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in Transportation Handbook of Research on Promoting Sustainable Public Transportation Strategies in Urban Environments **Proceedings of the 7th International Conference on Advances in Energy Research** The Decoding the Disciplines Paradigm **Weather Modeling and Forecasting of PV Systems Operation** *SOFSEM 2021: Theory and Practice of Computer Science* **Combined Cooling, Heating, and Power Systems** Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead *Methods and Applications for Modeling and Simulation of Complex Systems* **Handbook of Engineering Hydrology** Water Management Models in Practice Financial Modeling for Business Owners and Entrepreneurs **Conceptual Modeling for Discrete-Event Simulation The Complete Business Process Handbook Corporate and Project Finance Modeling COMMON FUNDAMENTALS AND UNIT OPERATIONS IN THERMAL DESALINATION SYSTEMS - Volume II A National Strategy for Advancing Climate Modeling Modeling and Simulation Support for System of Systems Engineering Applications Smarter Modeling of IBM InfoSphere Master Data Management Solutions**

Bringing together an international group of researchers involved in military, business, and health modeling and simulation, Conceptual Modeling for Discrete-Event Simulation presents a comprehensive view of the current state of the art in the field. The book addresses a host of issues, including: What is a conceptual model? How is conceptual modeling performed in general and in specific modeling domains? What is the role of established approaches in conceptual modeling? Each of the book's six parts focuses on a different aspect of conceptual modeling

for simulation. The first section discusses the purpose and requirements of a conceptual model. The next set of chapters provides frameworks and tools for conceptual modeling. The book then describes the use of soft systems methodology for model structuring as well as the application of software engineering methods and tools for model specification. After illustrating how conceptual modeling is adopted in the military and semiconductor manufacturing, the book concludes with a discussion on future research directions. This volume offers a broad, multifaceted account of the field by presenting diverse perspectives on what conceptual modeling entails. It also provides a basis upon which these perspectives can be compared. This book contains an abundance of numerical analyses based on significant data sets, illustrating importance of environmentally friendly solutions requiring transport networks to be redesigned or clean zones to be implemented. What kind of steps should be taken to redesign transport network? How to evaluate efficiency or flexibility of transport system and city logistics? What factors can be taken into account in the process of optimizing the functioning of public transport or paid parking zones? How to optimize supply chains (including last mile delivering and routing problem)? Which of the multi-criteria methods should be applied to support decision making processes while tackling problems of global transport systems? Answers to these and many other questions can be found in this book.With regard to the research results discussed and the selected solutions applied, the book entitled "Decision support methods in modern transportation systems and networks" primarily addresses the needs of three target groups: · Scientists and researchers (ITS field) · Local authorities (responsible for the transport systems at the urban

and regional level) · Representatives of business (traffic strategy management) and industry (manufacturers of ITS components). M. Silva Significant changes have been occurring in industrialized countries since the Second World War. Production is moving towards sophisticated high qUality products, economy of scale has been replaced by economy of scope, jerky demands are progressively replacing steady demands, and competi tiveness is becoming a worldwide phenomenon. These trends require highly automated manufacturing systems with small set-up times and high flex ibility. As a consequence, implementation and running costs of modem manufacturing systems are drastically increasing, whereas their fields of application remain limited, and every day become even narrower, which increases the risk of early obsolescence. This is the reason why designers are trying to improve the preliminary design phase, also known as the 'paper study phase'. The preliminary design phase includes, but is not limited to, the func tional specification, and the evaluation of the system. Many tools exist to support the functional specification of manufactur ing systems. IDEFO is one of these tools. It leads, using a top-down ap proach, to a precise functional description of the required system. However, its use cannot be extended further. In general, the evaluation starts with a modeling step, which depends on the evaluation tool used, and ends by applying the model to find out its main dynamic characteristics. Two main approaches can be used to perform this task, namely simulation and math ematical approach. Using simulation, the modeling tool is either a classical computer language, or a simulation language. Quantitative Methods in Transportation provides the most useful, simple, and advanced quantitative techniques for solving real-life

transportation engineering problems. It aims to help transportation engineers and analysts to predict travel and freight demand, plan new transportation networks, and develop various traffic control strategies that are safer, more cost effective, and greener. Transportation networks can be exceptionally large, and this makes many transportation problems combinatorial, and the challenges are compounded by the stochastic and independent nature of trip-planners decision making. Methods outlined in this book range from linear programming, multi-attribute decision making, data envelopment analysis, probability theory, and simulation to computer techniques such as genetic algorithms, simulated annealing, tabu search, ant colony optimization, and bee colony optimization. The book is supported with problems and has a solutions manual to aid course instructors. A comprehensive review of state-of-the-art CCHP modeling, optimization, and operation theory and practice This book was written by an international author team at the forefront of combined cooling, heating, and power (CCHP) systems R&D. It offers systematic coverage of state-of-the-art mathematical modeling, structure optimization, and CCHP system operation, supplemented with numerous illustrative case studies and examples. CCHP systems are an exciting emerging energy technology offering significant economic and environmental benefits. Combined Cooling, Heating, and Power Systems: Modelling, Optimization, and Operation is a timely response to ongoing efforts to maximize the efficiency of that technology. It begins with a survey of CCHP systems from the technological and societal perspectives, offering readers a broad and stimulating overview of the field. It then digs down into topics crucial for optimal CCHP operation. Discussions of each topic are carefully structured,

walking readers from introduction and background to technical details. A set of new methodologies for the modeling, optimization and control of CCHP systems are presented within a unified framework. And the authors demonstrate innovative solutions to a variety of CCHP systems problems using new approaches to optimal power flow, load forecasting, and system operation design. Provides a comprehensive review of state-of-the-art of CCHP system development Presents new methodologies for mathematical modeling, optimization, and advanced control Combines theoretical rigor with real-world application perspectives Features numerous examples demonstrating an array of new design strategies Reflects the combined experience of veteran researchers in the field whose contributions are well recognized within the energy community Offers excellent background reading for students currently enrolled in the growing number of courses on energy systems at universities worldwide Timely, authoritative, and offering a balanced presentation of theory and practice, Combined Cooling, Heating, and Power Systems: Modelling, Optimization, and Operation is a valuable resource forresearchers, design practitioners, and graduate students in the areas of control theory, energy management, and energy systems design. This book presents selected papers from the 7th International Conference on Advances in Energy Research (ICAER 2019), providing a comprehensive coverage encompassing all fields and aspects of energy in terms of generation, storage, and distribution. Themes such as optimization of energy systems, energy efficiency, economics, management, and policy, and the interlinkages between energy and environment are included. The contents of this book will be of use to researchers and policy makers

alike. These volumes are part of Encyclopedia of Water Sciences, Engineering and Technology Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. The three volumes present state-of-the art subject matter of various aspects of Common Fundamentals and Unit Operations in Thermal Desalination Systems such as: Conventional Water Treatment Technologies; Guidelines for Potable Water Purification; Advanced Treatment Technologies for Recycle - Reuse of Domestic Wastewater; Composition of Desalinated Water; Crystallization; Deep Bed Filtration: Modeling Theory and Practice; Distillation ; Rectification; Flocculation and Flocculation Filtration; Hazardous Waste Treatment Technologies; Microfiltration and Ultrafiltration; Post-Treatment of Distillate and Permeate; Pre-Cleaning Measures: Filtration; Raw Water Pre-Treatment: Sludge Treatment Technologies; Supercritical Extraction; Potential for Industrial Wastewater Reuse; Treatment of Industrial Wastewater by Membrane Bioreactors; Unconventional Sources of Water Supply; Problem of Non-Condensable Gas Release in Evaporators; Entrainment in Evaporators; Mist Eliminators; Chemical Hazards in Seawater Desalination by the Multistage-Flash Evaporation Technique; Concentration of Liquid Foods; Environmental Impact of Seawater Desalination Plants; Environmental Impacts of Intakes and Out Falls; Industrial Ecology, Water Resources, and Desalination; Rural and Urban Water Supply and Sanitation; Sustainable Development, Water Supply and Sanitation Technology These volumes are aimed at the following five major target audiences: University and College Students Educators, Professional Practitioners, Research Personnel and Policy

and Decision Makers. As climate change has pushed climate patterns outside of historic norms, the need for detailed projections is growing across all sectors, including agriculture, insurance, and emergency preparedness planning. A National Strategy for Advancing Climate Modeling emphasizes the needs for climate models to evolve substantially in order to deliver climate projections at the scale and level of detail desired by decision makers, this report finds. Despite much recent progress in developing reliable climate models, there are still efficiencies to be gained across the large and diverse U.S. climate modeling community. Evolving to a more unified climate modeling enterprise-in particular by developing a common software infrastructure shared by all climate researchers and holding an annual climate modeling forum-could help speed progress. Throughout this report, several recommendations and guidelines are outlined to accelerate progress in climate modeling. The U.S. supports several climate models, each conceptually similar but with components assembled with slightly different software and data output standards. If all U.S. climate models employed a single software system, it could simplify testing and migration to new computing hardware, and allow scientists to compare and interchange climate model components, such as land surface or ocean models. A National Strategy for Advancing Climate Modeling recommends an annual U.S. climate modeling forum be held to help bring the nation's diverse modeling communities together with the users of climate data. This would provide climate model data users with an opportunity to learn more about the strengths and limitations of models and provide input to modelers on their needs and provide a venue for discussions of priorities for the national modeling enterprise, and bring

disparate climate science communities together to design common modeling experiments. In addition, A National Strategy for Advancing Climate Modeling explains that U.S. climate modelers will need to address an expanding breadth of scientific problems while striving to make predictions and projections more accurate. Progress toward this goal can be made through a combination of increasing model resolution, advances in observations, improved model physics, and more complete representations of the Earth system. To address the computing needs of the climate modeling community, the report suggests a two-pronged approach that involves the continued use and upgrading of existing climate-dedicated computing resources at modeling centers, together with research on how to effectively exploit the more complex computer hardware systems expected over the next 10 to 20 years. This volume constitutes the proceedings of the 11th IFIP WG 8.1 Conference on the Practice of Enterprise Modeling held in October/November 12018 in Vienna, Austria. The conference was created by the International Federation for Information Processing (IFIP) Working Group 8.1 to offer a forum for knowledge transfer and experience sharing between the academic and practitioner communities. The 21 full papers and 5 short papers accepted were carefully reviewed and selected from 64 submissions. They are grouped by the following topics: business process modeling, model derivation; collaboration modeling; reviews and analyses of modeling methods; semantics and reasoning, experience reports; and teaching challenges. The increasing popularity of online shopping makes Internet retailing a megatrend that cannot be ignored. The collaboration of two co-authors bringing academic rigor and broad consulting experience into the mix, Internet Retail

Operations: Integrating Theory and Practice for Managers offers enduring insights on operational issues and principles for the management of internet supply chains. Covering a range of emerging issues supported by a variety of case studies, the book details the evolution of information technology's role in retail supply chain networks, its impact on supply chain networks, and how this has changed service operations. It addresses information technology in relation to service and retail industries, then explores how supply chain dynamics impact traditional service and retail delivery, the costs involved, and customer satisfaction and loyalty. It includes tables, vignettes, and graphs that make the content practical and relevant. As you will learn, many attempts at internet retail do not succeed, some because they fail to appreciate the fundamentals, others may have simply been ahead of their time. Many years of experimentation and growth lie ahead. Drawing equally on theory, research results, and real-world experience, the book provides strategies for overcoming the challenges of building operations capability in the evolving world of Internet retailing. "…a much-needed handbook with contributions from well-chosen practitioners. A primary accomplishment is to provide guidance for those involved in modeling and simulation in support of Systems of Systems development, more particularly guidance that draws on well-conceived academic research to define concepts and terms, that identifies primary challenges for developers, and that suggests fruitful approaches grounded in theory and successful examples." Paul Davis, The RAND Corporation Modeling and Simulation Support for System of Systems Engineering Applications provides a comprehensive overview of the underlying theory, methods, and solutions in modeling and simulation support for system of systems

engineering. Highlighting plentiful multidisciplinary applications of modeling and simulation, the book uniquely addresses the criteria and challenges found within the field. Beginning with a foundation of concepts, terms, and categories, a theoretical and generalized approach to system of systems engineering is introduced, and real-world applications via case studies and examples are presented. A unified approach is maintained in an effort to understand the complexity of a single system as well as the context among other proximate systems. In addition, the book features: Cutting edge coverage of modeling and simulation within the field of system of systems, including transportation, system health management, space mission analysis, systems engineering methodology, and energy State-of-the-art advances within multiple domains to instantiate theoretic insights, applicable methods, and lessons learned from real-world applications of modeling and simulation The challenges of system of systems engineering using a systematic and holistic approach Key concepts, terms, and activities to provide a comprehensive, unified, and concise representation of the field A collection of chapters written by over 40 recognized international experts from academia, government, and industry A research agenda derived from the contribution of experts that guides scholars and researchers towards open questions Modeling and Simulation Support for System of Systems Engineering Applications is an ideal reference and resource for academics and practitioners in operations research, engineering, statistics, mathematics, modeling and simulation, and computer science. The book is also an excellent course book for graduate and PhD-level courses in modeling and simulation, engineering, and computer science. This report from the second Strategic Highway

Research Program (SHRP 2), which is administered by the Transportation Research Board of the National Academies, explores the underlying conceptual foundations of travel modeling and traffic simulation, and provides practical means of generating realistic reliability performance measures using network simulation models. The Complete Business Process Handbook is the most comprehensive body of knowledge on business processes with revealing new research. Written as a practical guide for Executives, Practitioners, Managers and Students by the authorities that have shaped the way we think and work with process today. It stands out as a masterpiece, being part of the BPM bachelor and master degree curriculum at universities around the world, with revealing academic research and insight from the leaders in the market. This book provides everything you need to know about the processes and frameworks, methods, and approaches to implement BPM. Through real-world examples, best practices, LEADing practices and advice from experts, readers will understand how BPM works and how to best use it to their advantage. Cases from industry leaders and innovators show how early adopters of LEADing Practices improved their businesses by using BPM technology and methodology. As the first of three volumes, this book represents the most comprehensive body of knowledge published on business process. Following closely behind, the second volume uniquely bridges theory with how BPM is applied today with the most extensive information on extended BPM. The third volume will explore award winning real-life examples of leading business process practices and how it can be replaced to your advantage. Learn what Business Process is and how to get started Comprehensive historical process evolution In-depth look at the Process

Anatomy, Semantics and Ontology Find out how to link Strategy to Operation with value driven BPM Uncover how to establish a way of Thinking, Working, Modelling and Implementation Explore comprehensive Frameworks, Methods and Approaches How to build BPM competencies and establish a Center of Excellence Discover how to apply Social BPM, Sustainable and Evidence based BPM Learn how Value & Performance Measurement and Management Learn how to roll-out and deploy process Explore how to enable Process Owners, Roles and Knowledge Workers Discover how to Process and Application Modelling Uncover Process Lifecycle, Maturity, Alignment and Continuous Improvement Practical continuous improvement with the way of Governance Future BPM trends that will affect business Explore the BPM Body of Knowledge Diagramming and process are important topics in today's software development world, as the UML diagramming language has come to be almost universally accepted. Yet process is necessary; by themselves, diagrams are of little use. Use Case Driven Object Modeling with UML - Theory and Practice combines the notation of UML with a lightweight but effective process - the ICONIX process - for designing and developing software systems. ICONIX has developed a growing following over the years. Sitting between the free-for-all of Extreme Programming and overly rigid processes such as RUP, ICONIX offers just enough structure to be successful. The traditional urban transportation systems around the globe are now being transferred into green public transportation systems in an effort to mitigate CO2 emissions and provide nature-friendly transportation systems in cities and, ultimately, to increase citizens' wellbeing. Furthermore, the cities are expected to transform their traditional transportation

systems to cutting-edge high technology green transportation systems in the near future due to regulations applied by the related authorities such as the EU and UN. At the same time, cities are undergoing a transformation from traditional to smart cities, which is an inevitable process due to swift developments in technologies and smart systems. Sustainable public transportation systems must be developed and adjusted to be applicable in future smart cities. The Handbook of Research on Promoting Sustainable Public Transportation Strategies in Urban Environments considers the challenges and advantages of sustainable public transportation systems in urban areas and provides relevant theoretical frameworks, the latest empirical research findings, and an overview of the latest technological developments on the subject. Covering key topics such as green vehicles, sustainability, and walkable cities, this major reference work is ideal for policymakers, government officials, industry professionals, researchers, scholars, practitioners, academicians, instructors, and students. In a rapidly developing field like Operations Research, its easy to get overwhelmed by the variety of topics and analytic techniques. Paul Jensen and Jonathan Bard help you master the expensive field by focusing on the fundamental models and methodologies underlying the practice of Operations Research. Bridging the gap between theory and practice, the author presents the quantitative tools and models most important to understanding modern operations research. You'll come to appreciate the power of OR techniques in solving real-world problems and applications in your own field. You'll learn how to translate complex situations into mathematical models, solve models and turn models into solutions. This text is designed

to bridge the gap between theory and practice by presenting the quantitative tools and models most suited for modern operations research. The principal goal is to give analysts, engineers, and decision makers a larger appreciation of their roles by defining a common terminology and by explaining the interfaces between the underlying methodologies. Features Divides each subject into methods and models, giving you greater flexibility in how you approach the material. Concise and focused presentation highlights central ideas. Many examples throughout the text will help you better understand mathematical material. Describes the key concepts of operations management, covering such topics as planning and control, the role of technology, and "just-in-time" techniques. While most books examine only the classical aspects of hydrology, this three-volume set covers multiple aspects of hydrology. It examines new approaches, addresses growing concerns about hydrological and ecological connectivity, and considers the worldwide impact of climate change.It also provides updated material on hydrological science and engine This volume constitutes the proceedings of the 4th IFIP WG 8.1 Working Conference on the Practice of Enterprise Modeling, held in Oslo, Norway, during November 2-3, 2011. The conference series is a dedicated forum where the use of enterprise modeling (EM) in practice is addressed by bringing together researchers, users, and practitioners in order to develop a better understanding of the practice of EM, to contribute to improved industrial EM applications, and to share knowledge and experiences. The 18 papers presented were carefully reviewed and selected from 38 submissions. Authored by both researchers and practitioners, they reflect the fact that EM encompasses human,

organizational issues as well as technical aspects related to the development of information systems. The papers are organized in five thematic sessions on process modeling, business modeling, enterprise architecture, EM, and model-driven development. In addition, two keynotes on EM in an agile world and on intra- and inter-organizational process mining complete the volume. The food industry is on the verge of making some serious advances in the food processing sector. If successful, tomorrow's consumers will have unhindered access to safe, nutritious, and high-quality products via novel food processing technologies. Food Processing Operations Modeling: Design and Analysis, Second Edition demonstrates how to effectively use numerical modeling to predict the effects of food processing on targeted components. This non-destructive testing method virtually eliminates the health risks of under-processed food and maintains high nutritional values that are often lost in overcooked food. Using a task-oriented approach, this second edition discusses basic and advanced modeling tools that allow researchers to predict and prevent worse-case scenarios, perform comprehensive analyses, and optimize system design and efficiency. Contains Selected Applications of Thermal and Non-Thermal Processing Operations NEW TO THIS EDITION: Six new chapters on radio frequency heating, high-pressure processing, pulsed electric field treatment, fouling model on heat exchangers, ozone treatment, and UV radiation Expanded scope to address innovative and up-to-date food processing technologies Numerous real-world case studies Updated information on infrared heating of biological materials and modeling electrical resistance heating of foods Electromagnetic treatments (RF, Infrared, and UV) and fundamentals relative to heat and mass transfer, fluid flow,

and stochastic processes Synergistic effect of combined food processing techniques and its numerical simulation Food processing methods are constantly improving in an effort to maintain safe, high-quality, and fresh-tasting products. Providing the theoretical basis for these cutting-edge techniques, this tried-and-tested reference provides indispensable insight into food systems modeling, while exploring applications for further research. This book includes both theoretical results and application cases of analytical modeling based research related to the fashion and textile business. It responds to calls for deeper theoretical foundations as an expansion of research methodology in a field that has to date mostly relied on case studies and empirical analysis. Although there are a growing number of related publications which employ an analytical approach in conducting theoretical and applied research in the fashion and textile business, this book fills an essential gap by providing a comprehensive reference source that introduces the methodology and provides state-of-the-art findings on the topic. Covering an important and well-established industry, Analytical Modeling Research in Fashion Business is a pioneering text and essential reading for researchers and practitioners in the fashion and textiles industry alike. /div Financial Modeling for Business Owners and Entrepreneurs: Developing Excel Models to Raise Capital, Increase Cash Flow, Improve Operations, Plan Projects, and Make Decisions may be one of the most important books any entrepreneur or manager in a small or medium-sized enterprise will read. It combines logical business principles and strategies with a step-by-step methodology for planning and modeling a company and solving specific business problems. You’ll learn to create operational and financial models in Excel that

describe the workings of your company in quantitative terms and that make it far more likely you will avoid the traps and dead ends many businesses fall into. Serial entrepreneur and financial expert Tom Y. Sawyer shows how to break your company down into basic functional and operational components that can be modeled. The result is a financial model that, for example, you can literally take to the bank or bring to local angel investors to receive the funding you need to launch your business or a new product. Or it might be a model that shows with startling clarity that your new product development effort is a likely winner—or loser. Even better, you'll learn to create models that will serve as guideposts for ongoing operations. You'll always know just where you are financially, and where you need to be. The models you will learn to build in Financial Modeling for Business Owners and Entrepreneurs can be used to: Raise capital for startup or any stage of growth Plan projects and new initiatives Make astute business decisions, including go/no-go assessments Analyze ROI on your product development and marketing expenditures Streamline operations, manage budgets, improve efficiency, and reduce costs Value the business when it is time to cash out or merge In addition to many valuable exercises and tips for using Excel to model your business, this book contains a combination of practical advice born of hard-won lessons, advanced strategic thought, and the insightful use of hard skills. With a basic knowledge of Excel assumed, it will help you learn to think like an experienced business person who expects to make money on the products or services offered to the public. You'll discover that the financial model is a key management tool that, if built correctly, provides invaluable assistance every step of the entrepreneurial journey. Tom

Y. Sawyer has used the principles this book contains to create financial models of numerous startup and early-stage companies, assisting them in planning for and raising the capital that they needed to grow their businesses and ultimately exit with multiples of their initial investment. Financial Modeling for Business Owners and Entrepreneurs, a mini-MBA in entrepreneurship and finance, will show you how you can do the same. Note: This book is an updated version of Sawyer's 2009 title, Pro Excel Financial Modeling. Addresses the Challenges Facing Public Transport Policy Makers and Operators Public Transit Planning and Operation: Modeling, Practice and Behavior, Second Edition offers new solutions for delivering both better services and greater efficiency, solutions which have been developed and tested by the author in over thirty years of research work with mass transit policy makers and operators all over the world. It bridges the worlds of practice and research and academia, provides an overview and a critique of currently used operational planning methods, and furnishes innovative practical techniques and modeling. Improve Service Performance and Successfully Manage the Costs of Operation This new edition brings in new material on timetabling and vehicle scheduling with different vehicle sizes, new methods of designing transit route networks, analysis of transit coordination and connectivity, behavioral aspects of passengers including when making transfers, and innovative methods related to automation and optimization which can be used in real time to significantly improve service reliability. Combines academic research with real-world project experience Focuses on issues encountered in practice Provides unique coverage of the field Public Transit Planning and Operation: Modeling, Practice and

Behavior, Second Edition incorporates a series of themes and new ways of thinking about planning and operation. Bridging the gap between theory and application, this text outlines the factors affecting public-transport services, addresses common problems, and offers practical solutions for improvement. Transportation Engineering: Theory, Practice and Modeling is a guide for integrating multi-modal transportation networks and assessing their potential cost and impact on society and the environment. Clear and rigorous in its coverage, the authors begin with an exposition of theory related to traffic engineering and control, transportation planning, and an evaluation of transportation alternatives that is followed by models and methods for predicting travel and freight transportation demand, analyzing existing and planning new transportation networks, and developing traffic control tactics and strategies. Written by an author team with over thirty years of experience in both research and teaching, the book incorporates both theory and practice to facilitate greener solutions. Contains worked out examples and end of the chapter questions Covers all forms of transportation engineering, including air, rail, and public transit modes Includes modeling and analytical procedures for supporting different aspects of traffic and transportation analyses Examines different transport mode sand how to make them sustainable Explains the economics of transport systems in terms of users' value of time A comprehensive survey of thermal processing and modelling techniques in food process engineering. It combines theory and practice to solve actual problems in the food processing industry - emphasizing heat and mass transfer, fluid flow, electromagnetics, stochastic processes, and neural network analysis in food systems. There are specific case stu A clear

and comprehensive guide to financial modeling and valuation with extensive case studies and practice exercises Corporate and Project Finance Modeling takes a clear, coherent approach to a complex and technical topic. Written by a globally-recognized financial and economic consultant, this book provides a thorough explanation of financial modeling and analysis while describing the practical application of newly-developed techniques. Theoretical discussion, case studies and step-by-step guides allow readers to master many difficult modeling problems and also explain how to build highly structured models from the ground up. The companion website includes downloadable examples, templates, and hundreds of exercises that allow readers to immediately apply the complex ideas discussed. Financial valuation is an in-depth process, involving both objective and subjective parameters. Precise modeling is critical, and thorough, accurate analysis is what bridges the gap from model to value. This book allows readers to gain a true mastery of the principles underlying financial modeling and valuation by helping them to: Develop flexible and accurate valuation analysis incorporating cash flow waterfalls, depreciation and retirements, updates for new historic periods, and dynamic presentation of scenario and sensitivity analysis; Build customized spreadsheet functions that solve circular logic arising in project and corporate valuation without cumbersome copy and paste macros; Derive accurate measures of normalized cash flow and implied valuation multiples that account for asset life, changing growth, taxes, varying returns and cost of capital; Incorporate stochastic analysis with alternative time series equations and Monte Carlo simulation without add-ins; Understand valuation effects of debt sizing, sculpting,

project funding, re-financing, holding periods and credit enhancements. Corporate and Project Finance Modeling provides comprehensive guidance and extensive explanation, making it essential reading for anyone in the field. Modeling Applications in the Airline Industry explains the different functions and tactics performed by airlines during their planning and operation phases. Each function receives a full explanation of the challenges it brings and a solution methodology is presented, supported by numerical illustrative examples wherever possible. The book also highlights the main limitations of current practice and provides a brief description of future work related to each function. The authors have filtered the rich literature of airline management to include only the research that has actually been adopted by the airlines, giving a genuinely accurate representation of real airline management and its continuing development of solution methodologies. The book consists of 20 chapters divided into 4 sections: - Demand Modeling and Forecasting - Scheduling of Resources - Revenue Management - Irregular Operations Management. The book will be a valuable source or a handbook for individuals seeking a career in airline management. Written by experts with significant working experience within the industry, it offers readers insights to the real practice of operations modelling. In particular the book makes accessible the complexities of the key airline functions and explains the interrelation between them. The Handbook of Behavioral Operations Management provides easy-to-access insights into why associated behavioral phenomena exist in specific production and service settings, illustrated through ready-to-play games and activities that allow instructors to demonstrate the phenomena in class settings along with

applicable prescriptions for practice. By design the text serves a dual role as a desk/training reference to those practitioners already in the field and presents a comprehensive framework for viewing behavioral operations from a systems perspective. As an interdisciplinary book relating the dynamics of human behavior to operations management, this handbook is an essential resource for practitioners seeking to develop greater system understanding among their workers, as well as for instructors interested in emphasizing the practical relevance of behavior in operational settings. Addresses the Challenges Facing Public Transport Policy Makers and Operators Public Transit Planning and Operation: Modeling, Practice and Behavior, Second Edition offers new solutions for delivering both better services and greater efficiency, solutions which have been developed and tested by the author in over thirty years of research work with mass transit policy makers and operators all over the world. It bridges the worlds of practice and research and academia, provides an overview and a critique of currently used operational planning methods, and furnishes innovative practical techniques and modeling. Improve Service Performance and Successfully Manage the Costs of Operation This new edition brings in new material on timetabling and vehicle scheduling with different vehicle sizes, new methods of designing transit route networks, analysis of transit coordination and connectivity, behavioral aspects of passengers including when making transfers, and innovative methods related to automation and optimization which can be used in real time to significantly improve service reliability. Combines academic research with real-world project experience Focuses on issues encountered in practice Provides unique coverage of

the field Public Transit Planning and Operation: Modeling, Practice and Behavior, Second Edition incorporates a series of themes and new ways of thinking about planning and operation. Bridging the gap between theory and application, this text outlines the factors affecting public-transport services, addresses common problems, and offers practical solutions for improvement. Enterprise modeling (EM) has gained substantial popularity both in the academic community and among practitioners. A variety of EM methods, approaches, and tools are being developed and offered on the market. In practice they are used for various purposes such as business strategy development, process restructuring, as well as business and IT architecture alignment and governance. PoEM 2009 – the second IFIP WG 8.1 Working Conference on The Practice of Enterprise Modeling took place in November in Stockholm, Sweden. The conference series is a dedicated forum where the use of EM in practice is addressed by bringing together researchers, users, and practitioners in order to develop a better understanding of the practice of EM, to contribute to improved EM practice as well as to share knowledge and experiences. PoEM 2009 attracted 41 submissions from many different parts of the world, out of which the Program Committee selected 17 high-quality papers. Among the authors of these papers we find both researchers and practitioners. The resulting program reflects the fact that the topic of EM encompasses human, organizational issues, as well as more technical aspects related to the development of information systems. The program was organized in six thematic sessions: ? Experiences in EM ? The process of modeling ? EM in information systems development ? Model quality and reuse ? EM for Services modeling ? New ventures in

EM The program also featured two keynotes by experienced EM practitioners. Håvard D. This book is the first work to conduct the emergency logistics optimization problem under the epidemic environment (whether natural or man-made), which provides a new perspective for the application of optimization theory. In this book, the research methods involve epidemic dynamics, scenario-based emergency decision-making method, big data which combines the traditional and emerging technologies. The authors take epidemic outbreak as the research object and deeply integrate the epidemic spread model with the optimization model of emergency resource scheduling, which opens up a novel application area of operations research. This book contains the invited and contributed papers selected for presentation at SOFSEM 2021, the 47th International Conference on Current Trends in Theory and Practice of Computer Science, which was held online during January 25–28, 2021, hosted by the Free University of Bozen-Bolzano, Italy. The 33 full and 7 short papers included in the volume were carefully reviewed and selected from 100 submissions. They were organized in topical sections on: foundations of computer science; foundations of software engineering; foundations of data science and engineering; and foundations of algorithmic computational biology. The book also contains 5 invited papers. Teaching and learning in a college setting has never been more challenging. How can instructors reach out to their students and fully engage them in the conversation? Applicable to multiple disciplines, the Decoding the Disciplines Paradigm offers a radically new model for helping students respond to the challenges of college and provides a framework for understanding why students find academic life so arduous. Teachers can help

their pupils overcome obstacles by identifying bottlenecks to learning and systematically exploring the steps needed to overcome these obstacles. Often, experts find it difficult to define the mental operations necessary to master their discipline because they have become so automatic that they are invisible. However, once these mental operations have been made explicit, the teacher can model them for students, create opportunities for practice and feedback, manage additional emotional obstacles, assess results, and share what has been learned with others. This book introduces the fundamental concepts and practical simulation te- niques for modeling different aspects of operating systems to study their g- eral behavior and their performance. The approaches applied are obje- oriented modeling and process interaction approach to discrete-event simu- tion. The book depends on the basic modeling concepts and is more specialized than my previous book: Practical Process Simulation with Object-Oriented Techniques and C++, published by Artech House, Boston 1999. For a more detailed description see the Web location: http://science.kennesaw.edu/~jgarrido/mybook,html. Most other books on performance modeling use only analytical approaches, and very few apply these concepts to the study of operating systems. Thus, the unique feature of the book is that it concentrates on design aspects of operating systems using practical simulation techniques. In addition, the book illustrates the dynamic behavior of different aspects of operating systems using the various simulation models, with a general hands-on approach. This volume constitutes the proceedings of the 9th IFIP WG 8.1 Conference on the Practice of Enterprise Modeling held in November 2016 in Skövde, Sweden. The PoEM conference series started in 2008 and aims to provide a forum sharing knowledge and experiences

between the academic community and practitioners from industry and the public sector. The 18 full papers and 9 short papers accepted were carefully reviewed and selected from 54 submissions and cover topics related to information systems development, enterprise modeling, requirements engineering, and process management. In addition, the keynote by Robert Winter on “Establishing 'Architectural Thinking' in Organizations” is also included in this volume. This IBM® Redbooks® publication presents a development approach for master data management projects, and in particular, those projects based on IBM InfoSphere® MDM Server. The target audience for this book includes Enterprise Architects, Information, Integration and Solution Architects and Designers, Developers, and Product Managers. Master data management combines a set of processes and tools that defines and manages the non-transactional data entities of an organization. Master data management can provide processes for collecting, consolidating, persisting, and distributing this data throughout an organization. IBM InfoSphere Master Data Management Server creates trusted views of master data that can improve applications and business processes. You can use it to gain control over business information by managing and maintaining a complete and accurate view of master data. You also can use InfoSphere MDM Server to extract maximum value from master data by centralizing multiple data domains. InfoSphere MDM Server provides a comprehensive set of prebuilt business services that support a full range of master data management functionality. In the past decade, there has been a substantial increase of grid-feeding photovoltaic applications, thus raising the importance of solar electricity in the energy mix. This trend is

expected to continue and may even increase. Apart from the high initial investment cost, the fluctuating nature of the solar resource raises particular insertion problems in electrical networks. Proper grid managing demands short- and long-time forecasting of solar power plant output. Weather modeling and forecasting of PV systems operation is focused on this issue. Models for predicting the state of the sky, nowcasting solar irradiance and forecasting solar irradiation are studied and exemplified. Statistical as well as artificial intelligence methods are described. The efficiency of photovoltaic converters is assessed for any weather conditions. Weather modeling and forecasting of PV systems operation is written for researchers, engineers, physicists and students interested in PV systems design and utilization. “p>