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Machine Design and Manufacturing Engineering II - Katsuyuki Kida 2013-08-16 Collection of selected, peer reviewed papers from the 2013 2nd International Conference on Machine Design and Manufacturing Engineering (ICMDME 2013), May 1-2, 2013, Jeju Island, South Korea. Volume is indexed by Thomson Reuters CPCI-S (WoS). The 275 papers are grouped as follows: Chapter 1: Design of Machines, Mechanisms and Industrial Devices; Chapter 2: Computational Technologies and Computer-Aided Design in Mechanical Engineering; Chapter 3: Researches, Modeling and Analysis of Machines and Mechanisms; Chapter 4: Automotive Engineering; Chapter 5: Technologies and Organization of Production in Mechanical Engineering; Chapter 6: Sensors, Detection and Measuring Technologies; Chapter 7: Robotics, Automation and Control System; Chapter 8: Applied Materials Science and Chemical Engineering; Chapter 9: Product Design; Chapter 10: Other Themes of Research.

Atlas of Human Body Ultrasound Scanning - Mei Zhang 2018-11-02 This atlas describes the diagnosis practice and cases of human body ultrasound. It includes anatomic section, standard scan ultrasonogram of every organ, scanning methods and key points, measurement methods, normal value ranges, and clinical significances of every sections. Providing basic information and fundamental principles of ultrasonic diagnosis, it discusses ultrasound scanning of 14 organs in individual chapters. Each section sonography is accompanied by the scanning method, section structure, measuring method and clinical application. The uniform structure and detailed instructions make this atlas an easy-to-use resource for residents to refer to when they encounter specific ultrasound diagnostic problems.

Occupational Safety and Hygiene II - Pedro Arezes 2014-01-27 Occupational Safety and Hygiene II contains selected papers from the International Symposium on Occupational Safety and Hygiene (SHO2014, Guimarães, Portugal, 13-14 February 2014), which was organized by the Portuguese Society for Occupational Safety and Hygiene (SPOSHO). The contributions focus on selected topics, which include (but is not limited to): Occupational safety Risk assessment Safety management Ergonomics Management systems Environmental ergonomics Physical environments Construction safety, and Human factors The contributions in Occupational Safety and Hygiene II are mainly based on research carried out at universities and other research institutions, but also on practical studies developed by Occupational Health & Safety (OHS) Practitioners within their companies. Accordingly, this book will be a helpful text to get acquainted with the state-of-the-art of the research within the mentioned domains, as well as with some practical tools and approaches that are currently used by OHS professionals in a global context.

Pattern Recognition - Gerhard Rigoll 2008-06-29 This book constitutes the refereed proceedings

of the 30th Symposium of the German Association for Pattern Recognition, DAGM 2008, held in Munich, Germany, in June 2008. The 53 revised full papers were carefully reviewed and selected from 136 submissions. The papers are organized in topical sections on learning and classification, tracking, medical image processing and segmentation, audio, speech and handwriting recognition, multiview geometry and 3D-reconstruction, motion and matching, and image analysis.

Functional Textiles for Improved Performance, Protection and Health - N Pan 2011-06-21
The textile industry is increasingly based on ongoing innovation and development of higher performance products, and the field of functional textiles is no exception. This book explores the development of textiles with a wide range of functions, with the aim of improving the performance of the product in terms of the protection and health benefits that it can offer. The book is split into two parts. Part one focuses on functional textiles for improved performance and protection, with chapters reviewing antistatic, flame retardant and infrared functional textiles, among many others. Chapters in part two examine the uses of functional textiles in a medical context, including superhydrophobic materials, antibacterial textiles and insect-repellent materials. With its distinguished editors and contributions from some of the world's leading authorities, Functional textiles for improved performance, protection and health is invaluable for textile scientists, technologists and engineers as well as those designing and manufacturing textiles. It is also a suitable reference for the academic sector. Examines the use of functional textiles in a medical context, including superhydrophobic materials, antibacterial textiles and insect-repellent materials Topics range from textile chemicals and their interaction with skin to novel pesticide protective clothing Considers anti-ultraviolet protection of clothing and flame retardant textiles

DHM2020 - L. Hanson 2020-09-11
Digital human modeling (DHM) is an active field of research directed towards the goal of creating detailed digital models of the human body and its functions, as well as assessment methods for evaluating human interaction with products and production systems. These have many applications in ergonomics, design and engineering, in fields as diverse as the automotive industry and medicine. This book presents the proceedings of the 6th International Digital Human Modeling Symposium (DHM2020), held in Skövde, Sweden from 31 August to 2 September 2020. The conference was also accessible online for those unable to attend in person because of restrictions due to the Covid-19 pandemic. The symposium provides an international forum for researchers, developers and users to report their latest innovations, summarize new developments and experiences within the field, and exchange ideas, results and visions in all areas of DHM research and applications. The book contains the 43 papers accepted for presentation at the conference, and is divided into 6 sections which broadly reflect the topics covered: anthropometry; behavior and biomechanical modeling; human motion data collection and modeling; human-product interaction modeling; industry and user perspectives; and production planning and ergonomics evaluation. Providing a state-of-the-art overview of research and developments in digital human modeling, the book will be of interest to all those who are active in the field.

Advances in Computational Intelligence - Ignacio Rojas 2017-06-04
This two-volume set LNCS 10305 and LNCS 10306 constitutes the refereed proceedings of the 14th International Work-Conference on Artificial Neural Networks, IWANN 2017, held in Cadiz, Spain, in June 2017. The 126 revised full papers presented in this double volume were carefully reviewed and selected from 199 submissions. The papers are organized in topical sections on Bio-inspired Computing; E-Health and Computational Biology; Human Computer Interaction; Image and Signal Processing; Mathematics for Neural Networks; Self-organizing Networks; Spiking Neurons; Artificial Neural Networks in Industry ANNI'17; Computational Intelligence Tools and Techniques for Biomedical Applications; Assistive Rehabilitation Technology; Computational Intelligence Methods for Time Series; Machine Learning Applied to Vision and

Robotics; Human Activity Recognition for Health and Well-Being Applications; Software Testing and Intelligent Systems; Real World Applications of BCI Systems; Machine Learning in Imbalanced Domains; Surveillance and Rescue Systems and Algorithms for Unmanned Aerial Vehicles; End-User Development for Social Robotics; Artificial Intelligence and Games; and Supervised, Non-Supervised, Reinforcement and Statistical Algorithms.

Body Composition in Sport, Exercise and Health - Arthur D. Stewart 2012
The analysis of body composition (fat, bone and muscle) is an important process throughout the biomedical sciences. This is the first book to offer a clear and detailed introduction to the key methods and techniques in body composition analysis and to explain the importance of body composition data in the context of sport, exercise and health. With contributions from some of the world's leading body composition specialists, this book is important reading for advanced students and practitioners working in sport and exercise science, health science, anatomy, nutrition, physical therapy or ergonomics.

Best Practice Protocols for Physique Assessment in Sport - Patria A. Hume 2017-12-21
This book outlines best practice protocols for body composition analysis of high-performance athletes and provides guidance on the use of new technologies for anthropometry. While surface anthropometry has traditionally been used to assess body composition through the internationally recognised methodology of the International Society for the Advancement of Kinanthropometry (ISAK), the recent commercialisation of devices, such as bioelectrical impedance technologies, dual-energy X-ray absorptiometry (DXA), ultrasound, 3D photometry and air-displacement plethysmography (Bod Pod), has led to the non-standardised adoption of new measurement techniques. In this textbook, leading researchers detail standardisation procedures for each technology: in terms of athlete preparation, test protocols, test reporting, equipment calibration and data interpretation. Each chapter covers a different tool: how it works, what it is used to measure, and what the issues are surrounding its validity, practicality and reliability. This book

provides an essential reference for device technicians and sport practitioners, ensuring that high-performance athletes are afforded accurate and comparable body composition information to guide their training routines.
World Congress on Medical Physics and Biomedical Engineering May 26-31, 2012, Beijing, China - Mian Long 2013-02-11
The congress's unique structure represents the two dimensions of technology and medicine: 13 themes on science and medical technologies intersect with five challenging main topics of medicine to create a maximum of synergy and integration of aspects on research, development and application. Each of the congress themes was chaired by two leading experts. The themes address specific topics of medicine and technology that provide multiple and excellent opportunities for exchanges.

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management. Anthropometry, Human Behavior, and Communication - Vincent G. Duffy 2022-06-16
This two-volume set LNCS 1319 and 13320 constitutes the thoroughly refereed proceedings of the 13th International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, DHM 2022, which was held virtually as part of the 24rd HCI International Conference, HCII 2022, in June/July 2022. The total of 1271 papers and 275 poster papers included in the 39 HCII 2022 proceedings volumes was carefully reviewed and selected from 5487 submissions. DHM 2022 includes a total of 56 papers. The first volume focuses on topics related to ergonomic design, anthropometry, and human modeling, as well as collaboration, communication, and human behavior. The second volume focuses on topics related to task analysis, quality and safety in healthcare, as well as occupational health and operations management, and Digital Human Modeling in interactive product and service design.

Digital Human Modeling. Applications in Health, Safety, Ergonomics, and Risk Management: Ergonomics and Design - Vincent G. Duffy 2017-06-28
The two-volume set LNCS 10286 + 10287 constitutes the refereed proceedings of the 8th

International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics, and Risk Management, DHM 2017, held as part of HCI International 2017 in Vancouver, BC, Canada. HCII 2017 received a total of 4340 submissions, of which 1228 papers were accepted for publication after a careful reviewing process. The 75 papers presented in these volumes were organized in topical sections as follows: Part I: anthropometry, ergonomics, design and comfort; human body and motion modelling; smart human-centered service system design; and human-robot interaction. Part II: clinical and health information systems; health and aging; health data analytics and visualization; and design for safety.

Digital Manufacturing Technology for Sustainable Anthropometric Apparel - Norsaadah Zakaria 2022-06-01
Digital Manufacturing Technology for Sustainable Anthropometric Apparel is a thorough and practical examination of the state-of-the-art in anthropometric apparel manufacturing technology. The scale of the textiles industry, in economic as well as environmental terms, is so significant that new technologies and techniques that deliver improvements are of great global interest. Consumer preferences and government regulations are causing apparel manufacturers to prioritize sustainable practices, and at a time of unprecedented technological evolution and competitive pressure, integrating these measures with other priorities is a key challenge. By combining the expertise of contributors from the worlds of technology change management and technical textiles engineering, this book provides a unique interdisciplinary resource for organizational as well as technical implementation. Newly developed Industry 4.0 technologies are addressed, along with the latest data collection and analysis methods. Provides practical technical instructions for the implementation of new technologies for 3D body scanning, and anthropometric design and sizing Explains the latest technical methods for the collection of anthropometric data and examines related ethical issues Shows how to integrate anthropometric design methodologies into a full smart manufacturing system

A Focus on 3D Printing for Healthcare Applications - Emerald Group Publishing Limited 2015-10-28
A Focus on 3D Printing for Healthcare Applications is an indispensable collection of articles for anyone interested in additive manufacturing and prosthetics. 3D printing has huge potential to deliver tailored healthcare solutions. Find out some of the reasons why by reading this collection.

Optoelectronic Devices and Properties - Oleg Sergiyenko 2011-04-19
Optoelectronic devices impact many areas of society, from simple household appliances and multimedia systems to communications, computing, spatial scanning, optical monitoring, 3D measurements and medical instruments. This is the most complete book about optoelectromechanic systems and semiconductor optoelectronic devices; it provides an accessible, well-organized overview of optoelectronic devices and properties that emphasizes basic principles.

Public Health Mini-Guides: Obesity E-Book - Nick Townsend 2014-04-13
Obesity and its linked morbidity and mortality is a significant public health challenge on a global scale and places a burden not only on the individual but also on society as a whole. This Mini-Guide presents key themes relating to this challenge, including the means of measuring obesity, the most recent prevalence and trends, the health consequences and causes of obesity along with approaches to counter obesity both at an individual and a population level. Understanding is facilitated through: Case Studies Boxed examples Thinking Points Summary Points at ends of chapters. Links to webpages, resources and further reading. The Public Health Mini-Guides provide up-to-date, evidence-based information in a convenient pocket-sized format, on a range of current key public health topics. They support the work of health and social care practitioners and students on courses related to public health and health promotion. Each volume provides an objective and balanced introduction to an overview of the epidemiological, scientific, and other factors relating to public health. The Mini-Guides are structured to provide easy access to information. The first chapters cover background information

needed to quickly understand the issue, including the epidemiology, demography and physiology. The later chapters examine examples of public health action to address the issue, covering health promotion intervention, legislative and other measures. The Mini-Guides are designed to be essential reference texts for students, practitioners and researchers with a professional interest in public health and health promotion. Students will find the books useful to cover assignments and on the ward, and practitioners will love the quick-reference format for use on the ward and in giving patient advice and running clinics on these topics. There will be a title providing essential information on the priority areas of: Obesity Smoking Alcohol misuse Sexual health Mental health Diabetes Non-communicable diseases Exercise Drug misuse Health inequalities

3D Printing: Application in Medical Surgery E-Book - Georgios Tsoulfas 2019-10-01 Recent advances and technologies in 3D printing have improved and expanded applications for surgery, biomedical engineering, and nanotechnology. In this concise new title, Drs. Georgios Tsoulfas, Petros I. Bangeas, and Jasjit S. Suri synthesize state-of-the-art information on 3D printing and provide guidance on the optimal application in today's surgical practice, from evaluation of the technology to virtual reality and future opportunities. Discusses challenges, opportunities, and limitations of 3D printing in the field of surgery. Covers patient and surgical education, ethics and intellectual property, quality and safety, 3D printing as it relates to nanotechnology, tissue engineering, virtual augmented reality, and more. Consolidates today's available information on this burgeoning topic into a single convenient resource.

Pattern Recognition - DAGM (Organization). Symposium 2008-05-30 This year, 2008, we had a very special Annual Symposium of the Deutsche Arbeitsgemeinschaft fur ¨ Mustererkennung (DAGM) in Munich, and there are several reasons for that. First ofall, this yearwasthe 30th anniversaryof the symposium. Thismeans that the ?rst symposium was organized in 1978 and the location of this event was:Munich!Justtwoyearsbefore,in1976,theDAGMwasfoundedin:Munich! And Munich was also

the location of two further DAGM symposia, in 1991 and in 2001. When I attended the conference in 2001, I was in negotiations for my appointmentto the Chair ofHuman–MachineCommunicationatthe Technische Universit¨ atMunc ¨ hen(TUM)andcertainlyIdidnotatallanticipatethatI would have the pleasure and honor to host this conference just seven years later again in Munich for its 30th anniversary. But special dates are not the only reason why DAGM was somewhat di?- ent this time. This year, DAGM was organized in conjunction with Automatica, the Third International Trade Fair for Automation in Assembly, Robotics, and Vision, one of the world's leading fairs in automation and robotics. This was an ideal platform for the exchange of ideas and people between the symposium and the fair, and the conference thus took place in a somewhat unusual but extra-dinary location, the International Congress Center (ICM), in the direct vicinity of the New Munich Trade Fair Center, the location of the Automatica fair. With free access to Automatica, the registrants of DAGM got the opportunity to make full use of all the synergy e?ects associated with this special arrangement.

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management. Human Body Modeling and Ergonomics - Vincent G. Duffy 2013-06-28 This two volume set (LNCS 8025-8026) constitutes the refereed proceedings of the Fourth International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, formerly International Conference on Digital Human Modeling, DHM 2013, held as part of the 15th International Conference on Human-Computer Interaction, HCII 2013, held in Las Vegas, USA in July 2013, jointly with 12 other thematically similar conferences. The total of 1666 papers and 303 posters presented at the HCII 2013 conferences was carefully reviewed and selected from 5210 submissions. These papers address the latest research and development efforts and highlight the human aspects of design and use of computing systems. The papers accepted for presentation 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. This two-volume set contains 91 papers. The papers in this volume focus on the following topics: digital human modeling and ergonomics in working environments; ergonomics of work with computers; anthropometry, posture and motion modeling.

Less-Lethal Weapons under International Law - Elisabeth Hoffberger-Pippan 2021-08-26
The first monograph analysing all legal regimes applicable to the use of less-lethal weapons.

DHM and Posturography - Sofia Scataglini 2019-08-22
DHM and Posturography explores the body of knowledge and state-of-the-art in digital human modeling, along with its application in ergonomics and posturography. The book provides an industry first introductory and practitioner focused overview of human simulation tools, with detailed chapters describing elements of posture, postural interactions, and fields of application. Thus, DHM tools and a specific scientific/practical problem – the study of posture – are linked in a coherent framework. In addition, sections show how DHM interfaces with the most common physical devices for posture analysis. Case studies provide the applied knowledge necessary for practitioners to make informed decisions. Digital Human Modelling is the science of representing humans with their physical properties, characteristics and behaviors in computerized, virtual models. These models can be used standalone, or integrated with other computerized object design systems, to design or study designs, workplaces or products in their relationship with humans. Presents an introductory, up-to-date overview and introduction to all industrially relevant DHM systems that will enable users on trialing, procurement decisions and initial applications Includes user-level examples and case studies of DHM application in various industrial fields Provides a structured and posturography focused compendium that is easy to access, read and understand

Image Analysis and Processing - ICIAP 2017 - Sebastiano Battiato 2017-10-13
The two-volume set LNCS 10484 and 10485 constitutes the refereed proceedings of the 19th International Conference on Image Analysis and Processing, ICIAP 2017, held in Catania, Italy, in September 2017. The 138 papers presented were carefully reviewed and selected from 229 submissions. The papers cover both classic and the most recent trends in image processing, computer vision, and pattern recognition, addressing both theoretical and applicative aspects. They are organized in the following topical sections: video analysis and understanding; pattern recognition and machine learning; multiview geometry and 3D computer vision; image analysis, detection and recognition; multimedia; biomedical and assistive technology; information forensics and security; imaging for cultural heritage and archaeology; and imaging solutions for improving the quality of life.

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management. Posture, Motion and Health - Vincent G. Duffy 2020-07-10
This two-volume set LNCS 12198 and 12199 constitutes the thoroughly refereed proceedings of the 11th International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, DHM 2020, which was supposed to be held as part of the 22st HCI International Conference, HCII 2020, in Copenhagen, Denmark, in July 2020. The conference was held virtually due to the COVID-19 pandemic. A total of 1439 papers and 238 posters have been carefully reviewed and accepted for publication in HCII 2020. DHM 2020 includes a total of 77 papers; they were organized in topical sections named: Part I, Posture, Motion and Health: Posture and motion modelling in design; ergonomics and occupational health; applications for exercising, physical therapy and rehabilitation; health services; DHM for aging support. Part II, Human Communication, Organization and Work: Modelling human communication; modelling work, collaboration and the human environment; addressing ethical and societal challenges; new research issues and approaches in digital human modelling.

Advances in Acoustics and Vibration II - Tahar Fakhfakh 2018-09-03
The book provides readers with a snapshot of recent research and industrial trends in field of

industrial acoustics and vibration. Each chapter, accepted after a rigorous peer-review process, reports on a selected, original piece of work presented and discussed at the Second International Conference on Acoustics and Vibration (ICAV2018), which was organized by the Tunisian Association of Industrial Acoustics and Vibration (ATAVI) and held March 19-21, in Hammamet, Tunisia. The contributions cover advances in both theory and practice in a variety of subfields, such as: smart materials and structures; fluid-structure interaction; structural acoustics as well as computational vibro-acoustics and numerical methods. Further topics include: engines control, noise identification, robust design, flow-induced vibration and many others. This book provides a valuable resource for both academics and professionals dealing with diverse issues in applied mechanics. By combining advanced theories with industrial issues, it is expected to facilitate communication and collaboration between different groups of researchers and technology users.

Programming with Threads - Steve Kleiman 1996
A practical guide and reference to developing multithreaded programs on UNIX systems written by the foremost experts on the technology. Covers the two main UNIX threads and the UNIX International threads standard. All examples in the book use the POSIX standard.

15th International Conference on Soft Computing Models in Industrial and Environmental Applications (SOCO 2020) - Álvaro Herrero 2020-08-28
This book contains accepted papers presented at SOCO 2020 conference held in the beautiful and historic city of Burgos (Spain), in September 2020. Soft computing represents a collection or set of computational techniques in machine learning, computer science and some engineering disciplines, which investigate, simulate, and analyze very complex issues and phenomena. After a through peer-review process, the SOCO 2020 International Program Committee selected 83 papers which are published in these conference proceedings and represents an acceptance rate of 35%. Due to the COVID-19 outbreak, the SOCO 2020 edition was blended, combining on-site and on-line participation. In this relevant edition a special

emphasis was put on the organization of special sessions. Eleven special session were organized related to relevant topics such as: Soft Computing Applications in Precision Agriculture, Manufacturing and Management Systems, Management of Industrial and Environmental Enterprises, Logistics and Transportation Systems, Robotics and Autonomous Vehicles, Computer Vision, Laser-Based Sensing and Measurement and other topics such as Forecasting Industrial Time Series, IoT, Big Data and Cyber Physical Systems, Non-linear Dynamical Systems and Fluid Dynamics, Modeling and Control systems The selection of papers was extremely rigorous in order to maintain the high quality of SOCO conference editions and we would like to thank the members of the Program Committees for their hard work in the reviewing process. This is a crucial process to the creation of a high standard conference and the SOCO conference would not exist without their help.

Pervasive Computing Paradigms for Mental Health - Pietro Cipresso 2018-10-10
This book constitutes the refereed proceedings of the 7th International Conference on Pervasive Computing Paradigms for Mental Health, MindCare 2018, held in Boston, MA, USA, Jin January 2018. The 19 papers presented were carefully reviewed and selected from 30 submissions and present advanced computing and communication technologies from the use of wearable sensors and ecological virtual environments to use of big data and machine learning techniques. These technologies can be used to support and promote the well-being through an objective continuous data collection and personalized

Surface Imaging for Biomedical Applications - Ahmad Fadzil Mohamad Hani 2014-06-23
Based on hospital clinical trials examining the use of signal and image processing techniques, Surface Imaging for Biomedical Applications bridges the gap between engineers and clinicians. This text offers a thorough analysis of biomedical surface imaging to medical practitioners as it relates to the diagnosis, detection, and monitoring of skin conditions and disease. Written from an engineer's perspective, the book discusses image acquisition methods,

image processing, and pattern recognition techniques. It focuses on a variety of techniques used in recent years for image processing and pattern recognition (principal component analysis, independent component analysis, singular value decomposition, texture modeling, inverse model analysis, polynomial surface fitting, and classification techniques), and considers interventional and non-invasive procedures used to diagnose skin-related disease. It examines the biological causation of four skin disorders (psoriasis, vitiligo, ulcer, and acne), provides basic terminologies in surface imaging, and details the outcome of various clinical observations and other research. It also details numerous measurement parameters related to surface imaging (body surface, skin color, tissue characteristic, thickness, roughness, volume of skin, and retinal changes). Discusses the development of a psoriasis severity measurement tool Provides material on assessing segmented repigmentation areas in vitiligo patients via VT-Scan Introduces a volume ulcer assessment using non-invasive 3D imaging Presents an automated system for acne grading that is based on capturing the images of various body parts using the DSLR camera Includes the MATLAB® codes for various pattern recognition techniques applied during the assessment/measurement at the end of each chapter This interdisciplinary reference highlights the importance of disease diagnosis and monitoring, and is suitable for medical practitioners, biomedical engineers, and core image processing researchers.

Laser and Photonic Systems - Shimon Y. Nof 2014-05-12
New, significant scientific discoveries in laser and photonic technologies, systems perspectives, and integrated design approaches can improve even further the impact in critical areas of challenge. Yet this knowledge is dispersed across several disciplines and research arenas. Laser and Photonic Systems: Design and Integration brings together a multidisciplinary group of experts to increase understanding of the ways in which systems perspectives may influence laser and photonic innovations and application integration. By bringing together chapters from leading scientists and technologists, industrial and

systems engineers, and managers, the book stimulates new thinking that would bring a systems, network, and system-of-systems perspective to bear on laser and photonic systems applications. The chapters challenge you to explore opportunities for revolutionary and broader advancements. The authors emphasize the identification of emerging research and application frontiers where there are promising contributions to lasers, optics, and photonics applications in fields such as manufacturing, healthcare, security, and communications. The book contains insights from leading researchers, inventors, implementers, and innovators. It explains a variety of techniques, models, and technologies proven to work with laser and photonic systems, their development, design, and integration. Such systems are of growing interest to many organizations, given their promise and potential solutions of grand societal challenges. Lastly, the book helps you leverage the knowledge into exciting new frontiers of successful solutions.

Advances on Mechanics, Design Engineering and Manufacturing - Benoit Eynard 2016-09-02
This book gathers papers presented at the International Joint Conference on Mechanics, Design Engineering and Advanced Manufacturing (JCM 2016), held on 14-16 September, 2016, in Catania, Italy. It reports on cutting-edge topics in product design and manufacturing, such as industrial methods for integrated product and process design; innovative design; and computer-aided design. Further topics covered include virtual simulation and reverse engineering; additive manufacturing; product manufacturing; engineering methods in medicine and education; representation techniques; and nautical, aeronautics and aerospace design and modeling. The book is divided into eight main sections, reflecting the focus and primary themes of the conference. The contributions presented here will not only provide researchers, engineers and experts in a range of industrial engineering subfields with extensive information to support their daily work; they are also intended to stimulate new research directions, advanced applications of the methods discussed, and future interdisciplinary collaborations.

Computer Vision and Graphics - Leszek J. Chmielewski 2018-09-13
This book constitutes the refereed proceedings of the International Conference on Computer Vision and Graphics, ICCVG 2018, held in Warsaw, Poland, in September 2018. The 45 full papers were selected from 117 submissions. The contributions are thematically arranged as follows: computer graphics, image quality and graphic, user interfaces, object classification and features, 3D and stereo image processing, low-level and middle-level image processing, medical image analysis, motion analysis and tracking, security and protection, pattern recognition and new concepts in classification.

Occupational Safety and Hygiene III - Pedro M. Arezes 2015-02-02
The papers published in Occupational Safety and Hygiene III cover the following topics:-Occupational safety- Risk assessment- Safety management- Ergonomics- Management systems- Environmental ergonomics- Physical environments- Construction safety, and- Human factors.The contributions are based on research carried out at universities and other resea

Humanizing work and work Environment (HWWE 2016) - Dr Lakhwinder Pal Singh 2018-02-04
Proceedings of 14th International Conference on Humanizing work and work Environment

Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management. Human Body and Motion - Vincent G. Duffy 2019-07-10
This two-volume set LNCS 11581 and 11582 constitutes the thoroughly refereed proceedings of the 10th International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, DHM 2019, which was held as part of the 21st HCI International Conference, HCII 2019, in Orlando, FL, USA, in July 2019. The total of 1275 papers and 209 posters included in the 35 HCII 2019 proceedings volumes were carefully reviewed and selected from 5029 submissions. DHM 2019 includes a total of 77 papers; they were organized in topical sections named: Part I, Human Body and Motion: Anthropometry and computer aided ergonomics; motion prediction and motion capture; work modelling and industrial applications; risk assessment and

safety. Part II, Healthcare Applications: Models in healthcare; quality of life technologies; health dialogues; health games and social communities.

Digital Human Modeling. Applications in Health, Safety, Ergonomics, and Risk Management - Vincent G. Duffy 2018-07-09
This book constitutes the refereed proceedings of the 9th International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics, and Risk Management, DHM 2018, held as part of HCI International 2018 in Las Vegas, NV, USA. HCII 2018 received a total of 4346 submissions, of which 1171 papers and 160 posters were accepted for publication after a careful reviewing process. The 53 papers presented in this volume were organized in topical sections as follows: Anthropometry, ergonomics and design; Motion modelling and rehabilitation; User diversity and well-being; Nursing and medical applications; Transportation human factors.

Firefighters' Clothing and Equipment - Guowen Song 2018-12-07
Protective clothing and equipment used for firefighters protect them against their harsh working environment loaded with strong thermal hazards, elevated environmental temperatures, low oxygen concentration and smoke. This book describes an in-depth review of firefighting clothing and equipment, and explicitly addresses the performance of protection and comfort in textile engineering, clothing design, and evaluation. Covered topics include protection and comfort requirements for firefighting clothing and equipment, testing methods, standards and performance evaluation, smart firefighting clothing for first responders and numerical modeling of performance of firefighting clothing. Key Features Presents complete overview about the requirements of firefighters' protective clothing/thermal protective materials Addresses performance of protection and comfort Includes human thermoregulation system and responses to firefighting working environment Discusses SMART firefighting clothing and equipment Suggests "how to improve the wear comfort?

Advances in Physical Ergonomics and Human Factors - Ravindra S. Goonetilleke 2019-06-01
This book reports on the state of the art in physical ergonomics and addresses the design of

products, processes, services, and work systems to ensure they are productive, safe, and enjoyable for people to use. The human body's responses to physical and physiological work demands, strain injuries from repetition, vibration, force, and posture are the most common types of issues examined, along with their design implications. The book explores a wide range of topics in physical ergonomics, including the consequences of repetitive motion, materials handling, workplace safety, the usability of portable devices, design, working postures, and the work environment. Mastering physical ergonomics and safety engineering concepts is fundamental to creating products and systems that people can safely and conveniently use, as well as avoiding stresses and minimizing the risk of accidents. Based on the AHFE 2019 Conference on Physical Ergonomics and Human Factors, held on July 24-28, 2019, in Washington D.C., USA, this book provides readers with a comprehensive perspective on the current challenges in physical ergonomics, which is a critical aspect in the design of any human-centered technological system, and for factors influencing human performance.

3D Printing in Medicine - Deepak M Kalaskar 2017-04-17
3D Printing in Medicine examines the emerging market of 3D-printed biomaterials and its clinical applications. With a particular focus on both commercial and premarket tools, the book looks at their applications within medicine and the future outlook for the field. The book begins with a discussion of the fundamentals of 3D printing, including topics such as materials, and hardware. Chapters go on to cover applications within medicine such as computational analysis of 3D printed constructs, personalized 3D printing and 3D cell and organ printing. The concluding chapters in the book review the applications of 3D printing in diagnostics, drug development, 3D-printed disease models and 3D printers for surgical practice. With a strong focus on the translation of 3D printing technology to a clinical setting, this book is a valuable resource for scientists and engineers working in biomaterial, biomedical, and nanotechnology based industries and academia. Provides a comprehensive and authoritative overview of all the medical applications of 3D printing biomaterials and technologies Focuses on the emerging market of 3D printed biomaterials in clinical applications Reviews both commercial and under development materials, tools, their applications, and future evolution

Body Composition in Sport, Exercise and Health - Arthur D Stewart 2012-06-25
The analysis of body composition (fat, bone and muscle) is an important process throughout the biomedical sciences. This is the first book to offer a clear and detailed introduction to the key methods and techniques in body composition analysis and to explain the importance of body composition data in the context of sport, exercise and health. With contributions from some of the world's leading body composition specialists, the book goes further than any other in demonstrating the practical and applied value of body composition analysis in areas such as performance sport and weight control in clinical populations. The book pays particular attention to the important concept of change in body composition, and includes discussion of ethical issues in the collection, interpretation and presentation of data, and considerations when working with special populations. Bridging the gap between research methods and practical application, this book is important reading for advanced students and practitioners working in sport and exercise science, health science, anatomy, nutrition, physical therapy or ergonomics.

Intelligent Systems and Applications - Kohei Arai 2021-08-02
This book presents Proceedings of the 2021 Intelligent Systems Conference which is a remarkable collection of chapters covering a wider range of topics in areas of intelligent systems and artificial intelligence and their applications to the real world. The conference attracted a total of 496 submissions from many academic pioneering researchers, scientists, industrial engineers, and students from all around the world. These submissions underwent a double-blind peer-review process. Of the total submissions, 180 submissions have been selected to be included in these proceedings. As we witness exponential growth of computational intelligence in several directions and use of

intelligent systems in everyday applications, this book is an ideal resource for reporting latest innovations and future of AI. The chapters include theory and application on all aspects of artificial intelligence, from classical to intelligent scope. We hope that readers find the book interesting and valuable; it provides the state-of-the-art intelligent methods and techniques for solving real-world problems along with a vision of the future research.