Human Factors Of Remotely Operated Vehicles Volume 7 Advances In Human Performance And Cognitive Engineering Research

FREDDY GAEL

Handbook of Human Factors in Air Transportation Systems
John Wiley & Sons
This book was developed to help researchers and practitioners select measures to be used in the evaluation of human/machine systems. The book includes definitions of human workload and a review of measures. Each measure is described, along with its strengths and limitations, data requirements, threshold values, and sources of further information. To make this reference easier to use, extensive author and subject indices are provided. Features Offers readily accessible information on workload measures Presents general description of the measure Covers data collection, reduction, and analysis requirements Details the strengths and limitations or restrictions of each measure, including proprietary rights or restrictions Provides validity and reliability data as available
Human Factors in Transportation CRC Press
Highlights the human components of Remotely Piloted Aircraft Systems, their interactions with the technology and each other, and the implications of human capabilities and limitations for the larger system Considers human factors issues associated with RPAS, but within the context of a very large system of people, other vehicles, policy, safety concerns, and varying applications Chapters have been contributed by world class experts in HSI and those with operational RPAS experience Considers unintended consequences associated with taking a more myopic view of this system Examines implications for practice, policy, and research Considers both civil and military aspects of RPAS
Engineering Psychology and Cognitive Ergonomics: Cognition and Design CRC Press
This book constitutes the proceedings of the 14th International Conference on Engineering Psychology and Cognitive Ergonomics, EPCE 2017, held in Vancouver, Canada, in July 2017. HCII 2017 received a total of 4340 submissions, of which 1228 papers were accepted for publication after a careful reviewing process. The papers thoroughly cover the entire field of Human-Computer Interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas. The two volumes set of EPCE 2017 presents 58 papers which are organized in the following topical sections: cognition and design, cognition in aviation and space, cognition and driving, mental workload and performance, psychological and emotional issues in interaction, situation awareness and control.
AHFE International
This book focuses on the importance of human factors in the development of safe and reliable robotic and unmanned systems. It discusses current challenges, such as how to improve the perceptual and cognitive abilities of robots, develop suitable synthetic vision systems, cope with degraded reliability in unmanned systems, and predict robotic behavior in relation to human activities. Further, it highlights potential future human-robot and human-agent collaboration, suggesting real-world implications of and approaches for improving human-machine interaction across unmanned systems. Based on the AHFE 2020 Virtual Conference on Human Factors in Robots, Drones and Unmanned Systems, held on July 16–20, 2020, this book is intended to foster discussion and collaborations among researchers and practitioners, thus stimulating new solutions for the development of reliable and safe, human-centered, highly functional devices to perform automated and concurrent tasks.
Introduction to Unmanned Aircraft Systems Human Factors of Remotely Operated Vehicles
Advocating a user-centered approach to medical technology design, Designing Usability into Medical Products covers the essential processes and specific techniques necessary to produce safe, effective, usable, and appealing medical systems and products. Written by experts on user-centered research, design, and evaluation, the book provides a range of alternative approaches to the subject. Wiklund and Wilcox explore how to make medical devices safe and effective by involving users in the design process. They discuss specific design and evaluation methods and tools, present case studies of user-friendly medical technologies and corporate human factors programs, and supply related resources for medical design professionals. The book conveys an in-depth understanding of the user-centered design process, covers design methods for FDA compliance, and offers guidance on performing a variety of hands-on user research, user interface design, and user interface evaluation. The authors make a compelling case for treating the user's needs and preferences as a top design priority, rather than an afterthought. They demonstrate that high-quality customer interactions with systems and products leads to effective medical diagnosis and treatment, increases the physical and mental well being of patients and caregivers, and leads to commercial success in a crowded marketplace.
Drones in Society AHFE International
This edited textbook is a fully updated and expanded version of the highly successful first edition of Human Factors in Aviation. Written for the widespread aviation community - students, engineers, scientists, pilots, managers, government personnel, etc., HFA offers a comprehensive overview of the topic, taking readers from the general to the specific, first covering broad issues, then the more specific topics of pilot performance, human factors in aircraft design, and vehicles and systems. The new editors offer essential breath of experience on aviation human factors from multiple perspectives (i.e. scientific research, regulation, funding agencies, technology, and implementation) as well as knowledge about the science. The contributors are experts in their fields. Topics carried over from the first edition are fully updated, several by new authors who are now at the fore of the field. New material - which represents 50% of the volume - focuses on the challenges facing aviation specialists today. One of the most significant developments in this decade has been NextGen, the Federal Aviation Administration's plan to modernize national airspace and to address the impact of air traffic growth by increasing airspace capacity and efficiency while simultaneously improving safety, environmental impacts and user access. NextGen issues are covered in full. Other new topics include: High Reliability Organizational Perspective, Situation Awareness & Workload in Aviation, Human Error Analysis, Human-System Risk Management, LOSA, NOSS and Unmanned Aircraft System. Comprehensive text with up-to-date synthesis of primary source material that does not need to be supplemented New edition thoroughly updated with 50% new material and full coverage of NexGen and other modern issues Instructor website with test bank and image collection makes this the only text offering ancillary support Liberal use of case examples exposes readers to real-world examples of dangers and solutions
Designing for Situation Awareness Springer Science & Business Media
This book focuses on the importance of human factors in the development of reliable and safe unmanned systems. It discusses current challenges such as how to improve perceptual and cognitive abilities of robots, develop suitable synthetic vision systems, cope with degraded reliability of unmanned systems, predict robotic behavior in case of a loss of communication, the vision for future soldier-robot teams, human-agent teaming, real-world implications for human-robot interaction, and approaches to standardize both display and control of technologies across unmanned systems. Based on the AHFE 2016 International Conference on Human Factors in Robots and Unmanned Systems, held on July 27-31, 2016, in Walt Disney World®, Florida, USA, this book is expected to foster new discussion and stimulate new ideas towards the development of more reliable, safer, and

functional devices for carrying out automated and concurrent tasks.

Technology and Agency in International Relations Taylor & Francis

Human Factors of Remotely Operated VehiclesJai

Introduction to Human Factors CRC Press

This book focuses on the importance of human factors in the development of safe and reliable unmanned systems. It discusses current challenges such as how to improve the perceptual and cognitive abilities of robots, develop suitable synthetic vision systems, cope with degraded reliability in unmanned systems, predict robotic behavior in case of a loss of communication, the vision for future soldier-robot teams, human-agent teaming, real-world implications for human-robot interaction, and approaches to standardize both the display and control of technologies across unmanned systems. Based on the AHFE 2017 International Conference on Human Factors in Robots and Unmanned Systems, held on July 17–21 in Los Angeles, California, USA, this book is expected to foster new discussion and stimulate new advances in the development of more reliable, safer, and highly functional devices for carrying out automated and concurrent tasks.

Breaking the Mishap Chain Routledge

One of the primary applications of human factors engineering is in the aviation domain, and the importance of human factors has never been greater as U.S. and European authorities seek to modernize the air transportation system through the introduction of advanced automation. This handbook provides regulators, practitioners, researchers, and educators a comprehensive resource for understanding and applying human factors to air transportation.

Advances in Human Factors in Robots, Drones and Unmanned Systems Springer Nature

This book responds to a gap in the literature in International Relations (IR) by integrating technology more systematically into analyses of global politics. Technology facilitates, accelerates, automates, and exercises capabilities that are greater than human abilities. And yet, within IR, the role of technology often remains under-studied. Building on insights from science and technology studies (STS), assemblage theory and new materialism, this volume asks how international politics are made possible, knowable, and durable by and through technology. The contributors provide empirically rich and pertinent accounts of a variety of technologies relevant to the discipline, including drones, algorithms, satellite imagery, border management databases, and blockchains. Problematizing various technologically mediated issues, such as secrecy, violence, and questions of how authority and evidence become constituted in international contexts, this book will be of interest to scholars in IR, in particular those who work in the subfields of (critical) security studies, International Political Economy, and Global Governance.

Advances in Human Factors in Robots, Unmanned Systems and Cybersecurity CRC Press

This book analyzes new theories and practical approaches for promoting excellence in human resource management and leadership. It shows how the principles of creating shared value can be applied to ensure faster learning, training, business development and social renewal. In particular, it presents novel methods and tools for tackling the complexity of management and learning in both business organizations and society. Discussing ontologies, intelligent management systems, and methods for creating knowledge and value added, it offers novel insights into time management and operations optimization, as well as advanced methods for evaluating customers’ satisfaction and conscious experience. Based on three AHFE 2020 Virtual Conferences: the AHFE 2020 Conference on Human Factors, Business Management and Society, the AHFE 2020 Conference on Human Factors in Management and Leadership, held on July 16–20, 2020, the book provides researchers and professionals with extensive information, practical tools and inspiring ideas for achieving excellence in a broad spectrum of business and societal activities.

Unmanned Aircraft Systems Springer

A human factors project on the use of nuclear by-product material to treat cancer using remotely operated afterloaders was undertaken by the Nuclear Regulatory Commission. The purpose of the project was to identify factors that contribute to human error in the system for remote afterloading brachytherapy (RAB). This report documents the findings from the second, third, fourth, and fifth phases of the project, which involved detailed analyses of four major aspects of the RAB system linked to human error: human-system interfaces; procedures and practices; training practices and policies; and organizational practices and policies, respectively. Findings based on these analyses provided factual and conceptual support for the final phase of this project, which identified factors leading to human error in RAB. The impact of those factors on RAB performance was then evaluated and prioritized in terms of safety significance, and alternative approaches for resolving safety significant problems were identified and evaluated.

Human Factors in Aviation Academic Press

Eye witness testimony, training, driving, and display design: these are just a few of the real-world domains in which depend on undivided attention. Emphasizing the link between theory and application, Applied Attention Theory provides a deep understanding of how theories of attention, developed from laboratory-based psychological research, can inform our understanding of everyday human performance in a wide number of applications and environments. The basic theories discussed concern divided, focused, and selective attention, and areas of application include mental workload measurement, multi-tasking, distracted driving, complex display design, education, and the training of attentional skills.

Scientific and Technical Aerospace Reports Psychology Press

Forming connections between human performance and design Engineering Psychology and Human Performance, 4e examines human-machine interaction. The book is organized directly from the psychological perspective of human information processing. The chapters generally correspond to the flow of information as it is processed by a human being--from the senses, through the brain, to action--rather than from the perspective of system components or engineering design concepts. This book is ideal for a psychology student, engineering student, or actual practitioner in engineering psychology, human performance, and human factors Learning Goals Upon completing this book, readers should be able to: * Identify how human ability contributes to the design of technology. * Understand the connections within human information processing and human performance. * Challenge the way they think about technology's influence on human performance. * show how theoretical advances have been, or might be, applied to improving human-machine interaction

Department of Defense appropriations for fiscal year 1977 John Wiley & Sons

This book focuses on the importance of human factors in the development of safe and reliable robotic and unmanned systems. It discusses solutions for improving the perceptual and cognitive abilities of robots, developing suitable synthetic vision systems, coping with degraded reliability in unmanned systems, and predicting robotic behavior in relation to human activities. It covers the design of improved, easy to use, human–system interfaces, together with strategies for increasing human–system performance, and reducing cognitive workload at the user interface. It also discusses real-world applications and case studies of human-robot and human-agent collaboration in different business and educational endeavors. The second part of the book reports on research and developments in the field of human factors in cybersecurity.Contributions cover the technological, social, economic and behavioral aspects of the cyberspace, providing a comprehensive perspective to manage cybersecurity risks. Based on the two AHFE 2021 Conferences such as the AHFE 2021 Conference on Human Factors in Robots, Drones and Unmanned Systems, and the AHFE 2021 Conference on Human Factors in Cybersecurity, held virtually on 25–29 July, 2021, from USA, this book offers extensive information and highlights the importance of multidisciplinary approaches merging engineering, computer science, business and psychological knowledge. It is expected to foster discussion and collaborations between researchers and practitioners with different background, thus stimulating new solutions for the development of reliable and safe, human-centered, highly functional devices to perform automated and concurrent tasks, and to achieve an inclusive, holistic approach for enhancing cybersecurity.

Human Factors of Remotely Operated Vehicles CRC Press

Aviation remains one of the most active and challenging domains for human factors and applied psychology. Since 1981, the biennial International Symposium on Aviation Psychology (ISAP) has been convened for the purposes of (a) presenting the latest research on human performance problems and opportunities within aviation systems, (b) envisioning design solutions that best utilize human capabilities for creating safe and efficient aviation systems, and (c) bringing together scientists, research sponsors, and operators in an effort to bridge the gap between research and application. Though rooted in the presentations of the 17th ISAP, held in 2013 in Dayton, Ohio, Advances in Aviation Psychology is not simply a collection of selected proceeding papers. Based upon the potential impact on emerging trends, current debates or enduring issues present in their work, select authors were invited to expand on their work following the benefit of interactions at the symposium. The invited authors include the featured keynote and plenary speakers who are all leading scientists and prominent researchers that were selected to participate at the symposium. These contributions are supplemented by additional contributors whose work best reflects significant developments in aviation psychology. Consequently the volume includes visions for the next generation of air management and air traffic control, the integration of unmanned (i.e. remotely piloted vehicles) into operational air spaces, and the use of advanced information technologies (e.g. synthetic task environments) for research and training. This book is the first in a series of volumes to be published in conjunction with each subsequent ISAP. The aim of each volume is not only to report the latest findings in aviation psychology but also to suggest new directions for advancing the field.

Advances in Cognitive Ergonomics CRC Press

The integration of drones into society has attracted unprecedented attention throughout the world. The change, for aviation, has been described as being equally as big as the arrival of the jet engine. This book examines the issues that surround this change, for our society and the legal frameworks that preserve our way of life. Drones in Society takes the uninitiated on a journey to understand the history of drones, the present day and the potential future in order to demystify the media hype. Written in an accessible style, Drones in Society will appeal to a broad range of interested readerships, among them students, safety regulators, government employees, airspace regulators, insurance brokers and underwriters, risk managers, lawyers, privacy groups and the Remotely Piloted Aircraft System (RPAS) industry generally. In a world first, this book is a light and interesting read; being both relatable and memorable while discussing complex matters of privacy, international law and the challenges ahead for us all.

Applied Attention Theory CRC Press

The commonly used terms, "unmanned" or "uninhabited," are misleading in the context of remotely operated vehicles. In the case of Unmanned Aerial Vehicles (UAVs), there are many people involved on the ground ranging from those operating the vehicle from a ground control station, to the people coordinating multiple UAVs in an air operations or air traffic control center. The complexity of remote vehicle operations is also often underestimated and seen as a simple navigation task, neglecting the more complex functions associated with remote camera operations, data gathering, and even weapons activity. In addition, trends in the military and civilian sectors involving reduced staffing, increased number of vehicles to control, and integration with other operations are associated with critical human factors issues. For example, the integration of UAVs with manned aircraft in the national airspace poses numerous human factors challenges. In summary, though these vehicles may be unmanned they are not unoperated, unsupervised, or uncontrolled. The role of the human in these systems is critical and raises a number of human factors research and design issues ranging from multiple vehicle control and adaptive automation to spatial disorientation and synthetic vision. The purpose of this book is to highlight the pressing human factors issues associated with remotely operated vehicles and to showcase some of the state of the art human-oriented research and design that speaks to these issues. In this book the human components of the "unmanned" system take center stage compared to the vehicle technology that often captures immediate attention.

Advances in Human Factors in Robots and Unmanned Systems Academic Press

Human Factors in Transportation Proceedings of the 13th International Conference on Applied Human Factors and Ergonomics (AHFE 2022), July 24–28, 2022, New York, USA