An Introduction to Petroleum Geoscience* provides the introductory information needed for students of the earth sciences, petroleum engineering, engineering and geoscience. This volume also includes an introduction to the series by Martin Blunt and Alain Gringarten, of Imperial College London.

This book addresses a range of basic and essential topics, selected from the author's teaching and research activities, offering a comprehensive guide in three parts: Statics, Kinematics and Kinetics.

Chapter 1 briefly discusses the history of classical and modern mechanics, while Chapter 2, presents preliminary knowledge, preparing readers for the subsequent chapters. Chapters 3 to 7 introduce statics, force analysis, simplification of force groups, equilibrium of the general coplanar force group, and the center of the parallel force group. The Kinematics section (Chapters 8 to 10), covers the motion of a particle, basic motion and planar motion of a rigid body. Lastly, the Kinetics section (Chapters 11 to 14) explores Newton's law of motion, theorem

Online Library Petroleum Engineering Lecture Notes

of momentum, theorem of angular momentum, and theorem of kinetic energy. With numerous examples from engineering, illustrations, and step-by-step tutorials, the book is suitable for both classroom use and self-study. After completing the course, students will be able to simplify complex engineering structures and perform force and motion analyses on particles and structures, preparing them for further study and research. The book can be used as a textbook for undergraduate courses on fundamental aspects of theoretical mechanics, such as aerospace, mechanical engineering, petroleum engineering, automotive and civil engineering, as well as material science and engineering.

Hardcover plus CD

This edited book explores the use of surfactants in upstream exploration and production (E&P). It provides a molecular, mechanistic and application-based approach to the topic, utilising contributions from the leading researchers in the field of organic surfactant chemistry and surfactant chemistry for upstream E&P. The book covers a wide range of problems in enhanced oil recovery and surfactant chemistry which have a large importance in drilling, fracking, hydrate inhibition and conformance. It begins by discussing the fundamentals of surfactants and their synthesis. It then moves on to present their applicability to a variety of situations such as gas injections, shale swelling inhibition, and acid

Online Library Petroleum Engineering Lecture Notes

stimulation. This book presents research in an evolving field, making it interesting to academics, postgraduate students, and experts within the field of oil and gas.

This book presents selected papers from the 4th International Conference on Mechanical, Manufacturing and Plant Engineering (ICMMPE 2018), which was held in Melaka, Malaysia from the 14th to the 15th of November 2018. The proceedings discuss genuine problems concerning joining technologies that are at the heart of various manufacturing sectors. In addition, they present the outcomes of experimental and numerical works addressing current problems in soldering, arc welding and solid-state joining technologies.

[Copyright: 0672a2eef1120a7c9390176f5471bf89](#)