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Framing the Challenge of Urban Flooding in the United States Brill Academic Pub
Research and statistics support the view that current programs are failing to keep women in the ICT field. Currently, there exist very few solutions to this growing problem. **Women in IT in the New Social Era: A Critical Evidence-Based Review of Gender Inequality and the Potential for Change** aims to bring this topic to the forefront of discussion about what can be done to correct this lopsided gender distribution. This reference work will be an essential guide for government professionals, students, and researchers in the ICT field looking to develop a solution to equalize the retention rate of women in these related fields.

A Trust Betrayed Edward Elgar Publishing

Collaborations that integrate diverse perspectives are critical to addressing many of our complex scientific and societal problems. Yet those engaged in cross-disciplinary team science often face institutional barriers and collaborative challenges. **Strategies for Team Science Success** offers readers a comprehensive set of actionable strategies for reducing barriers and overcoming challenges and includes practical guidance for how to implement effective team science practices. More than 100 experts--including scientists, administrators, and funders from a wide range of disciplines and professions-- explain evidence-based principles, highlight state-of-the-art strategies, tools, and resources, and share first-person accounts of how they've applied them in their own successful team science initiatives. While many examples draw from cross-disciplinary team science initiatives in the health domain, the handbook is designed to be useful across all areas of science. **Strategies for Team**

Science Success will inspire and enable readers to embrace cross-disciplinary team science, by articulating its value for accelerating scientific progress, and by providing practical strategies for success. Scientists, administrators, funders, and others engaged in team science will also leave equipped to develop new policies and practices needed to keep pace in our rapidly changing scientific landscape. Scholars across the **Science of Team Science (SciTS)**, management, organizational, behavioral and social sciences, public health, philosophy, and information technology, among other areas of scholarship, will find inspiration for new research directions to continue advancing cross-disciplinary team science.

Fostering Integrity in Research National Academies Press

For more than two decades, anthropologists have wrestled with new digital technologies and their impacts on how their data are collected, managed, and ultimately presented. **Anthropological Data in the Digital Age** compiles a range of academics in anthropology and the information sciences, archivists, and librarians to offer in-depth discussions of the issues raised by digital scholarship. The volume covers the technical aspects of data management—retrieval, metadata, dissemination, presentation, and preservation—while at once engaging with case studies written by cultural anthropologists and archaeologists returning from the field to grapple with the implications of producing data digitally. Concluding with thoughts on the new considerations and ethics of digital data, **Anthropological Data in the Digital Age** is a multi-faceted meditation on anthropological practice in a technologically mediated world.

Proceedings of The 16th MAC 2020 CRC Press

This volume contains the papers presented at IALCCE2016, the fifth International Symposium on Life-Cycle Civil Engineering (IALCCE2016), to be held in Delft, The Netherlands, October 16-19, 2016. It consists of a book of extended abstracts and a DVD with full papers including the Fazlur R. Khan lecture, keynote lectures, and technical papers from all over the world. All major aspects of life-cycle engineering are addressed, with special focus on structural damage processes, life-cycle design, inspection, monitoring, assessment, maintenance and rehabilitation, life-cycle cost

of structures and infrastructures, life-cycle performance of special structures, and life-cycle oriented computational tools. The aim of the editors is to provide a valuable source for anyone interested in life-cycle of civil infrastructure systems, including students, researchers and practitioners from all areas of engineering and industry.

Data Mining: Concepts, Methodologies, Tools, and Applications KIT Scientific Publishing

This book covers the principles of advanced 3D fabrication techniques, stem cells and biomaterials for neural engineering. Renowned contributors cover topics such as neural tissue regeneration, peripheral and central nervous system repair, brain-machine interfaces and in vitro nervous system modeling. Within these areas, focus remains on exciting and emerging technologies such as highly developed neuroprostheses and the communication channels between the brain and prostheses, enabling technologies that are beneficial for development of therapeutic interventions, advanced fabrication techniques such as 3D bioprinting, photolithography, microfluidics, and subtractive fabrication, and the engineering of implantable neural grafts. There is a strong focus on stem cells and 3D bioprinting technologies throughout the book, including working with embryonic, fetal, neonatal, and adult stem cells and a variety of sophisticated 3D bioprinting methods for neural engineering applications. There is also a strong focus on biomaterials, including various conductive biomaterials and biomimetic nanomaterials such as carbon-based nanomaterials and engineered 3D nanofibrous scaffolds for neural tissue regeneration. Finally, two chapters on in vitro nervous system models are also included, which cover this topic in the context of studying physiology and pathology of the human nervous system, and for use in drug discovery research.

This is an essential book for biomedical engineers, neuroscientists, neurophysiologists, and industry professionals.

Strengthening Forensic Science in the United States Butterworth-Heinemann

This book provides a scientific modeling approach for conducting metrics-based quantitative risk assessments of cybersecurity vulnerabilities and threats. This book provides a scientific modeling approach for conducting metrics-based quantitative risk assessments of cybersecurity threats. The

author builds from a common understanding based on previous class-tested works to introduce the reader to the current and newly innovative approaches to address the maliciously-by-human-created (rather than by-chance-occurring) vulnerability and threat, and related cost-effective management to mitigate such risk. This book is purely statistical data-oriented (not deterministic) and employs computationally intensive techniques, such as Monte Carlo and Discrete Event Simulation. The enriched JAVA ready-to-go applications and solutions to exercises provided by the author at the book's specifically preserved website will enable readers to utilize the course related problems.

- Enables the reader to use the book's website's applications to implement and see results, and use them making 'budgetary' sense
- Utilizes a data analytical approach and provides clear entry points for readers of varying skill sets and backgrounds
- Developed out of necessity from real in-class experience while teaching advanced undergraduate and graduate courses by the author

Cyber-Risk Informatics is a resource for undergraduate students, graduate students, and practitioners in the field of Risk Assessment and Management regarding Security and Reliability Modeling. Mehmet Sahinoglu, a Professor (1990) Emeritus (2000), is the founder of the Informatics Institute (2009) and its SACS-accredited (2010) and NSA-certified (2013) flagship Cybersystems and Information Security (CSIS) graduate program (the first such full degree in-class program in Southeastern USA) at AUM, Auburn University's metropolitan campus in Montgomery, Alabama. He is a fellow member of the SDPS Society, a senior member of the IEEE, and an elected member of ISI. Sahinoglu is the recipient of Microsoft's Trustworthy Computing Curriculum (TCC) award and the author of Trustworthy Computing (Wiley, 2007).

Continuous Nonlinear Optimization for Engineering Applications in GAMS Technology John Wiley & Sons

This handbook covers Electronic Medical Record (EMR) systems, which enable the storage, management, and sharing of massive amounts of demographic, diagnosis, medication, and genomic information. It presents privacy-preserving methods for medical data, ranging from laboratory test results to doctors' comments. The reuse of EMR data can greatly benefit medical science and practice, but must be performed in a privacy-preserving way according to data sharing policies and regulations. Written by world-renowned leaders in this field, each

chapter offers a survey of a research direction or a solution to problems in established and emerging research areas. The authors explore scenarios and techniques for facilitating the anonymization of different types of medical data, as well as various data mining tasks. Other chapters present methods for emerging data privacy applications and medical text de-identification, including detailed surveys of deployed systems. A part of the book is devoted to legislative and policy issues, reporting on the US and EU privacy legislation and the cost of privacy breaches in the healthcare domain. This reference is intended for professionals, researchers and advanced-level students interested in safeguarding medical data.

Gender Inequality and the Potential for Change in Technology Fields IGI Global

Spacecraft Dynamics and Control: The Embedded Model Control Approach provides a uniform and systematic way of approaching space engineering control problems from the standpoint of model-based control, using state-space equations as the key paradigm for simulation, design and implementation. The book introduces the Embedded Model Control methodology for the design and implementation of attitude and orbit control systems. The logic architecture is organized around the embedded model of the spacecraft and its surrounding environment. The model is compelled to include disturbance dynamics as a repository of the uncertainty that the control law must reject to meet attitude and orbit requirements within the uncertainty class. The source of the real-time uncertainty estimation/prediction is the model error signal, as it encodes the residual discrepancies between spacecraft measurements and model output. The embedded model and the uncertainty estimation feedback (noise estimator in the book) constitute the state predictor feeding the control law. Asymptotic pole placement (exploiting the asymptotes of closed-loop transfer functions) is the way to design and tune feedback loops around the embedded model (state predictor, control law, reference generator). The design versus the uncertainty class is driven by analytic stability and performance inequalities. The method is applied to several attitude and orbit control problems. The book begins with an extensive introduction to attitude geometry and algebra and ends with the core themes: state-space dynamics and Embedded Model Control. Fundamentals of orbit, attitude and environment dynamics are treated giving emphasis to state-space formulation, disturbance dynamics, state feedback and prediction, closed-loop

stability. Sensors and actuators are treated giving emphasis to their dynamics and modelling of measurement errors. Numerical tables are included and their data employed for numerical simulations. Orbit and attitude control problems of the European GOCE mission are the inspiration of numerical exercises and simulations. The suite of the attitude control modes of a GOCE-like mission is designed and simulated around the so-called mission state predictor. Solved and unsolved exercises are included within the text - and not separated at the end of chapters - for better understanding, training and application. Simulated results and their graphical plots are developed through MATLAB/Simulink code.

Graphene Science Handbook CRC Press

Transition Engineering: Building a Sustainable Future examines new strategies emerging in response to the mega-issues of global climate change, decline in world oil supply, scarcity of key industrial minerals, and local environmental constraints. These issues pose challenges for organizations, businesses, and communities, and engineers will need to begin developing ideas and projects to implement the transition of engineered systems. This work presents a methodology for shifting away from unsustainable activities. Teaching the Transition Engineering approach and methodology is the focus of the text, and the concept is presented in a way that engineers can begin applying it in their work.

The Long Arm of Moore's Law John Wiley & Sons

Despite the increase in funding for research and the rising numbers of peer-reviewed publications over the past decade that address the environmental, health, and safety aspects of engineered nanomaterials (ENMs), uncertainty about the implications of potential exposures of consumers, workers, and ecosystems to these materials persists. Consumers and workers want to know which of these materials they are exposed to and whether the materials can harm them. Industry is concerned about being able to predict with sufficient certainty whether products that it makes and markets will pose any environmental, health or safety issues and what measures should be taken regarding manufacturing practices and worldwide distribution to minimize any potential risk. However, there remains a disconnect between the research that is being carried out and its relevance to and use by decision-makers and regulators to make informed public health and environmental policy and regulatory decisions. Research Progress on Environmental, Health, and Safety Aspects of

Nanomaterials evaluates research progress and updates research priorities and resource estimates on the basis of results of studies and emerging trends in the nanotechnology industry. This report follows up the 2012 report A Research Strategy for Environmental, Health, and Safety Aspects of Engineered Nanomaterials, which presented a strategic approach for developing the science and research infrastructure needed to address uncertainties regarding the potential environmental, health, and safety risks posed by ENMs. This new report looks at the state of nanotechnology research, examines market and regulatory conditions and their affect on research priorities, and considers the criteria for evaluating research progress on the environmental, health, and safety aspects of nanotechnology.

International Handbook on Responsible Innovation MIT Press

Marine Design XIII collects the contributions to the 13th International Marine Design Conference (IMDC 2018, Espoo, Finland, 10-14 June 2018). The aim of this IMDC series of conferences is to promote all aspects of marine design as an engineering discipline. The focus is on key design challenges and opportunities in the area of current maritime technologies and markets, with special emphasis on:

- Challenges in merging ship design and marine applications of experience-based industrial design
- Digitalisation as technological enabler for stronger link between efficient design, operations and maintenance in future
- Emerging technologies and their impact on future designs
- Cruise ship and icebreaker designs including fleet compositions to meet new market demands

To reflect on the conference focus, Marine Design XIII covers the following research topic series:

- State of art ship design principles - education, design methodology, structural design, hydrodynamic design;
- Cutting edge ship designs and operations - ship concept design, risk and safety, arctic design, autonomous ships;
- Energy efficiency and propulsions - energy efficiency, hull form design, propulsion equipment design;
- Wider marine designs and practices - navy ships, offshore and wind farms and production.

Marine Design XIII contains 2 state-of-the-art reports on design methodologies and cruise ships design, and 4 keynote papers on new directions for vessel design practices and tools, digital maritime traffic, naval ship designs, and new tanker design for arctic. Marine Design XIII will be of interest to academics and professionals in maritime technologies and marine design.

Anthropological Data in the Digital Age

National Academies Press

This book constitutes the proceedings of the 7th International Formal Ontologies Meet Industries Workshop held in Berlin, Germany, in August 2015. The 11 full research papers accepted for FOMI 2015 were selected from 18 submissions. The papers focus on theoretical studies of formal ontologies committed to provide a sound basis for industrial applications and to allow formal representation of corporate knowledge, and on business experiences in case studies that single out concrete problems and possible solutions in the creation and deployment of formal ontologies. Overall, they provide valuable insights into the current state of progress in supporting industrial information and knowledge sharing through the development of formal ontologies.

Medical Data Privacy Handbook National Academies Press

Builds the case against the U.S. military looking the other way for two decades amidst allegations of mass poisoning at Camp Lejeune, which is believed to have caused illness and death among Marine families stationed there. 35,000 first printing.

Research Progress on Environmental, Health, and Safety Aspects of Engineered Nanomaterials
John Wiley & Sons

Flooding is the natural hazard with the greatest economic and social impact in the United States, and these impacts are becoming more severe over time. Catastrophic flooding from recent hurricanes, including Superstorm Sandy in New York (2012) and Hurricane Harvey in Houston (2017), caused billions of dollars in property damage, adversely affected millions of people, and damaged the economic well-being of major metropolitan areas. Flooding takes a heavy toll even in years without a named storm or event. Major freshwater flood events from 2004 to 2014 cost an average of \$9 billion in direct damage and 71 lives annually. These figures do not include the cumulative costs of frequent, small floods, which can be similar to those of infrequent extreme floods. Framing the Challenge of Urban Flooding in the United States contributes to existing knowledge by examining real-world examples in specific metropolitan areas. This report identifies commonalities and variances among the case study metropolitan areas in terms of causes, adverse impacts, unexpected problems in recovery, or effective mitigation strategies, as well as key themes of urban flooding. It also relates, as appropriate, causes and actions of urban flooding to existing federal resources or policies.

Cyber-Risk Informatics National Academies Press

The Handbook constitutes a global resource for the fast growing interdisciplinary research and policy communities addressing the challenge of driving innovation towards socially desirable

outcomes. This book brings together well-known authors from the US, Europe and Asia who develop conceptual and regional perspectives on responsible innovation as well as exploring the prospects for further implementation of responsible innovation in emerging technological practices ranging from agriculture and medicine, to nanotechnology and robotics. The emphasis is on the socio-economic and normative dimensions of innovation including issues of social risk and sustainability.

Educating Scientists and Engineers for Academic and Non-Academic Career Success Springer

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) began 40 years ago as a pilot program and has since grown to serve over 8 million pregnant women, and mothers of and their infants and young children. Today the program serves more than a quarter of the pregnant women and half of the infants in the United States, at an annual cost of about \$6.2 billion. Through its contribution to the nutritional needs of pregnant, breastfeeding, and post-partum women; infants; and children under 5 years of age; this federally supported nutrition assistance program is integral to meeting national nutrition policy goals for a significant portion of the U.S. population. To assure the continued success of the WIC, Congress mandated that the Food and Nutrition Service of the U.S.

Department of Agriculture (USDA) reevaluate the program's food packages every 10 years. In 2014, the USDA asked the Institute of Medicine to undertake this reevaluation to ensure continued alignment with the goals of the Dietary Guidelines for Americans. In this third report, the committee provides its final analyses, recommendations, and the supporting rationale.

Multiphase Particulate Systems in Turbulent Flows MAC Prague consulting

Volume 1 (A and B) of the Yearbook of International Organizations covers international organizations throughout the world, comprising their aims, activities and events

Preparing the Workforce for Digital Curation Springer

In an increasingly technological world, the education of scientists and engineers has become an activity of growing importance. Educating Scientists and Engineers for Academic and Non-Academic Career Success focuses on the structure of the current educational system and describes the transformations needed to ensure the adequate education of future science and engineering students. The book describes how university faculty can make the necessary changes to teach a broader range of skills, technical proficiency, teamwork, adaptability, and versatility within the undergraduate and postgraduate curriculum. Also covered are approaches to provide a broader exposure to experiences desired by both academic and non-university employers to prepare students for an increasingly interdisciplinary, collaborative, and global job market.

Maritime Technology and Engineering III
CRC Press

This book presents the theoretical details and

computational performances of algorithms used for solving continuous nonlinear optimization applications imbedded in GAMS. Aimed toward scientists and graduate students who utilize optimization methods to model and solve problems in mathematical programming, operations research, business, engineering, and industry, this book enables readers with a background in nonlinear optimization and linear algebra to use GAMS technology to understand and utilize its important capabilities to optimize algorithms for modeling and solving complex, large-scale, continuous nonlinear optimization problems or applications. Beginning with an overview of constrained nonlinear optimization methods, this book moves on to illustrate key aspects of mathematical modeling through modeling technologies based on algebraically oriented modeling languages. Next, the main feature of GAMS, an algebraically oriented language that allows for high-level algebraic representation of mathematical optimization models, is introduced to model and solve continuous nonlinear optimization applications. More than 15 real nonlinear optimization applications in algebraic and GAMS representation are presented which are used to illustrate the performances of the algorithms described in this book. Theoretical and computational results, methods, and techniques effective for solving nonlinear optimization problems, are detailed through the algorithms MINOS, KNITRO, CONOPT, SNOPT and IPOPT which work in GAMS technology.

Neural Engineering CRC Press

Continuous Nonlinear Optimization for
Engineering Applications in GAMS
TechnologySpringer