2d Design Asu

This substantially revised second edition takes into account the provisions of the revised Indian Code of practice for Plain and Reinforced Concrete IS 456 : 2000. It also provides additional data on detailing of steel to make the book more useful to practicing engineers. The chapter on Limit State of Durability for Environment has been completely revised and the new provisions of the code such as those for design for shear in reinforced concrete, rules for shearing main steel in slabs, lateral steel in columns, and stirrups in beams have been explained in detail in the new edition. This comprehensive and systematically organized book is intended for undergraduate students of Civil Engineering, covering the first course on Reinforced Concrete Design and as a reference for the practicing engineers. Besides covering IS 456 : 2000, the book also deals with the British and US Codes. Advanced topics of IS 456 : 2000 have been discussed in the companion volume Advanced Reinforced Concrete Design (also published by Prentice-Hall of India). The two books together cover all the topics in IS 456 : 2000 and many other topics which are so important in modern methods of design of reinforced concrete.

Using Unreal Engine 3, the authors teach aspiring game makers the fundamentals of designing a computer game. The only prerequisite is a basic working knowledge of computers and a desire to build an original game. To get the most out of the book, the authors recommend gathering up some friends and working through the book together as a team and with time limits, mimicking the key elements of real world commercial game development. This book mirrors the curriculum used at CampGame, a six week summer program organized for high school students at The New York University and Arizona State University that has been running successfully for over five years. Students enter with no prior knowledge of game making whatsoever, and through the course of six intensive weeks, they finish as teams of budding game developers who have already completed fully functional games with their own designs, code, and art. Unreal® is a registered trademark of Epic Games, Inc. Copyright in the Unreal Development Kit, Unreal Tournament, and Unreal Engine 3 is owned by Epic Games. Content of those programs included in screen shots in this book is copyrighted by Epic Games and used with the permission of Epic Games.

Butch Queens Up in Pumps examines Ballroom culture, in which inner-city LGBT individuals dress, dance, and vogue to compete for prizes and trophies. Participants are affiliated with a house, an alternative family structure typically named after haute couture designers and providing support to this diverse community. Marlon M. Bailey's rich first-person performance ethnography of the Ballroom scene in Detroit examines Ballroom as a queer cultural formation that upsets dominant notions of gender, sexuality, kinship, and community.

The Game Maker's Apprentice shows you how to create nine exciting games using the wildly popular Game Maker game creation tool. This book covers a range of genres, including action, adventure, and puzzle games--complete with professional quality sound effects and visuals. It discusses game design theory and features practical examples of how this can be applied to making games that are more fun to play. Game Maker allows games to be created using a simple drag-and-drop interface, so you don't need to

have any prior coding experience. It includes an optional programming language for adding advanced features to your games, when you feel ready to do so. You can obtain more information by visiting book.gamemaker.nl. The authors include the creator of the Game Maker tool and a former professional game programmer, so you'll glean understanding from their expertise.

This book reports on the latest knowledge concerning critical phenomena arising in fluid-structure interaction due to movement and/or deformation of bodies. The focus of the book is on reporting progress in understanding turbulence and flow control to improve aerodynamic / hydrodynamic performance by reducing drag, increasing lift or thrust and reducing noise under critical conditions that may result in massive separation, strong vortex dynamics, amplification of harmful instabilities (flutter, buffet), and flow -induced vibrations. Theory together with large-scale simulations and experiments have revealed new features of turbulent flow in the boundary layer over bodies and in thin shear layers immediately downstream of separation. New insights into turbulent flow interacting with actively deformable structures, leading to new ways of adapting and controlling the body shape and vibrations to respond to these critical conditions, are investigated. The book covers new features of turbulent flows in boundary layers over wings and in shear layers immediately downstream: studies of natural and artificially generated fluctuations; reduction of noise and drag; and electromechanical conversion topics. Smart actuators as well as how smart designs lead to considerable benefits compared with conventional methods are also extensively discussed. Based on contributions presented at the IUTAM Symposium "Critical Flow Dynamics involving Moving/Deformable Structures with Design applications", held in June 18-22, 2018, in Santorini, Greece, the book provides readers with extensive information about current theories, methods and challenges in flow and turbulence control, and practical knowledge about how to use this information together with smart and bio-inspired design tools to improve aerodynamic and hydrodynamic design and safety. .

This work offers guidance on bridge design for extreme events induced by human beings. This document provides the designer with information on the response of concrete bridge columns subjected to blast loads as well as blast-resistant design and detailing guidelines and analytical models of blast load distribution. The content of this guideline should be considered in situations where resisting blast loads is deemed warranted by the owner or designer.

This book constitutes the refereed proceedings of the 22nd International Conference on DNA Computing and Molecular Programming, DNA 22, held Munich, Germany, in September 16 The 11 full papers presented together with 10 invited and tutorial talks were carefully selected from 55 submissions Research in DNA computing and molecular programming draws together mathematics, computer science, physics, chemistry, biology, and nanotechnology to address the analysis, design, and synthesis of information-based molecular systems

Meant for students and practicing engineers, this book provides a clear, comprehensive and up-to-date introduction to Digital Image Processing in a pragmatic style. An illustrative approach, practical examples and MATLAB applications given in the book help in bringing the theory to life.

In this book, a precise treatment of the experimental characterization of advanced composite materials using Digital Image

Correlation (DIC) is presented. The text explains test methods, testing setup with 2D- and stereo-DIC, specimen preparation and patterning, testing analysis and data reduction schemes to determine and to compare mechanical properties, such as modulus, strength and fracture toughness of advanced composite materials. Sensitivity and uncertainty studies on the DIC calculated data and mechanical properties for a detailed engineering-based understanding are covered instead of idealized theories and sugarcoated results. The book provides students, instructors, researchers and engineers in industrial or government institutions, and practitioners working in the field of experimental/applied structural mechanics of materials a myriad of color figures from DIC measurements for better explanation, datasets of material properties serving as input parameters for analytical modelling, raw data and computer codes for data reduction, illustrative graphs for teaching purposes, practice exercises with solutions provided online and extensive references to the literature at the end of each stand-alone chapter.

th 2002 DEXA, the 13 International Conference on Database and Expert Systems Applications was held on September 2–6, 2002, at the Université Aix–Marseille II, France. The quickly growing field of information systems required the establishment of more specialized discussion platforms (the DaWaK conference, EC-Web conference, eGOV conference and DEXA workshops), and there were held in parallel with DEXA, also in Aix-en-Provence. The resulting book was prepared with great effort. Starting with the preparation of submitted papers, the papers went through the reviewing process. The accepted papers were revised to final versions by their authors and arranged to the conference program. This year 241 papers were submitted and our thanks go to all who have contributed. The program committee and the supporting reviewers produced altogether about 730 referee reports, on average three reports per paper, and selected 89 papers for presentation. The papers presented here encompass the extensive domain of databases; together with the other conferences and workshops of the DEXA event cluster a vast part of applied computer science was covered. In this way DEXA has blazed the trail. At this point we would like to acknowledge to all institutions which actively supported this conference and made it possible. These are: • IUT (Université Aix – Marseille II), • FAW, • DEXA Association, • the Austrian Computer Society, • and Microsoft Research

College Algebra provides a comprehensive exploration of algebraic principles and meets scope and sequence requirements for a typical introductory algebra course. The modular approach and richness of content ensure that the book meets the needs of a variety of courses. The text and images in this textbook are grayscale.

UNLOCK YOUR GAME'S NARRATIVE POTENTIAL! With increasingly sophisticated video games being consumed by an enthusiastic and expanding audience, the pressure is on game developers like never before to deliver exciting stories and engaging characters. With Video Game Storytelling, game writer and producer Evan Skolnick provides a comprehensive yet easy-to-follow guide to storytelling basics and how they can be applied at every stage of the development process—by all members of the team. This clear, concise reference pairs relevant examples from top games and other media with a breakdown of the key roles in game development, showing how a team's shared understanding and application of core storytelling principles can deepen the player experience. Understanding story and why it matters is no longer just for writers or narrative designers. From

team leadership to game design and beyond, Skolnick reveals how each member of the development team can do his or her part to help produce gripping, truly memorable narratives that will enhance gameplay and bring today's savvy gamers back time and time again.

New series Character Design Collection features 50 expert artists using professional techniques and approaches to create a library of inspiring sketches.

What is the unemployment rate? How many adults have high blood pressure? What is the total area of land planted with soybeans? Sampling: Design and Analysis tells you how to design and analyze surveys to answer these and other questions. This authoritative text, used as a standard reference by numerous survey organizations, teaches sampling using real data sets from social sciences, public opinion research, medicine, public health, economics, agriculture, ecology, and other fields. The book is accessible to students from a wide range of statistical backgrounds. By appropriate choice of sections, it can be used for a graduate class for statistics students or for a class with students from business, sociology, psychology, or biology. Readers should be familiar with concepts from an introductory statistics class including linear regression; optional sections contain the statistical theory, for readers who have studied mathematical statistics. Distinctive features include: More than 450 exercises. In each chapter, Introductory Exercises develop skills, Working with Data Exercises give practice with data from surveys, Working with Theory Exercises allow students to investigate statistical properties of estimators, and Projects and Activities Exercises integrate concepts. A solutions manual is available. An emphasis on survey design. Coverage of simple random, stratified, and cluster sampling; ratio estimation; constructing survey weights; jackknife and bootstrap; nonresponse; chi-squared tests and regression analysis. Graphing data from surveys. Computer code using SAS® software. Online supplements containing data sets, computer programs, and additional material. Sharon Lohr, the author of Measuring Crime: Behind the Statistics, has published widely about survey sampling and statistical methods for education, public policy, law, and crime. She has been recognized as Fellow of the American Statistical Association, elected member of the International Statistical Institute, and recipient of the Gertrude M. Cox Statistics Award and the Deming Lecturer Award. Formerly Dean's Distinguished Professor of Statistics at Arizona State University and a Vice President at Westat, she is now a freelance statistical consultant and writer. Visit her website at www.sharonlohr.com. This edition is a reprint of the second edition published by Cengage Learning, Inc. Reprinted with permission.

On Thursday, July 13, 1995, Chicagoans awoke to a blistering day in which the temperature would reach 106 degrees. The heat index, which measures how the temperature actually feels on the body, would hit 126 degrees by the time the day was over. Meteorologists had been warning residents about a two-day heat wave, but these temperatures did not

end that soon. When the heat wave broke a week later, city streets had buckled; the records for electrical use were shattered; and power grids had failed, leaving residents without electricity for up to two days. And by July 20, over seven hundred people had perished-more than twice the number that died in the Chicago Fire of 1871, twenty times the number of those struck by Hurricane Andrew in 1992—in the great Chicago heat wave, one of the deadliest in American history. Heat waves in the United States kill more people during a typical year than all other natural disasters combined. Until now, no one could explain either the overwhelming number or the heartbreaking manner of the deaths resulting from the 1995 Chicago heat wave. Meteorologists and medical scientists have been unable to account for the scale of the trauma, and political officials have puzzled over the sources of the city's vulnerability. In Heat Wave, Eric Klinenberg takes us inside the anatomy of the metropolis to conduct what he calls a "social autopsy," examining the social, political, and institutional organs of the city that made this urban disaster so much worse than it ought to have been. Starting with the question of why so many people died at home alone, Klinenberg investigates why some neighborhoods experienced greater mortality than others, how the city government responded to the crisis, and how journalists, scientists, and public officials reported on and explained these events. Through a combination of years of fieldwork, extensive interviews, and archival research, Klinenberg uncovers how a number of surprising and unsettling forms of social breakdown—including the literal and social isolation of seniors, the institutional abandonment of poor neighborhoods, and the retrenchment of public assistance programs—contributed to the high fatality rates. The human catastrophe, he argues, cannot simply be blamed on the failures of any particular individuals or organizations. For when hundreds of people die behind locked doors and sealed windows, out of contact with friends, family, community groups, and public agencies, everyone is implicated in their demise. As Klinenberg demonstrates in this incisive and gripping account of the contemporary urban condition, the widening cracks in the social foundations of American cities that the 1995 Chicago heat wave made visible have by no means subsided as the temperatures returned to normal. The forces that affected Chicago so disastrously remain in play in America's cities, and we ignore them at our peril. For the Second Edition Klinenberg has added a new Preface showing how climate change has made extreme weather events in urban centers a major challenge for cities and nations across our planet, one that will require commitment to climate-proofing changes to infrastructure rather than just relief responses.

The use of computation and simulation has become an essential part of the scientific process. Being able to transform a theory into an algorithm requires significant theoretical insight, detailed physical and mathematical understanding, and a working level of competency in programming. This upper-division text provides an unusually broad survey of the topics of modern computational physics from a multidisciplinary, computational science point of view. Its philosophy is rooted in

learning by doing (assisted by many model programs), with new scientific materials as well as with the Python programming language. Python has become very popular, particularly for physics education and large scientific projects. It is probably the easiest programming language to learn for beginners, yet is also used for mainstream scientific computing, and has packages for excellent graphics and even symbolic manipulations. The text is designed for an upper-level undergraduate or beginning graduate course and provides the reader with the essential knowledge to understand computational tools and mathematical methods well enough to be successful. As part of the teaching of using computers to solve scientific problems, the reader is encouraged to work through a sample problem stated at the beginning of each chapter or unit, which involves studying the text, writing, debugging and running programs, visualizing the results, and the expressing in words what has been done and what can be concluded. Then there are exercises and problems at the end of each chapter for the reader to work on their own (with model programs given for that purpose). The text could be used for a one-semester course on scientific computing. The relevant topics for that are covered in the first third of the book. The latter two-thirds of the text includes more physics and can be used for a two-semester course in computational physics, covering nonlinear ODEs, Chaotic Scattering, Fourier Analysis, Wavelet Analysis, Nonlinear Maps, Chaotic systems, Fractals and Parallel Computing. The e-book extends the paper version by including many codes, visualizations and applets, as well as links to video lectures. * A table at the beginning of each chapter indicates video lectures, slides, applets and animations. * Applets illustrate the results to be expected for projects in the book, and to help understand some abstract concepts (e.g. Chaotic Scattering) * The eBook's figures, equations, sections, chapters, index, table of contents, code listings, glossary, animations and executable codes (both Applets and Python programs) are linked, much like in a Web document. * Some equations are linked to their xml forms (which can be imported into Maple or Mathematica for manipulation). * The e-book will link to video-based lecture modules, held by principal author Professor Rubin Landau, that cover most every topic in the book.

Solar energy will undoubtedly become a main source of energy in our life by the end of this century, but how big of a role will photovoltaics play in this new energy infrastructure? Besides cost and efficiency, there are other barriers for current solar cell technologies to become a noticeable source of energy in the future. Availability of raw materials, energy input, storage of solar electricity, and recycling of dead modules can all prevent or hinder a tangible impact by solar photovoltaics. This book is intended for readers with minimal technical background and aims to explore not only the fundamentals but also major issues in large-scale deployment of solar photovoltaics. Thought-provoking ideas to overcoming some of the barriers are discussed.

In the last few years, a significant increase in applications of MMCs has taken place, particularly in the areas of

automotive, aerospace, electronics, and recreation. These include continuous fiber reinforced MMCs for cables in power transmission, high temperature superconducting wires, particulate MMCs in civilian aircraft and automotive applications, and high volume fraction, high thermal conductivity substrates for electronic packaging. Nevertheless, as with any novel material systems, there is a lack of fundamental understanding on the part of practicing engineers and designers. This book would seek to address these issues, in a thorough and cohesive manner, as well as to provide students and scientists with a basic understanding of MMCs. This book will emphasize the synergistic relationships among processing, structure, and properties of metal matrix composites.

The recent digital and mobile revolutions are a minor blip compared to the next wave of technological change, as everything from robot swarms to skin-top embeddable computers and bio printable organs start appearing in coming years. In this collection of inspiring essays, designers, engineers, and researchers discuss their approaches to experience design for groundbreaking technologies. Design not only provides the framework for how technology works and how it's used, but also places it in a broader context that includes the total ecosystem with which it interacts and the possibility of unintended consequences. If you're a UX designer or engineer open to complexity and dissonant ideas, this book is a revelation. Contributors include: Stephen Anderson, PoetPainter, LLC Lisa Caldwell, Brazen UX Martin Charlier, Independent Design Consultant Jeff Faneuff, Carbonite Andy Goodman, Fjord US Camille Goudeseune, Beckman Institute, University of Illinois at Urbana-Champaign Bill Hartman, Essential Design Steven Keating, MIT Media Lab, Mediated Matter Group Brook Kennedy, Virginia Tech Dirk Knemeyer, Involution Studios Barry Kudrowitz, University of Minnesota Gershom Kutliroff, Omek Studio at Intel Michal Levin, Google Matt Nish-Lapidus, Normative Erin Rae Hoffer, Autodesk Marco Righetto, SumAll Juhan Sonin, Involution Studios Scott Stropkay, Essential Design Scott Sullivan, Adaptive Path Hunter Whitney, Hunter Whitney and Associates, Inc. Yaron Yanai, Omek Studio at Intel BRAND NEW FOR 2019: A fully revised and updated edition of the quintessential guide to learning to negotiate effectively in every part of your life "A must read for everyone seeking to master negotiation. This newly updated classic just got even better."—Robert Cialdini, bestselling author of Influence and Pre-Suasion As director of the world-renowned Wharton Executive Negotiation Workshop, Professor G. Richard Shell has taught thousands of business leaders, lawyers, administrators, and other professionals how to survive and thrive in the sometimes rough-and-tumble world of negotiation. In the third edition of this internationally acclaimed book, he brings to life his systematic, step-by-step approach, built around negotiating effectively as who you are, not who you think you need to be. Shell combines lively stories about world-class negotiators from J. P. Morgan to Mahatma Gandhi with proven bargaining advice based on the latest research into negotiation and neuroscience. This updated edition includes: This updated edition includes: · An easy-to-take "Negotiation I.Q." test that reveals your unique strengths as a negotiator · A brand new chapter on reliable moves to use when you are short on bargaining power or stuck at an impasse · Insights on how to succeed when you negotiate online · Research on how gender and cultural differences can derail negotiations, and advice for putting

relationships back on track

Provides the mathematical framework for controlling and analyzing linear time-varying systems

Doing Valuable Time explores the human concern with expending our life's time well. We pursue what we take to be valuable, strive to live meaningfully, judge whether our present circumstances are good enough, and have standards for what we are willing to take an interest in. Doing valuable time, however, is not an easy task. Expending time on big, important life-projects often entails lots of little time expenditures on the seemingly meaningless, and our ability to take an interest in our own futures is fragile. our present circumstances often leaves us with endless opportunities for discontent-too much spare time, too much of the same thing all of the time, or too much time stuck in stalled projects. Doing Valuable Time is a book about the difficulties we face in achieving valuable time and the interest--and disinterest--we take in our own present and future. Professor Cheshire Calhoun explores the implications of using time well in order to achieve the unachievable: living a meaningful life. Through seven chapters of rigorous philosophical inquiry and compelling practical insights, Calhoun explains the motivating interest we take in our future, and how hope sustains activities that are likely to fail. Doing Valuable Time shows the value of committing ourselves to having a particular future, and the possibilities for finding contentment with the imperfect present.

Matrix algebra has been called "the arithmetic of higher mathematics" [Be]. We think the basis for a better arithmetic has long been available, but its versatility has hardly been appreciated, and it has not yet been integrated into the mainstream of mathematics. We refer to the system commonly called 'Clifford Algebra', though we prefer the name 'Geometric Algebm' suggested by Clifford himself. Many distinct algebraic systems have been adapted or developed to express geometric relations and describe geometric structures. Especially notable are those algebras which have been used for this purpose in physics, in particular, the system of complex numbers, the quatemions, matrix algebra, vector, tensor and spinor algebras and the algebra of differential forms. Each of these geometric algebras has some significant advantage over the others in certain applications, so no one of them provides an adequate algebraic structure for all purposes of geometry and physics. At the same time, the algebras overlap considerably, so they provide several different mathematical representations for individual geometrical or physical ideas.

55% new material in the latest edition of this "must-have for students and practitioners of image & video processing! This Handbook is intended to serve as the basic reference point on image and video processing, in the field, in the research laboratory, and in the classroom. Each chapter has been written by carefully selected, distinguished experts specializing in that topic and carefully reviewed by the Editor, Al Bovik, ensuring that the greatest depth of understanding be communicated to the reader. Coverage includes introductory, intermediate and advanced topics and as such, this book serves equally well as classroom textbook as reference resource. • Provides practicing engineers and students with a highly accessible resource for learning and using image/video processing theory and algorithms • Includes a new chapter on image processing education, which should prove invaluable for those developing or modifying their curricula • Covers the various image and video processing standards that exist and are emerging, driving today's explosive industry • Offers an understanding of what images are, how they are modeled, and

gives an introduction to how they are perceived • Introduces the necessary, practical background to allow engineering students to acquire and process their own digital image or video data • Culminates with a diverse set of applications chapters, covered in sufficient depth to serve as extensible models to the reader's own potential applications About the Editor... Al Bovik is the Cullen Trust for Higher Education Endowed Professor at The University of Texas at Austin, where he is the Director of the Laboratory for Image and Video Engineering (LIVE). He has published over 400 technical articles in the general area of image and video processing and holds two U.S. patents. Dr. Bovik was Distinguished Lecturer of the IEEE Signal Processing Society (2000), received the IEEE Signal Processing Society Meritorious Service Award (1998), the IEEE Third Millennium Medal (2000), and twice was a two-time Honorable Mention winner of the international Pattern Recognition Society Award. He is a Fellow of the IEEE, was Editor-in-Chief, of the IEEE Transactions on Image Processing (1996-2002), has served on and continues to serve on many other professional boards and panels, and was the Founding General Chairman of the IEEE International Conference on Image Processing which was held in Austin, Texas in 1994. * No other resource for image and video processing contains the same breadth of up-to-date coverage * Each chapter written by one or several of the top experts working in that area * Includes all essential mathematics, techniques, and algorithms for every type of image and video processing used by electrical engineers, computer scientists, internet developers, bioengineers, and scientists in various, image-intensive disciplines

This book brings together science fiction, history, visual art, and exploration to reframe the relationship among climate, crisis, and creation. A Year Without a Winter presents stories by four renowned science fiction authors alongside critical essays, extracts from Mary Shelley's Frankenstein, and dispatches from extreme geographies.

The Kelmscott Chaucer is the most memorable and beautiful edition of the complete works of the first great English poet. Next to The Gutenberg Bible, it is considered the outstanding typographic achievement of all time. There are 87 full-page illustrations by Sir Edward Burne-Jones, and the borders, decorations and initials are drawn byWilliam Morris himself. Only 425 copies of this magnificent work were produced in 1896, and this beautiful monochrome facsimile, slightly smaller than the original, makes this glorious book available to all. A fascinating Introduction by Nicholas Barker places the book and its importance in context. The main text is followed by a black and white facsimile of ANoteby William Morris on his Aims in Founding the Kelmscott Press, together with a Short History of the Press by S C Cockerell.

This book provides readers with a variety of algorithms and software tools, dedicated to the physical design of through-silicon-via (TSV) based, three-dimensional integrated circuits. It describes numerous "manufacturing-ready" GDSII-level layouts of TSV-based 3D ICs developed with the tools covered in the book. This book will also feature sign-off level analysis of timing, power, signal integrity, and thermal analysis for 3D IC designs. Full details of the related algorithms will be provided so that the readers will be able not only to grasp the core mechanics of the physical design tools, but also to be able to reproduce and improve upon the results themselves. This book will also offer various design-for-manufacturability (DFM), design-for-reliability (DFR), and design-for-testability (DFT) techniques that are considered critical to the physical design process.

Natalie Diaz's highly anticipated follow-up to When My Brother Was an Aztec, winner of an American Book Award Postcolonial Love Poem is an anthem of desire against erasure. Natalie Diaz's brilliant second collection demands that every body carried in its pages—bodies of

language, land, rivers, suffering brothers, enemies, and lovers—be touched and held as beloveds. Through these poems, the wounds inflicted by America onto an indigenous people are allowed to bloom pleasure and tenderness: "Let me call my anxiety, desire, then. / Let me call it, a garden." In this new lyrical landscape, the bodies of indigenous, Latinx, black, and brown women are simultaneously the body politic and the body ecstatic. In claiming this autonomy of desire, language is pushed to its dark edges, the astonishing dunefields and forests where pleasure and love are both grief and joy, violence and sensuality. Diaz defies the conditions from which she writes, a nation whose creation predicated the diminishment and ultimate erasure of bodies like hers and the people she loves: "I am doing my best to not become a museum / of myself. I am doing my best to breathe in and out. // I am begging: Let me be lonely but not invisible." Postcolonial Love Poem unravels notions of American goodness and creates something more powerful than hope—in it, a future is built, future being a matrix of the choices we make now, and in these poems, Diaz chooses love.

This book contains extended and revised versions of the best papers presented at the 28th IFIP WG 10.5/IEEE International Conference on Very Large Scale Integration, VLSI-SoC 2020, held in Salt Lake City, UT, USA, in October 2020.* The 16 full papers included in this volume were carefully reviewed and selected from the 38 papers (out of 74 submissions) presented at the conference. The papers discuss the latest academic and industrial results and developments as well as future trends in the field of System-on-Chip (SoC) design, considering the challenges of nano-scale, state-of-the-art and emerging manufacturing technologies. In particular they address cutting-edge research fields like low-power design of RF, analog and mixed-signal circuits, EDA tools for the synthesis and verification of heterogenous SoCs, accelerators for cryptography and deep learning and on-chip Interconnection system, reliability and testing, and integration of 3D-ICs. *The conference was held virtually.

The book contains state-of the-art reviews in the area of effective properties of heterogeneous materials - the classical field at interface of materials science and solid mechanics. The primary focus is on thermo-mechanical properties, materials science applications, as well as computational aspects and new opportunities provided by rapidly increasing computer powers. The reviews are at the level that is appropriate for a substantial community of researchers working in this field, both at universities and in the industry, and to graduate students. The book can be used as supplementary reading to graduate level courses.

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