X **Network Access Message:** The website cannot be found

IGI GLOBAL
DISSEMINATOR OF KNOWLEDGE

Shopping Cart | Login | Register   Search title, author, ISBN...

BOOKS | JOURNALS | E-RESOURCES | TEACHING CASES | OnDEMAND | TOPIC COLLECTIONS | SERVICES | MEDIA
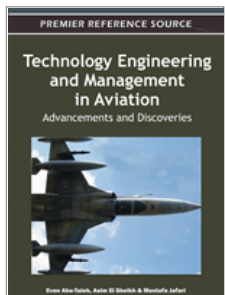
PREMIER REFERENCE SOURCE

Technology Engineering and Management in Aviation
Advancements and Discoveries

Evon Abu-Taieh, Asim El Sheikh & Mostafa Jafari

Technology Engineering and Management in Aviation: Advancements and Discoveries

Evon Abu-Taieh (Arab International University, Republic of Syria), Asim El Sheikh (Arab Academy for Banking and Financial Sciences, UAE) and Mostafa Jafari (Research Institute of Forests and Rangelands, Iran)

Release Date: July, 2011. Copyright © 2012.

Select a Format:
Hardcover   **$195.00**   **Add to Cart**
                                Pricing Information

Cite Book   **Favorite**

Send   Tweet   0

Individual Chapters

$30.00   Browse

Purchase individual chapters from this book and receive a PDF download link upon order completion.

Related Books

Space-Based Technologies and Commercialized D...
© 2011, 286 pp.

Computational Models, Software Engineering, a...
© 2010, 392 pp.

Description | Table of Contents | Topics Covered | Preface | Author(s)/Editor(s) Bio | Reviews and Testimonials | Editorial Board

Recommend

Send to a librarian
Send to a colleague

Available In

InfoSci-Books

Browse Subjects

Business Technologies
Database Technologies
E-Government, Global & Environmental Technologies
Educational Technologies
Intelligent Technologies
Knowledge Management & Library Science
Medical Technologies and Healthcare
Multimedia Technologies & Networking
Security Technologies, Ethics & Law
Social Technologies
Software, Computer Science & Engineering

Description   Top

As computer and information systems technology advances, industries such as aviation stand to benefit from the overwhelming new advances in hardware, software, and best practices.

Technology Engineering and Management in Aviation: Advancements and Discoveries details the essential new developments in technology and management in the aviation industry. Specific and important advances in navigation, air traffic control, and environmental impact all make their way into this volume, which also focuses on management policies keeping up with new technology. This volume is a vital reference for practitioners, management, students, and all those interested in the field of aviation.

Table of Contents and List of Contributors   Top

Qaboos University, Oman), and Jamal F. Nayfeh (Prince Mohammad Bin Fahd University, Kingdom of Saudi Arabia) Sample PDF | More details...

9. **Effect of Core Thickness on Load Carrying Capacity of Sandwich Panel Behavior Beyond Yield Limit** (pages 171-181)

Salih N. Akour (Sultan Qaboos University, Oman), Hussein Maaitah (Royal Jordanian Air force, Jordan,), and Jamal F. Nayfeh (Prince Mohammad Bin Fahd University, Kingdom of Saudi Arabia) Sample PDF | More details...

$30.00
Add to Cart

10. **Next Generation Surveillance Technology for Airport and ATC Operations** (pages 182-189)

Werner Langhans (ERA a.s., Czech Republic), and Tim Quilter (ERA a.s., Czech Republic) Sample PDF | More details...

$30.00
Add to Cart

11. **The Evaluation of Wireless Communication Devices: To Improve In-Flight Security Onboard Commercial Aircraft** (pages 190-202)

Lori J. Brown (Western Michigan University, USA), Liang Dong (Western Michigan University, USA), and Anthony G. Cerullo (Western Michigan University, USA) Sample PDF | More details...

$30.00
Add to Cart

12. **Terrorist Attacks: A Safety Management System Training Tool for Airport and Airline Managers** (pages 203-213)

William B. Rankin (University of Central Missouri, Missouri) Sample PDF | More details...

$30.00
Add to Cart

13. **EPlanAirport: A Web-Based Tool to User-Friendly Decision-Support Systems for Airport Stakeholders and Policy-Makers** (pages 214-222)

Jaime García Sáez (Ingeniería y Economía del Transporte (INECO), Spain) Sample PDF | More details...

$30.00
Add to Cart

14. **Improved Airport Enterprise Service Bus with Self-Healing Architecture (IAESB-SH)** (pages 223-240)

Issam Al Hadid (Isra University, Jordan) Sample PDF | More details...

$30.00
Add to Cart

15. **The Aviation Operational Environment: Integrating a Decision-Making Paradigm, Flight Simulator Training and an Automated Cockpit Display for Aviation Safety** (pages 241-282)

Ronald John Lofaro (Embry-Riddle Aeronautical University Worldwide, USA), and Kevin M. Smith (United Airlines (ret.), & USN (ret.), USA1) Sample PDF | More details...

$30.00
Add to Cart

16. **Augmentation Systems: The Use of Global Positioning System (GPS) in Aviation** (pages 283-293)

Mohammad S. Sharawi (King Fahd University of Petroleum and Minerals, Saudi Arabia) Sample PDF | More details...

$30.00
Add to Cart

17. **Applying the Certification's Standards to the Simulation Study Steps** (pages 294-307)

Issam Al Hadid (Isra Universality, Jordan) Sample PDF | More details...

$30.00
Add to Cart

18. **Evaluating the Performance of Active Queue Management Using Discrete-Time Analytical Model** (pages 308-324)

Jafar Ababneh (World Islamic Sciences & Education University (WISE), Jordan), Fadi Thabtah (Philadelphia University, Jordan), Hussein Abdel-Jaber (University of World Islamic Sciences, Jordan), Wael Hadi (Philadelphia University, Jordan), and Emran Badarneh (The Arab Academy for Banking & Financial Sciences, Jordan) Sample PDF | More details...

$30.00
Add to Cart

19. **Knowledge: An Information Systems' Practical Perspective** (pages 325-335)

Shadi Ettantawi (The Arab Academy for Banking & Financial Sciences, Jordan), and Asim El-Sheikh (The Arab Academy for Banking & Financial Sciences, Jordan) Sample PDF | More details...

$30.00
Add to Cart

20. **Virtual Reality in Architecture, in Engineering and Beyond** (pages 336-345)

Nicoletta Sala (Università della Svizzera Italiana, Switzerland) Sample PDF | More details...

$30.00
Add to Cart

21. **Effects of Packet-Loss and Long Delay Cycles on the Performance of the TCP Protocol in Wireless Networks** (pages 346-374)

Hussein Al-Bahadili (The Arab Academy for Banking and Financial Sciences, Jordan), and Haitham Y. Adarbah (Gulf College, Sultanate of Oman) Sample PDF | More details...

$30.00
Add to Cart

Topics Covered

Top

- Aeronautical Navigation Service (ANS)
- Defense Hole System
- Design Creativity in Aviation
- GPS in Aviation
- In-Flight Security
- Jet Fuel Quality Management
- Marketing of Aviation Companies

- Probability Entropy
- SIMD in Air Traffic Control
- Wireless Devices

Preface   Top

Preface

As computer and Information Systems technology advances, industries such as aviation stand to benefit from the overwhelming new advances in hardware, software, and best practices. *Technology Engineering and Management in Aviation: Advancements and Discoveries* details the essential new developments in technology and management in the aviation industry. Specific and important advances in navigation, air traffic control, and environmental impact all make their way into this volume, which also focuses on management policies keeping up with new technology. This volume is a vital reference for practitioners, managers, students, and all those interested in the field of aviation.

Technology Engineering and Management in Aviation: Advancements and Discoveries is composed of 21 chapters written by highly qualified scholars discussing a wide range of topics spanning from aviation environmental crises to technological solution in the aviation industry. The first two chapters discuss aviation and environment; the first chapter is written by Mostafa Jafari, a lead author of IPCC, Nobel Peace Prize Winner for 2007; the second chapter is written by Enis T. Turgut & Marc A. Rosen.

The third and fourth chapters came from scholars affiliated with Boeing Company and Saab Aeronautics bother major airline manufacturers to discuss the topic of *Human Factors*. The third chapter covers *Enhancing Product Safety through Effective Human Factors Engineering Design Solutions* and the fourth discusses *Managing Human Factors in the Development of Fighter Aircraft.*

Chapters five – nine discuss airplane hardware design. The fifth chapter is written by scholars affiliated with *Velcon Filters*, discussing *State-Of-The-Art Real-Time Jet Fuel Quality Measurement.* Chapter six discusses *Design and Optimization of Defense Hole System for Uniaxially Loaded Laminates.* Chapter seven suggests *Design and Optimization of Defense Hole System for Hybrid Loaded Laminates.* Next, chapter eight propose *Design and Optimization of Defense Hole System for Shear Loaded Laminates.* Chapter nine discusses *Effect of Core Thickness on Load Carrying Capacity of Sandwich Panel Behavior Beyond Yield Limit.*

Chapters ten to twelve cover the safety and security issues in aviation. Chapter ten, *Next Generation Surveillance Technology for Airport and ATC Operations*, outlines the recent achievements in worldwide operational deployments in the fields of ADS-B and multilateration for airport and air traffic control applications and discusses the integration into larger aviation system applications. Furthermore, chapter eleven relates the study of *The Evaluation of Wireless Communication Devices: To Improve In-Flight Security Onboard Commercial Aircraft.* The chapter studies the effectiveness of discreet, secure, hands-free, wireless communications methods for enhancing coordination during security incidents among cabin crewmembers, between the cabin and flight compartment, ground support personnel, and reporting these findings. Chapter twelve, *Terrorist Attacks: A Safety Management System Training Tool for Airport and Airline Managers*, examines how airport and airline managers could review their incident and command plans to enhance security counter-measures for terrorist attacks through the use of a well constructed plan-do-check-act (PDCA) tool, in the context of a Safety Management System (SMS), and incorporating a structured field survey into their emergency incident plan and command plan reviews.

Chapters thirteen to sixteen suggest computerized solution to existing aviation problems.
Chapter thirteen is titled *EPlanAirport: A Web-based tool to user-friendly decision-support systems for airport stakeholders and policy-makers.* EPlanAirport is a Web-based tool that allows running complex studies based on airport systems.

Chapter fourteen, *Airport Enterprise Service Bus with Self-Healing Architecture (AESB-SH)*, introduces the different aviation and airport Information Technology systems. Also, it provides architecture based on the Service Oriented Architecture (SOA) that improves the information accessibility and sharing across the different airport departments, integrates the existing legacy systems with other applications, and improves and maximizes the system's reliability, adaptability, robustness, and availability using the Self-Healing Agent and Virtual Web Service Connector to guarantee the Quality of Service (QoS).

Chapter fifteen, *Integrating Decision-Making Methodology, Flight Simulation and Computerized Systems to Advance Civil Aviation Safety*, focuses on the role of pilot/flightcrew training and performance evaluation in the identification and management of risk, especially while aloft and in changing conditions.

Chapter sixteen is titled: *Augmentation Systems: Use of Global Positioning System (GPS) in Aviation.* Several augmentation systems that serve local as well as wide coverage areas are discussed in this chapter, specifically the LAAS system, the WAAS system, as well as the EGNOS system. The architecture, as well the performance metrics for each of these augmentation systems, are presented and discussed.

Chapter seventeen through twenty one offer solutions to embedded problems in the IT world. The chapters discuss: simulation, networks congestion, Knowledge management, Virtual reality, and network analytical models.

Chapter seventeen, *Applying the Certification's Standards to the Simulation Study Steps*, presents the certification standards applied with the simulation study steps, In addition to the Confidence Grid which is used to assets the quality (reliability and accuracy) of the data and the process of the simulation study step which will be the base for the validation and verification.

Chapter eighteen is titled: *Derivation A Discrete-time Analytical Model Based on Dynamic Random Early Drop Algorithm.* Congestion in networks considered a serious problem, and in order to manage and control this phenomena in early stages before it occurs, a derivation of a new discrete-time queuing network analytical model based on dynamic random early drop (DRED) algorithm is derived to present analytical expressions to calculate three performance measures.

Chapter nineteen covers *Knowledge: an Information Systems Practical Perspective*. This chapter suggests to perceive knowledge from the point of view of IS, as an attempt to answer IS requirements better.

Chapter twenty is titled: *Virtual Reality in Architecture, Engineering and Beyond*. The aim of this chapter is to present how the VR also finds excellent application fields in architecture and in engineering. Examples include: in the teaching of the basic concepts, in techniques of graphic rebuilding for the building restoration, in realization of virtual visits inside buildings, and in urban generative processes simulated by computer.

Chapter twenty one is called: *Effects of Packet-Loss and Long Delay Cycles on the Performance of the TCP Protocol in Wireless Networks*. This chapter presents a description, derivation, implementation, and comparison of two well-known analytical models, namely, the PFTK and PLLDC models. The two models are based on the TCP Reno flavor as it is one of the more popular implementation on the Internet. These two models were implemented in a user-friendly TCP performance evaluation package (TCP-PEP). The TCP-PEP was used to investigate the effect of packet-loss and long delay cycles on the TCP performance measured in terms of sending rate, throughput, and utilization factor. The results obtained from the PFTK and PLLDC models were compared with those obtained from equivalent simulations carried-out on the widely used NS-2 network simulator. The PLLDC model provides more accurate results (closer to the NS-2 results) than the PFTK model.

Prof. Dr. Mohamed Said Safadi
Dean of Faculty of Informatics Engineering
Arab International University

Author(s)/Editor(s) Biography   Top

Evon Abu-Taieh
Evon Abu-Taieh, PhD, Editor-in-Chief of the *International Journal of Aviation Technology, Engineering and Management* and has been a guest editor for the *Journal of Information Technology Research*. She has more than 26 published works on Aviation, IT, PM, KM, GIS, AI, simulation, security and ciphering; in addition, Dr. Abu-Taieh holds positions on the editorial board of the *International Journal of E-Services and Mobile Applications*, *International Journal of Information Technology Project Management* and *International Journal of Information Systems and Social Change*. Dr. Abu-Taieh served as Chair, Track chair, & reviewer in many renowned conferences.

Asim El Sheikh
Prof. **Asim Elshiekh**, PhD(LSE) is the Dean of Faculty of Information Systems & Technology at the Arab Academy For Banking & Financial Sciences, Jordan. The author of more than 5 books in the Information technology, 60 published research papers.

Mostafa Jafari
Mostafa Jafari was born in year 1956 in Tehran, Iran. He started in school in year 1962 and obtained Natural Diploma in 1974 (Tehran, after 12 years). He finished his first degree (B.Sc.) in Forest and Range, graduated in 1978 (Iran) and finished his Ph.D. in Plant Science (Ecology) in 1990 (UK). His Post doctorate research was in Plant Ecophysiology Methodology in 1997 (Japan). He is member of scientific board since 1990. His interest is in plant ecology, forestry and climate change and giving lectures in Universities on Ecophysiology, Ecology, Range Rehabilitation, Plant Geography. He is an advisor of several post graduate students in different universities. He enjoy from Membership to the different Professional Organizations. He was Director (President) of Research Institute of Forest and Rangelands, I.R. Iran, from 1992 to Nov. 1997 (With 600 staff including 250 scientific researcher and 900 research projects, publishing about 200 books in this period). He was Director of First Vice President Office of WMO, from August 2004 to 2009. He is Head of TP Secretariat of Low Forest Cover Countries (LFCCs, International Intergovernmental Organization). Since, March 2003, he is also International Affair Advisor to the Deputy Minister and Head of IRIMO since August 2004. He published 69 articles, 8 books and 2 university textbooks. He is Managing Director of National Research Project on Climate Change in RIFR entitled: "Investigation on Climate Change Effects on Forest Ecosystems in Hyrcanian forests with Emphasize of Wood Dendrology Studies."

Reviews and Testimonials   Top

"Technology Engineering and Management in Aviation: Advancements and Discoveries is composed of 21 chapters written by highly qualified scholars discussing a wide range of topics spanning from aviation environmental crises to technological solution in the aviation industry."

-Dr. Mohamed Said Safadi, Dean of Faculty of Informatics Engineering at the Arab International University

Editorial Board   Top

- Ali Mortazavi, University of California, Berkeley, USA.
- Alia Abu-Tayeh,Jordan University, Jordan
- Bijan Vasigh, Embry-Riddle Aeronautical University, USA
- Dima Jawad, American University in Dubai, UAE
- Dujuan B. Sevillian,The Boeing Company, USA
- Erin Bowen,Purdue University, USA
- Gerardine G. Botte,Ohio University, USA
- Jamal F. Nayfeh, Prince Mohammad Bin Fahd University (PMU), Kingdom of Saudi Arabia
- Jeihan M. Abu-Tayeh, Consultant, Jordan
- Maureen McFarland, Kent University, USA
- Mouhib Alnoukari, CMMI-Syria, Republic of Syria
- Ramiz Hajislam, Arab International University, Republic of Syria

- Salih N Akour, Sultan Qaboos University, Oman
- Samir Hammami, IUST, Republic of Syria
- Subhasish Dasgupta, George Washington University, USA
- Zaidoun Al-Zoabi, Arab International University, Republic of Syria

LEARN MORE:
About IGI Global | Contact | Sitemap

RESOURCES FOR:
Librarians | Authors/Editors | Distributors | Instructors

MEDIA CENTER:
Online Symposium | Blogs | Catalogs

Privacy Policy | Content Reuse Policy