# Elevator Technology

In the last year, the International Space Elevator Consortium assessed that basic technological needs can be met with current capabilities: and, each segment of the Space Elevator Transportation System is ready for engineering validation. Because of the availability of a new material as a potential Space Elevator tether, the community strongly believes that a Space Elevator will be initiated in the near term. Included in the book is a series of appendices that are tremendous references to the status of the space elevator today. Included are a lexicon of space elevator terms, over 750 references in the bibliography, short descriptions of eight ISEC year-long studies and two IAA 4-year studies on space elevators, as well as a summary of over 20 Architectural Notes covering the development of space elevator technologies.

This proceeding is a compilation of selected papers from the 8th International Workshop of Advanced Manufacturing and Automation (IWAMA 2018), held in Changzhou, China on September 25 - 26, 2018. Most of the topics are focusing on novel techniques for manufacturing and automation in Industry 4.0 and smart factory. These contributions are vital for maintaining and improving economic development and quality of life. The proceeding will assist academic researchers and industrial engineers to implement the concepts and theories of Industry 4.0 in industrial practice, in order to effectively respond to the challenges posed by the 4th industrial revolution and smart factory.

Under the editorship of David Raitt, this timely book brings together for the first time the record of people, places, developments and activities, in fiction and in fact, of the space elevator - a 100,000 km long, meter wide, ribbon reaching up from the Earth and into space along which robotic climbers that will travel to bring payloads into orbit at a fraction of the price of rocket launches. The chapters in the book cover the early pioneers who dreamt up the concept initially some 120 years ago; the work of modern day scientists and engineers who have developed the concept into doable plans; how the concept has been portrayed in novels, films and art; the conferences at which interested people could present and discuss their work and ideas; the global community that has grown up around space elevators and the competition challenges that have been held; and what the future may hold.

The book entitled "Advancements in Smart City and Intelligent Building" is the Proceedings of the International Conference on Smart City and Intelligent Building (ICSCIB 2018) held in Hefei, China, September 15-16, 2018. It contains 58 papers in total categorized into 8 different tracks, on Building Energy Efficiency, Construction Robot and Automation, Intelligent Community and Urban Safety, Intelligentialization of Heating Ventilation Air Conditioning System, Information Technology and Intelligent Transportation Systems, New Generation Intelligent Building Platform Techniques, Smart Home and Utility, and Smart Underground Space, which cover a wide range areas of smart cities and intelligent buildings. ICSCIB2018 provided an international forum for professionals, academics, and researchers to present the latest developments from interdisciplinary theoretical studies, computational algorithm developments and engineering applications in smart cities and smart buildings. This academic event featured many opportunities to network with colleagues from around the world in a wonderful environment. Its program covered invitation and presentations from scientists, researchers, and practitioners who have been working in the related areas to establish platforms for collaborative research projects in these fields. The conference invited leaders from industry and academia to exchange and share their experiences, present research results, explore collaborations and to spark new ideas, with the aim of developing new projects and exploiting new technology in these fields, and bridge theoretical studies and emerging applications in various science and engineering branches. This book addresses the recent development and achievement in the field of smart city and intelligent building. It is primarily intended for researchers and students for undergraduate and postgraduate programs in the background of multiple disciplines including computer science, information systems, information technology, automatic control and automation, electrical and electronic engineering, and telecommunications who wish to develop and share their ideas, knowledge and new findings in smart city and intelligent building.

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This book aims at providing basic technical information to the builders and architects which they normally seek from consultants. The content of this book is also expected to provide basic elevator knowledge to the students, particularly future Engineers, builders and architects. It is also my aim to help the employees of elevator companies, to get to know the elevators fully. Currently students do not get the opportunity to study about elevators. This book could lay the foundation for introducing " Basics of Elevator technology" as an elective subject. It is the author?s belief that the civil, mechanical, Electrical or Electronic engineers & Architects who have done an elective in elevator engineering would find it easy to get absorbed in the Elevator industry. This book may also be a source of knowledge for the common man who manages housing societies. This book features Foreword from Mr Malhotra the former Managing Director of OTIS India and Mr Leandre Adifon the former Vice President of OTIS Worldwide Engineering, USA which justifies the value of this book.

Discover how to measure, control, model, and plan people flow within modern buildings with this one-stop resource from a leading professional People Flow in Buildings delivers a comprehensive and insightful description of people flow, analysis with software-based tools. The book offers readers an up-to-date overview of mathematical optimization methods used in control systems and transportation planning methods used to manage vertical and horizontal transportation. The text offers a starting point for selecting the optimal transportation equipment for new buildings and those being modernized. It provides insight into making passenger journeys pleasant and smooth, while providing readers with an examination of how modern trends in building usage, like increasingly tall buildings and COVID-19, effect people flow planning in buildings. People Flow in Buildings clearly defines the terms and symbols it includes and then moves on to deal with the measurement, control, modelling, and planning of people flow within buildings of all kinds. Each chapter contains an introduction describing its contents and the background of the subject. Included appendices describe measured passenger data and performed analyses. Readers will also benefit from the inclusion of: A thorough introduction to people-counting methods, including counting technology inside and outside buildings, passenger traffic components, and manual people-counting An examination of the passenger arrival process in building, including the Poisson arrival process and probability density function, and passenger arrivals in batches A consideration of daily vertical passenger traffic profiles, including two-way traffic profiles and the effects of inter-floor traffic An exploration of people flow solutions, including stairs,

escalators, and elevators with collective and destination group control systems, as well as double-deck and multicar system People flow calculation and simulation models Elevator planning with ISO simulation method Elevator planning and evacuation of tall buildings Perfect for software designers in the private sector and academia, People Flow in Buildings will also earn a place in the libraries of elevator consultants, manufacturers, and architects who seek a one-stop reference for transportation devices from a functional and design perspective, as opposed to a hardware perspective.

This collection explores how technologies become forms of power, how people embed their authority in technological systems, and how the machines and the knowledge that make up technical systems strengthen or reshape social, political, and cultural power. The authors suggest ways in which a more nuanced investigation of technology's complex history can enrich our understanding of the changing meanings of modernity. They consider the relationship among the state, expertise, and authority; the construction of national identity; changes in the structure and distribution of labor; political ideology and industrial development; and political practices during the Cold War. The essays show how insight into the technological aspects of such broad processes can help synthesize material and cultural methods of inquiry and how reframing technology's past in broader historical terms can suggest new directions for science and technology studies.The essays were written in honor of Thomas Parke Hughes and Agatha Chipley Hughes, whose spirit of inquiry they seek to continue. Contributors Janet Abbate, Michael Thad Allen, W. Bernard Carlson, Gabrielle Hecht, Erik P. Rau, Eric Schatzberg, Amy Slaton, John Staudenmaier, Edmund N. Todd, Hans Weinberger

This new edition of a one-of-a-kind handbook provides an essential updating to keep the book current with technology and practice. New coverage of topics such as machine-room-less systems and current operation and control procedures, ensures that this revision maintains its standing as the premier general reference on vertical transportation. A team of new contributors has been assembled to shepherd the book into this new edition and provide the expertise to keep it up to date in future editions. A new copublishing partnership with Elevator World Magazine ensures that the quality of the revision is kept at the highest level, enabled by Elevator World's Editor, Bob Caporale, joining George Strakosch as co-editor.

Each century has its own unique approach toward addressing the problem of high density and the 21st century is no exception. As cities try to cope with rapid population growth - adding 2.5 billion dwellers by 2050 - and grapple with destructive sprawl, politicians, planners and architects have become increasingly interested in the vertical city paradigm. Unfortunately, cities all over the world are grossly unprepared for integrating tall buildings, as these buildings may aggravate multidimensional sustainability challenges resulting in a "vertical sprawl" that could have worse consequences than "horizontal" sprawl. By using extensive data and numerous illustrations this book provides a comprehensive guide to the successful and sustainable integration of tall buildings into cities. A new crop of skyscrapers that employ passive design strategies, green technologies, energy-saving systems and innovative renewable energy offers significant architectural improvements. At the urban scale, the book argues that planners must integrate tall buildings with efficient mass transit, walkable neighbourhoods, cycling networks, vibrant mixed-use activities, iconic transit stations, attractive plazas, well-landscaped streets, spacious parks and engaging public art. Particularly, it proposes the Tall Building and Transit Oriented Development (TB-TOD) model as one of the sustainable options for large cities going forward. Building on the work of leaders in the fields of ecological and sustainable design, this book will open readers' eyes to a wider range of possibilities for utilizing green, resilient, smart, and sustainable features in architecture and urban planning projects. The 20 chapters offer comprehensive reading for all those interested in the planning, design, and construction of sustainable cities.

The first volume to critically engage the work of Andrew Feenberg.

This volume constitutes the refereed proceedings of the 3rd International Conference on Advanced Communication and Networking, ACN 2011, held in Brno, Czech Republik, in June 2011. The 57 revised full papers presented in this volume were carefully reviewed and selected from numerous submissions. The papers focus on the various aspects of progress in Advanced Communication and Networking with computational sciences, mathematics and information technology and address all current issues of communication basic and infrastructure, networks basic and management, multimedia application, image, video, signal and information processing.

As businesses undergo digital transformation, technologies will lead to greater efficiencies and change how we interact in traditional relationships among suppliers, producers, and customers, as well as between human and machine. One such technology is the introduction of management information systems (MIS) that provide a company with the coordination, control, analysis, and visualization of information by collecting from various digital environments. In today's digital age, information needs to be managed, and MIS have the ability to transfer the information obtained by computer systems to the business operations within the business models, business processes, and management functions. Advanced MIS and Digital Transformation for Increased Creativity and Innovation in Business is an essential reference source that discusses the impact of digital technologies in enterprises and their competitive environment on management information systems and examines the application of new technologies to support strategic decisions and realize exciting visions. Featuring research on topics such as machine learning, resource planning, and e-commerce, this book is ideally designed for managers, executives, IT specialists, analysts, business professionals, training officers, software engineers, business administrators, scholars, researchers, and practitioners seeking coverage on future trends, issues, and challenges in relation to management information systems.

Intelligent building is the future of our building industry; all commercial, residential, industrial and institutional buildings will be designed towards the goal of `intelligent buildings'. The most important aspect of an intelligent building is the building systems, such as electrical services, heating, ventilation and air-conditioning systems, vertical transportation systems, and life safety systems, which must operate intelligently and efficiently to enhance the activities of the occupants. Intelligent Building Systems explains what already exists in a modern intelligent building and describes what is currently being developed by researchers to improve human comfort, working efficiency and energy performance for buildings in the 21st century. Intelligent Building Systems is divided into three parts. The first part gives a quick review of the structure, terminology, layout and operating principles of most standard modern building systems. The second part introduces the background material necessary to understand intelligent building systems, including information on electronics technology, fundamental mathematics, and techniques in artificial intelligence and signal processing. These first two parts are the foundation for the final part, which consists of research works carried out by the authors and other researchers in the application of artificial intelligence to building systems. The technologies presented will encourage readers to envision new and innovative ideas on possible future applications. Intelligent Building Systems is relevant to practitioners and researchers in the area of architectural science and engineering, electrical and mechanical services and intelligent buildings. It may also be used as a text for advanced courses on the topic.

Basic overview of elevator systems, equipment and technology. Covers elevator systems and codes, types of equipment and technology, and elevator terminology.

This second edition of this well-respected book covers all aspects of the traffic design and control of vertical transportation systems in buildings, making it an essential reference for vertical transportation engineers, other members of the design team, and researchers. The book introduces the basic principles of circulation, outlines traffic design methods and examines and analyses

traffic control using worked examples and case studies to illustrate key points. The latest analysis techniques are set out, and the book is up-to-date with current technology. A unique and well-established book, this much-needed new edition features extensive updates to technology and practice, drawing on the latest international research.

Eco-Towers introduces readers to groundbreaking designs, most progressive projects, and innovative ways of thinking about a new generation of green skyscrapers that could provide solutions to crises the world faces today including climate change, depleting resources, deteriorating ecology, population increase, decreasing food supply, urban heat island effect, pollution, deforestation, and more. The book suggests that the eco-tower culminates the cultural and technological evolutions of the 21st century by building and improving on the experiences of earlier designs of skyscrapers and philosophies particularly green, sustainable, and ecological. It argues that the true green skyscraper is the one that engages successfully with its larger urban context by establishing symbiotic relationships with the social, economic, and environmental aspects. Since tall buildings are becoming larger and taller, serving greater number of people, and exerting higher demand on the environment and existing infrastructure, any improvements in their design and construction will significantly enhance urban conditions. The book elucidates how green skyscrapers better serve tenants, mitigate environmental impacts, and improve integration with the city infrastructure. It explains how skyscrapers' long life cycle offers the greatest justifications for recycling precious resources, and makes it a worthwhile to employ green features in constructing new skyscrapers and retrofitting existing ones. Subsequently, the book explores new designs that are employing cutting-edge green technologies at a grand scale including water-saving technologies, solar panels, helical wind turbines, sunlight-sensing LED lights, rainwater catchment systems, graywater and blackwater recycling systems, seawater-powered air conditioning, and the like. In the future, new building materials and smart technologies will continue to offer innovative design approaches to sustainable tall buildings with new aesthetics, referred to as "eco-iconic" skyscrapers.

This history of skyscrapers examines how these tall buildings affected the cityscape and the people who worked in, lived in, and visited them. Much of the focus is rightly on the architects who had the vision to design and build America's skyscrapers, but attention is also given to the steelworkers who built them, the financiers who put up the money, and the daredevils who attempt to "conquer" them in some inexplicable pursuit of fame. The impact of the skyscraper on popular culture, particularly film and literature, is also explored.