

Trailblazing Medicine Sustaining Explorers During Interplanetary Missions Springer Praxis Books

Turning Dust to GoldSpaceX's Dragon: America's Next
Generation SpacecraftMedical Malpractice and the
U.S. Health Care SystemVirgin GalacticSurvival and
Sacrifice in Mars ExplorationTrailblazing
MedicineSeeing PatientsNavigating the
BadlandsKilling the SSXCOR, Developing the Next
Generation SpaceplaneInformation Needs of
CommunitiesPathfindersTo Mars and Beyond,
Fast!Biotechnology and Production of Anti-Cancer
CompoundsBecoming a Knowledge-Sharing
OrganizationPrepare for LaunchBigelow
AerospacePulling GHuman Factors in Air
TransportSpaceXAstronauts For HireThe New Space
Race: China vs. USAIn the Shadow of the MoonThe
Lean Builder: A Builder's Guide to Applying Lean Tools
in the FieldMusic, Health and WellbeingSpace
InvadersIntroduction to Chinese CultureSecond
SunsTrailblazing in EntrepreneurshipYour Strategy
Needs a StrategyEntrepreneurshipYoung People,
Social Media and Health (Open Access)Sustainable
HealthcareSpacewearShare, Don't Take the
LeadTourists in SpaceTrading Promises for
ResultsRelativistic Flight Mechanics and Space
TravelMartian OutpostThe Cambridge History of
Medicine

Dragon V2 is a futuristic vehicle that not only provides a means for NASA to transport its astronauts to the orbiting outpost but also advances SpaceX's core objective of reusability. A direct descendant of Dragon, Dragon V2 can be retrieved, refurbished and re-launched. It is a spacecraft with the potential to completely revolutionize the economics of an industry where equipment costing hundreds of millions of dollars is routinely discarded after a single use. It was presented by SpaceX CEO Elon Musk in May 2014 as the spaceship that will carry NASA astronauts to the International Space Station as soon as 2016. SpaceX's Dragon - America's Next Generation Spacecraft describes the extraordinary feats of engineering and human achievement that have placed this revolutionary spacecraft at the forefront of the launch industry and positioned it as the precursor for ultimately transporting humans to Mars. It describes the design and development of Dragon, provides mission highlights of the first six Commercial Resupply Missions, and explains how Musk hopes to eventually colonize Mars.

SpaceX's Dragon: America's Next Generation Spacecraft

The expansion of our civilization to the Moon and beyond is now within our reach, technically, intellectually and financially. Apollo was not our last foray into the Solar System and already science fiction is finding it difficult to keep ahead of science

and engineering fact. In 1807, few people anticipated the Wright Brothers' human flight a hundred years later. In 1869, only science fiction writers would have suggested landing people on the Moon in 1969. Similarly, other great inventions in mechanics and in electronics were not envisaged and therefore the technologies to which those inventions gave birth were only foreseen by a tiny group of visionaries.

Medical Malpractice and the U.S. Health Care System

Manned space programs attract the most media attention, and it is not hard to understand why: the danger, the heroism, the sheer adventure we as earthbound observers can imagine when humans are involved. But robotic missions deserve a respectful and detailed history and analysis of their own, and this book provides it. Instead of describing one specific spacecraft or mission, Michel van Pelt offers a "behind the scenes" look at the life of a space probe from its first conceptual design to the analysis of the scientific data returned by the spacecraft.

Virgin Galactic

Today's astronauts require many different abilities. They must not only be expert in performing flight simulations but must also be proficient in such dissimilar subjects as photography, thermodynamics, electrical repairs, flight procedures, oceanography, public affairs, and geology. In *Prepare for Launch*, the author introduces the technologies and myriad

activities that constitute or affect astronaut training, such as the part-task trainers, emergency procedures, the fixed-based and motion-based simulators, virtual environment training, and the demands of training in the Weightless Environment Training Facility. With plans to return to the Moon and future missions to Mars, the current selection criteria and training are very different from those used for short duration mission Space Shuttle crews. Dr. Erik Seedhouse in this book focuses on how astronaut candidates are taught to cope with different needs and environments (for example, hibernation, artificial gravity, and bioethics issues) and also includes brief discussions of the astronaut application and selection process.

Survival and Sacrifice in Mars Exploration

The Cambridge History of Medicine surveys the rise of medicine in the West from classical times to the present. Covering both the social and scientific history of medicine, this 2006 volume traces the chronology of key developments and events, engaging with the issues, discoveries, and controversies that have characterized medical progress.

Trailblazing Medicine

Promoting cultural understanding in a globalized world, this text is a key tool for students interested in understanding the fundamentals of Chinese culture. Written by a team of experts in their fields, it offers a comprehensive and detailed introduction to Chinese

culture and addresses the fundamentals of Chinese cultural and social development. It notably considers Chinese traditional culture, medicine, arts and crafts, folk customs, rituals and etiquette, and is a key read for scholars and students in Chinese Culture, History and Language.

Seeing Patients

With current technology, a voyage to Mars and back will take three years. That's a lot of time for things to go wrong. But sooner or later a commercial enterprise will commit itself to sending humans to Mars. How will the astronauts survive? Some things to consider are: With current technology, a voyage to Mars and back will take three years. That's a lot of time for things to go wrong. But sooner or later a commercial enterprise will commit itself to sending humans to Mars. How will the astronauts survive? Some things to consider are:

- Who decides what medical resources are used for whom? Who decides what medical resources are used for whom?
- What is the relative weight of mission success and the health of the crew? What is the relative weight of mission success and the health of the crew?
- Do we allow crewmembers to sacrifice their lives for the good of the mission? Do we allow crewmembers to sacrifice their lives for the good of the mission?
- And what if a crewmember does perish? Do we store the body for return to Earth or give the member a burial in space? Questions like these, and hundreds of others, have been explored by science fiction, but scant attention has been paid by those designing missions. Fortunately, the experience

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gained in polar exploration more than 100 years ago provides crews and mission planners with a framework to deal with contingencies and it is this that forms the core of this book. Why the parallels between polar and space exploration? Because polar exploration offers a better analogy for a Mars mission today than those invoked by the space community. Although astronauts are routinely compared to Lewis and Clark, Mars-bound astronauts will be closer in their roles to polar explorers. And, as much as space has been described as a New Frontier, Mars bears greater similarity to the polar regions, which is why so much can be learned from those who ventured there. And what if a crewmember does perish? Do we store the body for return to Earth or give the member a burial in space? Questions like these, and hundreds of others, have been explored by science fiction, but scant attention has been paid by those designing missions. Fortunately, the experience gained in polar exploration more than 100 years ago provides crews and mission planners with a framework to deal with contingencies and it is this that forms the core of this book. Why the parallels between polar and space exploration? Because polar exploration offers a better analogy for a Mars mission today than those invoked by the space community. Although astronauts are routinely compared to Lewis and Clark, Mars-bound astronauts will be closer in their roles to polar explorers. And, as much as space has been described as a New Frontier, Mars bears greater similarity to the polar regions, which is why so much can be learned from those who ventured there.

In this groundbreaking book, Mary O'Hara-Devereaux -- an internationally renowned business forecaster -- shows how organizations can hone their competitive edge during these uncertain times. Using the metaphor of traveling through the badlands of the American West, *Navigating the Badlands* offers the principles, tools, transformative strategies, and essential understanding executives and business leaders need if they are to weather the rugged, global business landscape of the future. Throughout the book O'Hara-Devereaux reveals how business leaders can seize the opportunity to create new value from successful alliances, reach global markets, and find top talent.

Killing the SS

Confronting Nazi evil is the subject of the latest installment in the mega-bestselling *Killing* series. As the true horrors of the Third Reich began to be exposed immediately after World War II, the Nazi war criminals who committed genocide went on the run. A few were swiftly caught, including the notorious SS leader, Heinrich Himmler. Others, however, evaded capture through a sophisticated Nazi organization designed to hide them. Among those war criminals were Josef Mengele, the "Angel of Death" who performed hideous medical experiments at Auschwitz; Martin Bormann, Hitler's brutal personal secretary; Klaus Barbie, the cruel "Butcher of Lyon"; and perhaps the most awful Nazi of all: Adolf Eichmann.

Killing the SS is the epic saga of the espionage and daring waged by self-styled "Nazi hunters." This determined and disparate group included a French husband and wife team, an American lawyer who served in the army on D-Day, a German prosecutor who had signed an oath to the Nazi Party, Israeli Mossad agents, and a death camp survivor. Over decades, these men and women scoured the world, tracking down the SS fugitives and bringing them to justice, which often meant death. Written in the fast-paced style of the Killing series, Killing the SS will educate and stun the reader. The final chapter is truly shocking.

XCOR, Developing the Next Generation Spaceplane

Employing the same informational approach Erik Seedhouse used in "SpaceX" and "Bigelow Aerospace", this new book familiarizes space enthusiasts with the company XCOR Aerospace and examines the design of the two-seater Lynx. The new spaceplane's low weight and high octane fuel confer important advantages, such as direct runway launches and the ability to fly several times per day. Over the last 15 years, XCOR has developed and built 13 different rocket engines, built and flown two manned rocket-powered aircraft and has accumulated over 4,000 engine firings and nearly 500 minutes of run time on their engines. This book serves as a go-to reference guide for suborbital scientists and those seeking to learn how one company has found success. Additionally, it describes the medical and training

requirements for those flying on board the Lynx and the related critical roles of the astronaut trainers and a new breed of commercial space pilots. The end result is a thorough chronicle of the development of rocket propulsion, avionics, simulator and ground support operations being put into play by XCOR with the Lynx.

Information Needs of Communities

Pathfinders

This textbook provides students and the broader aviation community with a complete, accessible guide to the subject of human factors in aviation. It covers the history of the field before breaking down the physical and psychological factors, organizational levels, technology, training, and other pivotal components of a pilot and crew's routine work in the field. The information is organized into easy-to-digest chapters with summaries and exercises based on key concepts covered, and it is supported by more than 100 full-color illustrations and photographs. All knowledge of human factors required in aviation university studies is conveyed in a concise and casual manner, through the use of helpful margin notes and anecdotes that appear throughout the text.

To Mars and Beyond, Fast!

This book explores the power music has to address health inequalities and the social determinants of

health and wellbeing. It examines music participation as a determinant of wellbeing and as a transformative tool to impact on wider social, cultural and environmental conditions. Uniquely, in this volume health and wellbeing outcomes are conceptualised on a continuum, with potential effects identified in relation to individual participants, their communities but also society at large. While arts therapy approaches have a clear place in the text, the emphasis is on music making outside of clinical contexts and the broader roles musicians, music facilitators and educators can play in enhancing wellbeing in a range of settings beyond the therapy room. This innovative edited collection will be of great interest to scholars and practitioners of music, social services, medical humanities, education and the broader health field in the social and medical sciences.

Biotechnology and Production of Anti-Cancer Compounds

Thirty years after the region embarked on large-scale liberalization, trade policy could have been expected to become all but irrelevant. Instead, a mismatch between expectations and what could realistically be delivered set the stage for much of the disappointment, skepticism, and fatigue regarding trade policy in the region, particularly in the early 2000s. By setting the bar unrealistically high, governments and analysts made trade policies an easy target for special interests that were hurt by liberalization and for those ideologically opposed to

free trade. The most immediate victims were the more tangible growth and welfare gains, whose relevance was lost amid the noise of grandiose visions.

Becoming a Knowledge-Sharing Organization

You think you have a winning strategy. But do you? Executives are bombarded with bestselling ideas and best practices for achieving competitive advantage, but many of these ideas and practices contradict each other. Should you aim to be big or fast? Should you create a blue ocean, be adaptive, play to win—or forget about a sustainable competitive advantage altogether? In a business environment that is changing faster and becoming more uncertain and complex almost by the day, it's never been more important—or more difficult—to choose the right approach to strategy. In this book, The Boston Consulting Group's Martin Reeves, Knut Haanæs, and Janmejaya Sinha offer a proven method to determine the strategy approach that is best for your company. They start by helping you assess your business environment—how unpredictable it is, how much power you have to change it, and how harsh it is—a critical component of getting strategy right. They show how existing strategy approaches sort into five categories—Be Big, Be Fast, Be First, Be the Orchestrator, or simply Be Viable—depending on the extent of predictability, malleability, and harshness. In-depth explanations of each of these approaches will provide critical insight to help you match your

approach to strategy to your environment, determine when and how to execute each one, and avoid a potentially fatal mismatch. Addressing your most pressing strategic challenges, you'll be able to answer questions such as: • What replaces planning when the annual cycle is obsolete? • When can we—and when should we—shape the game to our advantage? • How do we simultaneously implement different strategic approaches for different business units? • How do we manage the inherent contradictions in formulating and executing different strategies across multiple businesses and geographies? Until now, no book brings it all together and offers a practical tool for understanding which strategic approach to apply. Get started today.

Prepare for Launch

The world's most populous nation views space as an asset, not only from a technological and commercial perspective but also from a political one. The repercussions of this ideology already extend far beyond Washington. China vs. the United States explores future Chinese aspirations in space and the implications of a looming space race. Dr. Seedhouse provides background information on the fifteen-year history of the China National Space Administration and its long list of accomplishments. Sino-U.S. technological and commercial interests in space are discussed, including their interest in encouraging a potential space race. The national security objectives of the U.S. and China are also examined.

Mars Outpost provides a detailed insight into the various technologies, mission architectures, medical requirements, and training needed to send humans to Mars. It focuses on mission objectives and benefits, and the risks and complexities that are compounded when linked to an overall planet exploration program involving several expeditions and setting up a permanent presence on the surface. The first section provides the background to sending a human mission to Mars. Analogies are made with early polar exploration and the expeditions of Shackleton, Amundsen, and Mawson. The interplanetary plans of the European Space Agency, NASA, and Russia are examined, including the possibility of one or more nations joining forces to send humans to Mars. Current mission architectures, such as NASA's Constellation, ESA's Aurora, and Ross Tierney's DIRECT, are described and evaluated. The next section looks at how humans will get to the Red Planet, beginning with the preparation of the crew. The author examines the various analogues to understand the problems Mars-bound astronauts will face. Additional chapters describe the transportation hardware necessary to launch 4-6 astronauts on an interplanetary trajectory to Mars, including the cutting edge engineering and design of life support systems required to protect crews for more than a year from the lethal radiation encountered in deep space. NASA's current plan is to use standard chemical propulsion technology, but eventually Mars crews will take advantage of advanced propulsion concepts,

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such as the Variable Specific Impulse Magnetoplasma Rocket, ion drives and nuclear propulsion. The interplanetary options for reaching Mars, as well as the major propulsive maneuvers required and the trajectories and energy requirements for manned and unmanned payloads, are reviewed. Another chapter addresses the daunting medical problems and available countermeasures for humans embarking on a mission to Mars: the insidious effects of radiation on the human body and the deleterious consequences of bone and muscle deconditioning. Crew selection will be considered, bearing in mind the strong possibility that they may not be able to return to Earth. Still another chapter describes the guidance, navigation, and control system architecture, as well as the lander design requirements and crew tasks and responsibilities required to touch down on the Red Planet. Section 3 looks at the surface mission architectures. Seedhouse describes such problems as radiation, extreme temperatures, and construction challenges that will be encountered by colonists. He examines proposed concepts for transporting cargo and astronauts long distances across the Martian surface using magnetic levitation systems, permanent rail systems, and flying vehicles. In the penultimate chapter of the book, the author explains an adaptable and mobile exploration architecture that will enable long-term human exploration of Mars, perhaps making it the next space-based tourist location.

Pulling G

Now in paperback: a #1 New York Times–bestselling

author's gripping chronicle of "two doctors . . . bringing light to those in darkness" (Time) The publisher will donate a portion of its proceeds on the sale of this book to the Himalayan Cataract Project. *Second Suns* is the unforgettable true story of two very different doctors with a common mission: to rid the world of preventable blindness. Dr. Geoffrey Tabin was the high-achieving "bad boy" of his class at Harvard Medical School. Dr. Sanduk Ruit grew up in a remote village in the Himalayas, where cataract blindness—easily curable in modern hospitals—amounts to an epidemic. Together, they pioneered a new surgical method, by which they have restored sight to over 100,000 people—all for about \$20 per operation. Master storyteller David Oliver Relin brings the doctors' work to vivid life through poignant portraits of their patients, from old men who can once again walk treacherous mountain trails, to children who can finally see their mothers' faces. The Himalayan Cataract Project is changing the world—one pair of eyes at a time.

Human Factors in Air Transport

Performing in a high G environment is extremely demanding on the body: pulling G forces blood to the body's extremities, putting the pilot, astronaut or driver at risk of G-Induced Lack of Consciousness (G-LOC). In "Pulling G" Erik Seedhouse describes what it feels like to pull 7 G in a fighter plane and the G pressures on the body when driving a Formula 1 car and many other gravity-defying vehicles. The book relates, for the first time, the effects of G in both

hyper-gravity and microgravity. It describes the human response to increased and decreased G and the potentially dangerous effects of high G, with particular reference to dynamic injuries sustained in high acceleration environments. "Pulling G" provides an overview of G-related research and the development of intervention methods to mitigate the effects of increased and reduced G. As well as relating the training required to overcome G-forces on the Formula 1 track, Erik Seedhouse looks at the G forces encountered in such G environments as ejection from an aircraft, launch/re-entry, and zero-G. The book also considers how artificial gravity can be used to prevent bone demineralization and to reduce the effects of de-conditioning in astronauts. Erik Seedhouse is eminently qualified to describe the effects of large accelerations on the body. In addition to being the author of several previously published Springer Praxis books, he has developed astronaut-training protocols and is the training director for Astronauts for Hire (A4H). He is also the Canadian Forces' High Risk Acceleration Training Officer.

SpaceX

The main substance of the book begins with a background review of Einstein's Special Theory of Relativity as it pertains to relativistic flight mechanics and space travel. Next, the book moves into relativistic rocket mechanics and related subject matter. Finally, the primary subjects regarding space travel are covered in some depth-a crescendo for the book. This is followed by a geometric treatment of

relativistic effects by using Minkowski diagrams and K-calculus. The book concludes with brief discussions of other prospective, even exotic, transport systems for relativistic space travel. An appendix is provided to cover tables of useful data and unit conversions together with mathematical identities and other information used in this book. Annotated references are provided for further reading. A detailed glossary and index are given at the beginning and end of the book, respectively. To provide a better understanding of the subject matter presented in the book, simple problems with answers are provided at the end of each of the four substantive chapters.

Astronauts For Hire

Share, Don't Take the Lead is a book that offers an alternative perspective on leadership. The philosophy of shared leadership is straightforward: Leadership does not derive solely from position, authority, or hierarchy. Instead, leadership is something that can be executed by anyone who has the best knowledge or skill to undertake the leadership necessary in any given situation. Shared leadership is especially relevant, for example, in empowered teams where shared leadership can be initiated from any team member at any time, depending on the needs of the moment and the capabilities of the individuals. But the notion of shared leadership is also appropriate in a larger context. For example, an individual lower in the hierarchy can provide leadership if that person is best qualified to exercise it. Shared leadership also shows how hierarchical leaders with formal authority

can use empowerment to develop leadership in others. This book tells the tales of how multiple trail blazing organizations used shared leadership to build high performance. The notion of shared leadership seems to contradict many of the bedrock ideas of efficient management and effective organizations. A typical first reaction is, "It'll never work here!" Yet, the organizations that "get it" and implement this new powerful approach tend to be more innovative and to outperform their "naysayer" competitors. In fact, shared leadership is one of the most important ideas to hit business in recent years—our recent feature article about shared leadership in the Wall Street Journal is testimony to that. Shared leadership can provide a way for companies to increase productivity, quality, and flexibility while meeting the competitiveness challenge. Share the Lead provides new insights and information about how to push the organizational envelope to new frontiers.

The New Space Race: China vs. USA

Here for the first time you can read: how a space technology start-up is pioneering work on expandable space station modules how Robert Bigelow licensed the TransHab idea from NASA, and how his company developed the technology for more than a decade how, very soon, a Bigelow expandable module will be docked with the International Space Station. At the core of Bigelow's plan is the inflatable module technology. Tougher and more durable than their rigid counterparts, these inflatable modules are perfectly suited for use in the space, where Bigelow

plans to link them together to form commercial space stations. This book describes how this new breed of space stations will be built and how the link between Bigelow Aerospace, NASA and private companies can lead to a new economy—a space economy. Finally, the book touches on Bigelow's aspirations beyond low Earth orbit, plans that include the landing of a base on the lunar surface and the prospect of missions to Mars.

In the Shadow of the Moon

The pervasiveness of social media in young people's lives is widely acknowledged, yet there is little evidence-based understanding of the impacts of social media on young people's health and wellbeing. *Young People, Social Media and Health* draws on novel research to understand, explain, and illustrate young people's experiences of engagement with health-related social media; as well as the impacts they report on their health, wellbeing, and physical activity. Using empirical case studies, digital representations, and evidence from multi-sector and interdisciplinary stakeholders and academics, this volume identifies the opportunities and risk-related impacts of social media. Offering new theoretical insights and practical guidelines for educators, practitioners, parents/guardians, and policy makers; *Young People, Social Media and Health* will also appeal to students and researchers interested in fields such as Sociology of Sport, Youth Sports Development, Secondary Physical Education, and Media Effects.

The Lean Builder: A Builder's Guide to Applying Lean Tools in the Field

This book is open access under a CC BY 4.0 license. In this book, the authors present a challenge for future research to build a stronger, more complete understanding of entrepreneurial phenomena. They argue that this more complete picture of entrepreneurial phenomena will likely come from scholars who undertake at least some trailblazing projects; from scholars who broaden the range of research questions, the potential outcomes of entrepreneurial action, and the selection and combination of research methods; and from researchers who avoid the endless debates about the margins of the field and its sub-fields or about whether one theoretical or philosophical lens is superior to another. This book offers suggestions for future research through a variety of topics including prosocial action, innovation, family business, sustainability and development, and the financial, social, and psychological costs of failure. It promises to make an important contribution to the development of the field and help academics, organizations, and society make useful contributions to the generation of entrepreneurial research.

Music, Health and Wellbeing

"A powerful and extraordinarily important book."
--James P. Comer, MD "A marvelous personal journey that illuminates what it means to care for people of all races, religions, and cultures. The story of this man

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becomes the aspiration of all those who seek to minister not only to the body but also to the soul." --Jerome Groopman, MD, author of *How Doctors Think*

Growing up in Jim Crow-era Tennessee and training and teaching in overwhelmingly white medical institutions, Gus White witnessed firsthand how prejudice works in the world of medicine. While race relations have changed dramatically since then, old ways of thinking die hard. In this blend of memoir and manifesto, Dr. White draws on his experience as a resident at Stanford Medical School, a combat surgeon in Vietnam, and head orthopedic surgeon at one of Harvard's top teaching hospitals to make sense of the unconscious bias that riddles medical care, and to explore how we can do better in a diverse twenty-first-century America. "Gus White is many things--trailblazing physician, gifted surgeon, and freedom fighter. *Seeing Patients* demonstrates to the world what many of us already knew--that he is also a compelling storyteller. This powerful memoir weaves personal experience and scientific research to reveal how the enduring legacy of social inequality shapes America's medical field. For medical practitioners and patients alike, Dr. White offers both diagnosis and prescription." --Jonathan L. Walton, Plummer Professor of Christian Morals, Harvard University

"A tour de force--a compelling story about race, health, and conquering inequality in medical care. Dr. White has a uniquely perceptive lens with which to see and understand unconscious bias in health care. His journey is so absorbing that you will not be able to put this book down." --Charles J. Ogletree, Jr., author of *All Deliberate Speed*

This book discusses cancers and the resurgence of public interest in plant-based and herbal drugs. It also describes ways of obtaining anti-cancer drugs from plants and improving their production using biotechnological techniques. It presents methods such as cell culture, shoot and root culture, hairy root culture, purification of plant raw materials, genetic engineering, optimization of culture conditions as well as metabolic engineering with examples of successes like taxol, shikonin, ingenol mebutate and podophylotoxin. In addition, it describes the applications and limitations of large-scale production of anti-cancer compounds using biotechnological means. Lastly, it discusses future economical and eco-friendly strategies for obtaining anti-cancer compounds using biotechnology.

Introduction to Chinese Culture

As advanced in-space propulsion moves from science fiction to reality, the Variable Specific Impulse Magnetoplasma Rocket, or VASIMR® engine, is a leading contender for making 'Mars in a month' a possibility. A paradigm shift in space transportation, this book is an in-depth and compelling story co-written by its inventor. It traces the riveting history of the development of the VASIMR® engine. This landmark technology is grounded in concepts of advanced plasma physics. It cross-pollinates ideas and disciplines to offer a new, practical, and sustainable solution for in-space transportation

beyond low Earth orbit in the decades to come. Invented by the co-holder of the world's spaceflight record, astronaut Franklin Chang Díaz, the VASIMR® engine is developed by Ad Astra Rocket Company in its Texas facilities with NASA as part of the NextSTEP VASIMR® partnership. With adequate funding, the first spaceflight of the VASIMR® engine is imminent. Plasma rockets feature exhaust velocities far above those achievable by conventional chemical rockets. The VASIMR® engine is the most advanced high-power plasma propulsion system operating in the world today and it may place long, fast interplanetary journeys within our reach in the near future.

Second Suns

Tells the story of the exciting and challenging years in space flight, with two superpowers engaged in a titanic struggle to land one of their own people on the moon. This book explores the inspirations, ambitions, personalities, and experiences of the select few whose driving ambition was to fly to the moon.

Trailblazing in Entrepreneurship

In 2009, a bipartisan Knight Commission found that while the broadband age is enabling an info. and commun. renaissance, local communities in particular are being unevenly served with critical info. about local issues. Soon after the Knight Commission delivered its findings, the FCC initiated a working group to identify crosscurrent and trend, and make recommendations on how the info. needs of

communities can be met in a broadband world. This report by the FCC Working Group on the Info. Needs of Communities addresses the rapidly changing media landscape in a broadband age. Contents: Media Landscape; The Policy and Regulatory Landscape; Recommendations. Charts and tables. This is a print on demand report.

Your Strategy Needs a Strategy

This book connects medical liability to broader trends and goals in American health policy.

Entrepreneurship

This first account of commercial spaceflight's most successful venture describes the extraordinary feats of engineering and human achievement that have placed SpaceX at the forefront of the launch industry and made it the most likely candidate for transporting humans to Mars. Since its inception in 2002, SpaceX has sought to change the space launch paradigm by developing a family of launch vehicles that will ultimately reduce the cost and increase the reliability of space access tenfold. Coupled with the newly emerging market for governmental, private, and commercial space transport, this new model will reignite humanity's efforts to explore and develop space. Formed in 2002 by Elon Musk, the founder of PayPal and the Zip2 Corporation, SpaceX has already developed two state-of-the-art new launch vehicles, established an impressive launch manifest, and been awarded COTS funding by NASA to demonstrate

delivery and return of cargo to the ISS. This book describes how simplicity, low-cost, and reliability can go hand in hand, as promoted in the philosophy of SpaceX. It explains how, by eliminating the traditional layers of internal management and external sub-contractors and keeping the vast majority of manufacturing in house, SpaceX reduces its costs while accelerating decision making and delivery, controls quality, and ensures constant liaison between the design and manufacturing teams.

Young People, Social Media and Health (Open Access)

This volume offers a simple, systematic guide to creating a knowledge sharing practice in your organization. It shows how to build the enabling environment and develop the skills needed to capture and share knowledge gained from operational experiences to improve performance and scale-up successes. Its recommendations are grounded on the insights gained from the past seven years of collaboration between the World Bank and its clients around the world—ministries and national agencies operating in various sectors—who are working to strengthen their operations through robust knowledge sharing. While informed by the academic literature on knowledge management and organizational learning, this handbook's operational background and many real-world examples and tips provide a missing, practical foundation for public sector officials in developing countries and for development practitioners. However, though written with a public

sector audience in mind, the overall concepts and approaches will also hold true for most organizations in the private sector and the developed world.

Sustainable Healthcare

Thirty years ago when Sir Richard Branson called up Boeing and asked if they had a spare 747, few would have predicted the brash entrepreneur would so radically transform the placid business of air travel. But today, Branson flies airlines on six continents, employs hundreds of jets and, in 2014, was predicting that his spaceship company – Virgin Galactic – would soon open the space frontier to commercial astronauts, payload specialists, scientists and space tourists. With more than 600 seats sold at \$250,000 each, what started off as a dream to send people just for the excitement to look back and marvel at Earth, was on the cusp of finally being turned into a business. Then, on October 21, 2014, tragedy struck. SpaceShipTwo was on its most ambitious test flight to date. Seconds after firing its engine, Virgin Galactic's spaceship was breaking through the sound barrier. In just the three seconds that it took for the vehicle to climb from Mach 0.94 to Mach 1.02, co-pilot Mike Alsbury made what many close to the event believe was a fatal mistake that led to his death and the disintegration of SpaceShipTwo. Miraculously, the pilot, Peter Siebold, survived the 16-km fall back to Earth. Soon after the event Branson vowed to continue his space tourism venture in spite of this. Already a second SpaceShipTwo is being built, and ticket-holders eagerly await the day when Virgin

Galactic offers quick, routine and affordable access to the edge of space. This book explains the hurdles Virgin Galactic had and still has to overcome en route to developing suborbital space travel as a profitable economic entity, and describes the missions that will be flown on board SpaceShipTwo Mk II, including high-altitude science studies, astronomy, life sciences, and microgravity physics.

Spacewear

'Astronauts For Hire' is a comprehensive and authoritative study of the increasing need for commercial astronauts. Erik Seedhouse provides unique insights into the burgeoning new field of commercial space operation and the individuals who will run these missions. Section I begins by describing how Astronauts for Hire (A4H) was created in 2010 by Brian Shiro, a highly qualified NASA astronaut candidate, and a group of other astronaut candidates. Erik introduces A4H's vision for opening the space frontier to commercial astronauts and describes the tantalizing science opportunities offered when suborbital and orbital trips become routine. Section II describes the vehicles astronauts will use. Anticipation is on the rise for the new crop of commercial suborbital and orbital spaceships that will serve the scientific and educational market. These reusable rocket-propelled vehicles are expected to offer quick, routine, and affordable access to the edge of space, along with the capability to carry research and educational crew members. The quick turnaround of these vehicles is central to realizing the profit-

making potential of repeated sojourns by astronauts to suborbital and orbital heights. Section III describes the various types of missions this new corps of astronauts will fly and who will hire them. For example, suborbital flights may be used to do high altitude astronomy, life science experiments, and microgravity physics. This section continues with an examination of the types of missions that will accelerate human expansion outward, to Exploration Class missions through lunar bases, the establishment of interplanetary spaceports, and outposts on the surface of Mars. Along the way it describes the tasks commercial astronauts will perform, ranging from mining asteroids to harvesting helium.

Share, Don't Take the Lead

Sustainable Healthcare sets out a vision for medical care of high quality, manageable cost and low impact on the planetary systems which sustain us. In tackling the major challenges of our age, such as resource depletion, loss of biodiversity and climate change, health services can play a central role, moving from being part of the problem to becoming part of the solution. Sustainable Healthcare explores questions such as: What is the relevance of sustainability in healthcare? How does climate change threaten human health? How can we create low carbon care pathways? How can healthcare organizations deal better with their waste? How can death and dying become more sustainable? How can we engage ourselves and others with this agenda? Written by an international team combining

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clinical, educational, practical and policy expertise in sustainability and health, this book provides a synopsis of our current predicaments, and explores some of the emerging solutions. Containing case studies and resources for further information and action, Sustainable Healthcare is a practical guide to making healthcare more sustainable for all healthcare professionals, managers and students. "Once in a while one comes across a book that makes a deep impact. Sustainable Healthcare is such a book and very timely in the context of modern healthcare and developing green policies... The book is clear in ideas of critical thinking, scientific evidence and practical suggestions for transformative action... An additional strength in this book are the summary key papers and reports including key points from the chapters. In addition, there is a comprehensive list of references in each chapter... The authors cut through the jargon and challenge the rhetoric of both fear and denial... The authors give examples of how we can engage with sustainability such as, diet and exercise, prescription management, contraception management and family planning and end of life care The book provides useful sources, references and key actions for individuals, healthcare organisations and policy making departments." - A review by Prof Davinder Sandhu, Postgraduate Dean, Health Education South West, Severn Deanery, UK

Tourists in Space

Forget Hawaii or the Mediterranean. Soon - very soon

- you'll be able to add a much more exotic stamp to your passport: space. How will you get there, what will the trip be like and how much training will you need? All you need to know is right here in this guide. *Tourists in Space: A Practical Guide* supplies all the advice and information you need to make your spaceflight the most rewarding experience of your life. This definitive, real-world guide is packed with helpful facts and suggestions on everything from training, equipment, safety and in-flight procedures to techniques for avoiding space motion sickness and bone demineralization. You'll also find:

- Advice on choosing your training agency
- Techniques for minimizing the risk of space motion sickness
- Information you need to prepare for your medical examination, training and flight
- Tips on activities near your training location and much more.

Trading Promises for Results

Relativistic Flight Mechanics and Space Travel

Martian Outpost

Space medicine has been an important component of the success of human spaceflight and will continue to play a critical role in the future ventures. To prepare for the day when astronauts will leave low Earth orbit for long-duration exploration missions, space medicine experts must develop a thorough

understanding of the effects of microgravity on the human body, as well as ways of migrating these effects. To gain a complete understanding of the effects of space on the human body and to create the tools and technologies required for successful exploration, space medicine will become an increasingly collaborative discipline incorporating the skills of physicians, biomedical scientists, engineers, and mission planners. In this work, Dr. Erik Seedhouse examines the future of space medicine in relation to human space exploration. He describes what is necessary to keep a crew alive in space, how it will be accomplished in the future, and the medical challenges faced by interplanetary astronauts. The book is divided into three sections. The first looks at space medicine on board the ISS, where astronaut stays are often of long duration. The second section considers the Exploration Class medical dangers, beginning with radiation and the consequent Acute Radiation Syndrome (ARS). The final section looks at future developments and the importance of telemedicine and how revolutionary technologies will protect interplanetary astronauts from the space environment. The book ends with a description of the kind of hibernation necessary to insure the well being of interplanetary astronauts.

The Cambridge History of Medicine

Today, we are living in the New Space Age, where mass commercial space travel is almost within our grasp. This otherworldly possibility has opened up new cultural images of space, both real and fictional,

and has caused fashion design and spacesuit engineering to intersect in new, exciting ways. Spacewear traverses this uncharted territory by exploring the changing imagination of space in fashion-and fashion in space-from the first Space Age to the 21st century. Exploring how space travel has stylistically and technologically framed fashion design on earth and how we need to revisit established design practices for the weightless environment, Spacewear connects the catwalk and the space station. This book draws together speculative fantasies in sci-fi films such as Star Trek and 2001: A Space Odyssey, with the engineered spacesuits Biosuit, and the NASA Z-2 and with catwalk interpretations by the likes of Alexander McQueen, Hussein Chalayan, André Courrèges, and Iris van Herpen. While the development of commercial space agencies has led to new concerns for style in garments for outer space that re-think fundamental design principles such as drape, high fashion has experimented with new possibilities for weightlessness that extend far beyond the 1960s vision of Space Age metallic fabrics and helmet-style headwear. Brownie takes the reader on a fascinating journey from fantasy to function and to form, deepening our understanding of this new category of fashion that is prompting new approaches to garment design and construction both on earth and in outer space.

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