

Ankara University Computer Engineering Department

Nonlinear Systems and Methods For Mechanical, Electrical and Biosystems presents topics observed at the 3rd Conference on Nonlinear Science and Complexity(NSC), focusing on energy transfer and synchronization in hybrid nonlinear systems. The studies focus on fundamental theories and principles, analytical and symbolic approaches, computational techniques in nonlinear physical science and mathematics. Broken into three parts, the text covers: Parametrical excited pendulum, nonlinear dynamics in hybrid systems, dynamical system synchronization and (N+1) body dynamics as well as new views different from the existing results in nonlinear dynamics, mathematical methods for dynamical systems including conservation laws, dynamical symmetry in nonlinear differential equations and invex energies and nonlinear phenomena in physical problems such as solutions, complex flows, chemical kinetics, Toda lattices and parallel manipulator. This book is useful to scholars, researchers and advanced technical members of industrial laboratory facilities developing new tools and products.

Features the Computer Engineering and Information Science Department of Bilkent University in Ankara, Turkey. Posts contact information via street address, telephone and fax numbers, and e-mail. Includes course descriptions and information on upcoming events. Details undergraduate and graduate programs offered and lists faculty members. Provides information on research groups, projects, and publications.

In the digital age, online courses have progressed as popular modes of learning that provide interactive and collaborative learning in educational settings. The open education movement is enabled by the internet and combines the sharing of ideas, resources, and practices among all people in order to advance ideas and knowledge to a new generation of students. Massive open online courses (MOOC) provide a new way of learning for all levels of education. Emerging Trends, Techniques, and Tools for Massive Open Online Course (MOOC) Management is a critical scholarly resource that addresses the difficulties and challenges in MOOC design, implementation, management, and deployment. This comprehensive and timely publication aims to be an essential reference source, building on the available literature in the field of e-learning and online course management while providing for further research opportunities in this dynamic field. Featuring coverage on a wide variety of topics such as gamification in e-learning, plagiarism detection programs, and language online courses, this book is a valuable resource for instructional designers, IT professionals, software developers, academicians, and education professionals seeking current research on the impact of new methodologies and frameworks used in the lifecycle of open online courses.

This book highlights cutting-edge research in the field of network science, offering scientists, researchers, students, and practitioners a unique update on the latest advances in theory and a multitude of applications. It presents the peer-reviewed proceedings of the Eighth International Conference on Complex Networks and their Applications (COMPLEX NETWORKS 2019), which took place in Lisbon, Portugal, on December 10–12, 2019. The carefully selected papers cover a wide range of theoretical topics such as network models and measures; community structure, and network dynamics; diffusion, epidemics, and spreading processes; resilience and control as well as all the main network applications, including social and political networks; networks in finance and economics; biological and neuroscience networks; and technological networks.

Blockchain relies on distributed databases that give an alterable and semipublic record of digital transactions. Blockchain in learning should address theoretical, practical, and technical issues, but it must also consider the philosophy behind interactive blockchain in learning. While the applications of blockchain have been the subject of serious academic research, there must be more continuous and multicultural attention paid to the impact of the latest management, communication, pedagogy, technology, and evaluation-based developments of blockchain in learning. Blockchain Technology Applications in Education is an essential scholarly publication that scrutinizes how open universities establish a blockchain network for decentralized learning. This book will explore a variety of new management models, communicational actions, pedagogical approaches, new technologies, and evaluation models. There will be new trends, patterns, and customs of blockchain in learning drawn from the distinctive improvements in learning milieus. Highlighting a range of topics such as corporate education, lifelong learning, and social media, this book is essential for academicians, curriculum designers, instructional designers, IT consultants, administrators, researchers, and students.

Within educational organizations, administration and leadership are relied upon for the allocation of resources as well as the optimization of processes that can include data storage, knowledge management, and decision making. To support these expectations, technologies, knowledge, and smart systems must be put into place that allow administrators and leaders to accomplish these tasks as efficiently as possible. Utilizing Technology, Knowledge, and Smart Systems in Educational Administration and Leadership is an academic research book that examines knowledge regarding the scholarly exploration of the technologies, information/knowledge, and smart systems in educational administration and leadership. It provides a holistic, systematic, and comprehensive paradigm. Featuring a wide range of topics such as technology leadership in schools, technology integration in educational administration, and professional development, this book is ideal for school administrators, educational leaders, principals, IT consultants, educational software developers, academicians, researchers, professionals, educational policymakers, educators, and students.

This volume presents some recent and principal developments related to computational intelligence and optimization methods in control. Theoretical aspects and practical applications of control engineering are covered by 14 self-contained contributions. Additional gems include the discussion of future directions and research perspectives designed to add to the reader's understanding of both the challenges faced in control engineering and the insights into the developing of new techniques. With the knowledge obtained, readers are encouraged to determine the appropriate control method for specific applications.

The 19th European Symposium on Computer Aided Process Engineering contains papers presented at the 19th European Symposium of Computer Aided Process Engineering (ESCAPE 19) held in Cracow, Poland, June 14-17, 2009. The ESCAPE series serves as a forum for scientists and engineers from academia and industry to discuss progress achieved in the area of CAPE. * CD-ROM that accompanies the book contains all research papers and contributions * International in scope with guest speeches and keynote talks from leaders in science and industry * Presents papers covering the latest research, key top areas and developments in computer aided process engineering (CAPE)

July 20-21, 2017 Lisbon, Portugal Key Topics : Virtual Reality, Animation and Simulations, Computer Games Design & Development, Computer Graphics & Applications, Image Processing, Visualization & Human Computer Interaction, Computer Vision & Pattern Recognition, 3D analysis, representation and printing, Multimedia communications and networking, Multimedia applications and services, Multimedia &

Artificial Intelligence Industry, Mobile Multimedia, Audio, Video, Speech & Signal Processing, Multimedia & AI in Healthcare, Artificial Intelligence,

INTERNATIONAL WORKSHOPS (at IAREC'17) (This book includes English (main) and Turkish languages) International Workshop on Mechanical Engineering International Workshop on Mechatronics Engineering International Workshop on Energy Systems Engineering International Workshop on Automotive Engineering and Aerospace Engineering International Workshop on Material Engineering International Workshop on Manufacturing Engineering International Workshop on Physics Engineering International Workshop on Electrical and Electronics Engineering International Workshop on Computer Engineering and Software Engineering International Workshop on Chemical Engineering International Workshop on Textile Engineering International Workshop on Architecture International Workshop on Civil Engineering International Workshop on Geomatics Engineering International Workshop on Industrial Engineering International Workshop on Food Engineering International Workshop on Aquaculture Engineering International Workshop on Agriculture Engineering International Workshop on Mathematics Engineering International Workshop on Bioengineering Engineering International Workshop on Biomedical Engineering International Workshop on Genetic Engineering International Workshop on Environmental Engineering International Workshop on Other Engineering Science

Biotechnology has been labelled as one of the key technologies of the last two decades of the 20th Century, offering boundless solutions to problems ranging from food and agricultural production to pharmaceutical and medical applications, as well as environmental and bioremediation problems. Biological processes, however, are complex and the prevailing mechanisms are either unknown or poorly understood. This means that adequate techniques for data acquisition and analysis, leading to appropriate modeling and simulation packages that can be superimposed on the engineering principles, need to be routine tools for future biotechnologists. The present volume presents a masterly summary of the most recent work in the field, covering: instrumentation systems; enzyme technology; environmental biotechnology; food applications; and metabolic engineering.

The 3rd International Congress on Energy Efficiency and Energy Related Materials (ENEFM2015) was held from 19–23 October 2015. This congress focused on the latest developments of sustainable energy technologies, materials for sustainable energy applications and environmental and economic perspectives of energy. These proceedings included 40 peer-reviewed technical papers, submitted by leading academic and research institutions from over 23 countries and represented some of the most cutting-edge researches available. The sections included in the 40 papers are listed as follows: Solar Energy, Fuel cells, Hydrogen productions, Hydrogen storage, Energy storage, Energy saving, Biofuels and Bioenergy, Wind Energy, Nuclear Energy, Fossil Energy, Hydropower, Carbon capture and storage, Materials for renewable energy storage and conversion, Photovoltaics and solar cells, Fuel generation from renewables (catalysis), Carbon dioxide sequestration and conversion, Materials for energy saving, Thermoelectrics, Energy saving in buildings, Bio-Assessment and Toxicology, Air pollution from mobile and stationary sources, Transport of Air Pollutants, Environment-Friendly Construction and Development, Energy Management Systems.

"This book discusses the new technologies of semantic Web, transforming the way we use information and knowledge"--Provided by publisher.

Computational technologies have been impacting human life for years. Teaching methods must adapt accordingly to provide the next generation with the necessary knowledge to further advance these human-assistive technologies. Teaching Computational Thinking in Primary Education is a crucial resource that examines the impact that instructing with a computational focus can have on future learners. Highlighting relevant topics that include multifaceted skillsets, coding, programming methods, and digital games, this scholarly publication is ideal for educators, academicians, students, and researchers who are interested in discovering how the future of education is being shaped. This book contains some of the contributions that have been carefully selected and peer-reviewed, which were presented at the International Symposium MME06 Mathematical Methods in Engineering, held in Cankaya University, Ankara, April 2006. The Symposium provided a setting for discussing recent developments in Fractional Mathematics, Neutrices and Generalized Functions, Boundary Value Problems, Applications of Wavelets, Dynamical Systems and Control Theory.

It is the responsibility of educators to utilize contemporary avenues in order to reach their students in ways familiar to them. When teaching digital natives, new techniques are necessary for making new information relevant to their experience. One way to do this is through the use of mobile devices in curricula. This integration can make education accessible anywhere and to anyone, personalized to each student's schedule and needs. The Handbook of Research on Mobile Learning in Contemporary Classrooms expounds the current research on m-learning and strategies to leverage mobile devices in educational contexts. It also addresses the importance of communication, community, and mobility in modern classrooms, while offering a comprehensive overview of the theory and pedagogy associated with this new technology. Nonprofit organizers, K-12 educators, administrators, policy makers, students of education, and developers will find this book to be an important research companion.

This, the 26th issue of the Transactions on Computational Science journal, is comprised of ten extended versions of selected papers from the International Conference on Cyberworlds 2014, held in Santander, Spain, in June 2014. The topics covered include areas of virtual reality, games, social networks, haptic modeling, cybersecurity, and applications in education and arts.

The current learning environment is substantially different than what existed for most of the 20th century. Learners and teachers today must navigate in perpetually changing contexts where education is influenced by technological advancement and obsolescence, economic barriers, a changing employment landscape, and even international politics. Studies indicate that employers seek to hire graduates with strong skills in areas coalescing around international awareness, creativity, communication, leadership, and teamwork. Skills and experiences in these areas are necessary preparation for the current economy and to pursue jobs that do not exist yet, while providing some insulation against the obsolescence of industries that lack these characteristics. These interpersonal skills are not often the subject of students' degrees, yet there are opportunities in online education to cultivate them. With increased interest in new career options comes the need to reconsider how to teach subjects in the increasingly online environment. Advancing Online Course Design and Pedagogy for the 21st Century Learning Environment is a critical reference book that navigates today's dynamic education requirements and provides examples of how online learning can foster growth in skill areas necessary for career advancement through effective course design. Moreover, it helps educators gain insight into online pedagogy and course design for the 21st century learner and prepares them to convert traditional courses and enhance existing online courses, thereby supporting students' growth and development in the highly dynamic online learning environment. Focusing on specific learning activities, assessments, engagement, communication techniques, and more, this book provides a valuable resource for those seeking to upgrade teaching and learning into the online environment, those that seek better employment outcomes for their students, and those seeking to explore contemporary online course design strategies or examples. This includes teachers, instructional designers, curriculum developers, academicians, researchers, and students.

Classical and Modern Direction of Arrival Estimation contains both theory and practice of direction finding by the leading researchers in the field. This unique blend of techniques used in commercial DF systems and state-of-the art super-resolution methods is a valuable source of information for both practicing engineers and researchers. Key topics covered are: Classical methods of direction finding Practical DF methods used in commercial systems Calibration in antenna arrays Array mapping, fast algorithms and wideband processing Spatial time-frequency distributions for DOA estimation DOA estimation in threshold region Higher order statistics for DOA estimation Localization in

sensor networks and direct position estimation Brings together in one book classical and modern DOA techniques, showing the connections between them Contains contributions from the leading people in the field Gives a concise and easy- to- read introduction to the classical techniques Evaluates the strengths and weaknesses of key super-resolution techniques Includes applications to sensor networks This book constitutes the refereed proceedings of the 11th Iberoamerican Congress on Pattern Recognition, CIARP 2006, held in Cancun, Mexico in November 2006. The 99 revised full papers presented together with three keynote articles were carefully reviewed and selected from 239 submissions. The papers cover ongoing research and mathematical methods.

Nanoscale techniques and devices have had an explosive influence on research in life sciences and bioengineering. Reflecting this influence, Nanopatterning and Nanoscale Devices for Biological Applications provides valuable insight into the latest developments in nanoscale technologies for the study of biological systems. Written and edited by experts in the field, this first-of-its-kind collection of topics: Covers device fabrication methods targeting the substrate on the nanoscale through surface modification Explores the generation of nanostructured biointerfaces and bioelectronics elements Examines microfluidically generated droplets as reactors enabling nanoscale sample preparation and analysis Gives an overview of key biosensors and integrated devices with nanoscale functionalities Discusses the biological applications of nanoscale devices, including a review of nanotechnology in tissue engineering Readers gain a deep understanding of the cutting-edge applications of nanotechnologies in biological engineering, and learn how to apply the relevant scientific concepts to their own research. Nanopatterning and Nanoscale Devices for Biological Applications is the definitive reference for researchers in engineering, biology, and biomedicine, and for anyone exploring the newest trends in this innovative field.

These proceedings were prepared in connection with the 14th International Conference on Approximation Theory, which was held April 7-10, 2013 in San Antonio, Texas. The conference was the fourteenth in a series of meetings in Approximation Theory held at various locations in the United States. The included invited and contributed papers cover diverse areas of approximation theory with a special emphasis on the most current and active areas such as compressed sensing, isogeometric analysis, anisotropic spaces, radial basis functions and splines. Classical and abstract approximation is also included. The book will be of interest to mathematicians, engineers\ and computer scientists working in approximation theory, computer-aided geometric design, numerical analysis and related application areas.

This book constitutes the refereed proceedings of the 9th International Conference on Advanced Concepts for Intelligent Vision Systems, ACIVS 2007, held in Delft, The Netherlands, August 2007. Coverage includes noise reduction and restoration, segmentation, motion estimation and tracking, video processing and coding, camera calibration, image registration and stereo matching, biometrics and security, medical imaging, image retrieval, as well as classification and recognition.

Research on multi-agent systems is enlarging our future technical capabilities as humans and as an intelligent society. During recent years many effective applications have been implemented and are part of our daily life. These applications have agent-based models and methods as an important ingredient. Markets, finance world, robotics, medical technology, social negotiation, video games, big-data science, etc. are some of the branches where the knowledge gained through multi-agent simulations is necessary and where new software engineering tools are continuously created and tested in order to reach an effective technology transfer to impact our lives. This book brings together researchers working in several fields that cover the techniques, the challenges and the applications of multi-agent systems in a wide variety of aspects related to learning algorithms for different devices such as vehicles, robots and drones, computational optimization to reach a more efficient energy distribution in power grids and the use of social networks and decision strategies applied to the smart learning and education environments in emergent countries. We hope that this book can be useful and become a guide or reference to an audience interested in the developments and applications of multi-agent systems.

This volume is split into two accessible sections. The first part concentrates on the impact of the crisis on growth, inequality, policy responses and policy shifts in key areas such as central banking. The second part comprises individual country case studies and includes an exploration of the vulnerabilities related to the integration of developing economies into the world economy. The effect of the crisis on trade, and the ways in which some developing countries have entered into a prolonged period of stagnant growth following the global crisis are all considered.

In this book new experimental investigations of properties of Josephson junctions and systems are explored with the help of recent developments in superconductivity. The theory of the Josephson effect is presented taking into account the influence of multiband and anisotropy effects in new superconducting compounds. Anharmonicity effects in current-phase relation on Josephson junctions dynamics are discussed. Recent studies in analogue and digital superconductivity electronics are presented. Topics of special interest include resistive single flux quantum logic in digital electronics. Application of Josephson junctions in quantum computing as superconducting quantum bits are analyzed. Particular attention is given to understanding chaotic behaviour of Josephson junctions and systems. The book is written for graduate students and researchers in the field of applied superconductivity.

Computer Engineering and Information Science Department, Bilkent University

Information systems development underwent many changes as systems transitioned onto web-based forums. Complemented by advancements in security and technology, internet-based systems have become an information mainstay. The Handbook of Research on Contemporary Perspectives on Web-Based Systems is a critical scholarly resource that examines relevant theoretical frameworks, current practice guidelines, industry standards, and the latest empirical research findings in web-based systems. Featuring coverage on a wide range of topics such as data integration, mobile applications, and semantic web, this publication is geared toward computer engineers, IT specialists, software designers, professionals, researchers, and upper-level students seeking current and relevant research on the prevalence of these systems and advancements made to them.

With the rise of distance education in the post-modern world, progressive research on the best methods, tools, and technologies in the field is necessary to continue to take advantage of the pedagogical opportunities and improvements offered through remote learning platforms. The Handbook of Research on Emerging Priorities and Trends in Distance Education: Communication, Pedagogy, and Technology focuses on the latest innovations and technological developments surrounding distance learning, instructional design, and computer-mediated communication in educational settings. This comprehensive research work will be of use to teachers, academicians, IT developers, upper-level students, and school administrators interested in the latest trends in online learning.

"This book examines the applicability and usefulness of new technologies, as well as the pitfalls of these methods in academic research practices, serving as a practical guide for designing and conducting research projects"--Provided by publisher.

This volume gathers selected, peer-reviewed original contributions presented at the International Conference on Computational Vision and Bio-inspired Computing (ICCVBIC) conference which was held in Coimbatore, India, on November 29-30, 2018. The works included here offer a rich and diverse sampling of recent developments in the fields of Computational Vision, Fuzzy, Image Processing and Bio-inspired Computing. The topics covered include computer vision; cryptography and digital privacy; machine learning and artificial neural networks; genetic algorithms and computational intelligence; the Internet of Things; and biometric systems, to name but a few. The applications discussed range from security, healthcare and epidemic control to urban computing, agriculture and robotics. In this book, researchers, graduate students and professionals will find innovative solutions to real-world problems in industry and society as a whole, together with inspirations for further research.

This book contains the contributions presented at the 7th international KES conference on Smart Education and e-Learning (KES SEEL-2020), which being held as a virtual conference on June 17-19, 2020. It contains fifty three high quality peer-reviewed papers that are

grouped into several interconnected parts: Part 1 – Smart Education, Part 2 – Smart e-Learning, Part 3 – Smart Pedagogy, Part 4 - Smart Education: Systems and Technology, Part 5 – Smart Education: Case Studies and Research, Part 6 - Smart University Development: Organizational and Managerial Issues, Part 7 - Smart Education and Smart Universities and their Impact on Students with Disabilities, Part 8 - Mathematical Models in Smart Education and e-Learning, and Part 9 - Models of Professional Practice in Higher Education. Smart education and smart e-learning are emerging and rapidly growing areas with the potential to transform existing teaching strategies, learning environments, and educational activities and technology in the classroom. Smart education and smart e-learning focus on enabling instructors to develop new ways of achieving excellence in teaching in highly technological smart classrooms, and providing students with new opportunities to maximize their success and select the best options for their education, location and learning style, as well as the mode of content delivery. This book serves as a useful source of research data and valuable information on current research projects, best practices and case studies for faculty, scholars, Ph.D. students, administrators, and practitioners – all those who are interested in smart education and smart e-learning.

This book includes papers presented at ESCAPE-10, the 10th European Symposium on Computer Aided Process Engineering, held in Florence, Italy, 7-10th May, 2000. The scientific program reflected two complementary strategic objectives of the 'Computer Aided Process Engineering' (CAPE) Working Party: one checked the status of historically consolidated topics by means of their industrial application and their emerging issues, while the other was addressed to opening new windows to the CAPE audience by inviting adjacent Working Parties to co-operate in the creation of the technical program. The former CAPE strategic objective was covered by the topics: Numerical Methods, Process Design and Synthesis, Dynamics & Control, Process Modeling, Simulation and Optimization. The latter CAPE strategic objective derived from the European Federation of Chemical Engineering (EFCE) promotion of scientific activities which autonomously and transversely work across the Working Parties' terms of references. These activities enhance the exchange of the know-how and knowledge acquired by different Working Parties in homologous fields. They also aim to discover complementary facets useful to the dissemination of tools and of novel procedures. As a consequence, the Working Parties 'Environmental Protection', 'Loss Prevention and Safety Promotion' and 'Multiphase Fluid Flow' were invited to assist in the organization of sessions in the area of: A Process Integrated Approach for: Environmental Benefit, Loss Prevention and Safety, Computational Fluid Dynamics. A total of 473 abstracts from all over the world were evaluated by the International Scientific Committee. Out of them 197 have been finally selected for the presentation and reported into this book. Their authors come from thirty different countries. The selection of the papers was carried out by twenty-eight international reviewers. These proceedings will be a major reference document to the scientific and industrial community and will contribute to the progress in Computer Aided Process Engineering.

Featuring selected contributions from the 2nd International Conference on Mechatronics and Robotics Engineering, held in Nice, France, February 18–19, 2016, this book introduces recent advances and state-of-the-art technologies in the field of advanced intelligent manufacturing. This systematic and carefully detailed collection provides a valuable reference source for mechanical engineering researchers who want to learn about the latest developments in advanced manufacturing and automation, readers from industry seeking potential solutions for their own applications, and those involved in the robotics and mechatronics industry.

Most technologies have been harnessed to enable educators to conduct their business remotely. However, the social context of technology as a mediating factor needs to be examined to address the perceptions of barriers to learning due to the lack of social interaction between a teacher and a learner in such a setting. Developing Technology Mediation in Learning Environments is an essential reference source that widens the scene of STEM education with an all-encompassing approach to technology-mediated learning, establishing a context for technology as a mediating factor in education. Featuring research on topics such as distance education, digital storytelling, and mobile learning, this book is ideally designed for teachers, IT consultants, educational software developers, researchers, administrators, and professionals seeking coverage on developing digital skills and professional knowledge using technology.

This book provides extensive research into the use of augmented reality in the three interconnected and overlapping fields of the tourism industry, museum exhibitions, and cultural heritage. It is written by a virtual team of 50 leading researchers and practitioners from 16 countries around the world. The authors explore the opportunities and challenges of augmented reality applications, their current status and future trends, informal learning and heritage preservation, mixed reality environments and immersive installations, cultural heritage education and tourism promotion, visitors with special needs, and emerging post-COVID-19 museums and heritage sites. Augmented Reality in Tourism, Museums and Heritage: A New Technology to Inform and Entertain is essential reading not only for researchers, application developers, educators, museum curators, tourism and cultural heritage promoters, but also for students (both graduates and undergraduates) and anyone who is interested in the efficient and practical use of augmented reality technology.

Gathering the Proceedings of the 2018 Intelligent Systems Conference (IntelliSys 2018), this book offers a remarkable collection of chapters covering a wide range of topics in intelligent systems and computing, and their real-world applications. The Conference attracted a total of 568 submissions from pioneering researchers, scientists, industrial engineers, and students from all around the world. These submissions underwent a double-blind peer review process, after which 194 (including 13 poster papers) were selected to be included in these proceedings. As intelligent systems continue to replace and sometimes outperform human intelligence in decision-making processes, they have made it possible to tackle many problems more effectively. This branching out of computational intelligence in several directions, and the use of intelligent systems in everyday applications, have created the need for such an international conference, which serves as a venue for reporting on cutting-edge innovations and developments. This book collects both theory and application-based chapters on all aspects of artificial intelligence, from classical to intelligent scope. Readers are sure to find the book both interesting and valuable, as it presents state-of-the-art intelligent methods and techniques for solving real-world problems, along with a vision of future research directions.

Hard boundaries have traditionally existed between such fields as fuzzy systems, neural networks, genetic algorithms, chaotic systems and expert systems. Gradually those boundaries are tending to vanish and "soft computing"-based systems that mix these different approaches have begun to emerge. Soft Computing Techniques in Human-Related Sciences focuses on the use of novel techniques such as artificial neural networks, fuzzy logic and genetic algorithms to solve practical problems related to humans: their activities, health and social needs. This volume illustrates and presents in an organized manner some of the recent progress in the applications of soft computing to fields related to social science, medical science, psychology, psychiatry , management of health and community services, and humanoid robots. Soft Computing Techniques in Human-Related Sciences begins with an introductory chapter to aid newcomers with the basic concepts, and progresses to the methodology of the use of soft computing in robotics, prosthetics, medicine, psychology and man-machine interaction.

The six-volume set LNCS 8579-8584 constitutes the refereed proceedings of the 14th International Conference on Computational Science and Its Applications, ICCSA 2014, held in Guimarães, Portugal, in June/July 2014. The 347 revised papers presented in 30 workshops and a special track were carefully reviewed and selected from 1167. The 289 papers presented in the workshops cover various areas in computational science ranging from computational science technologies to specific areas of computational science such as computational geometry and security.

[Copyright: e1ebe19a8db8d310638e55d17979caf1](#)